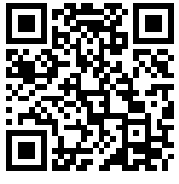

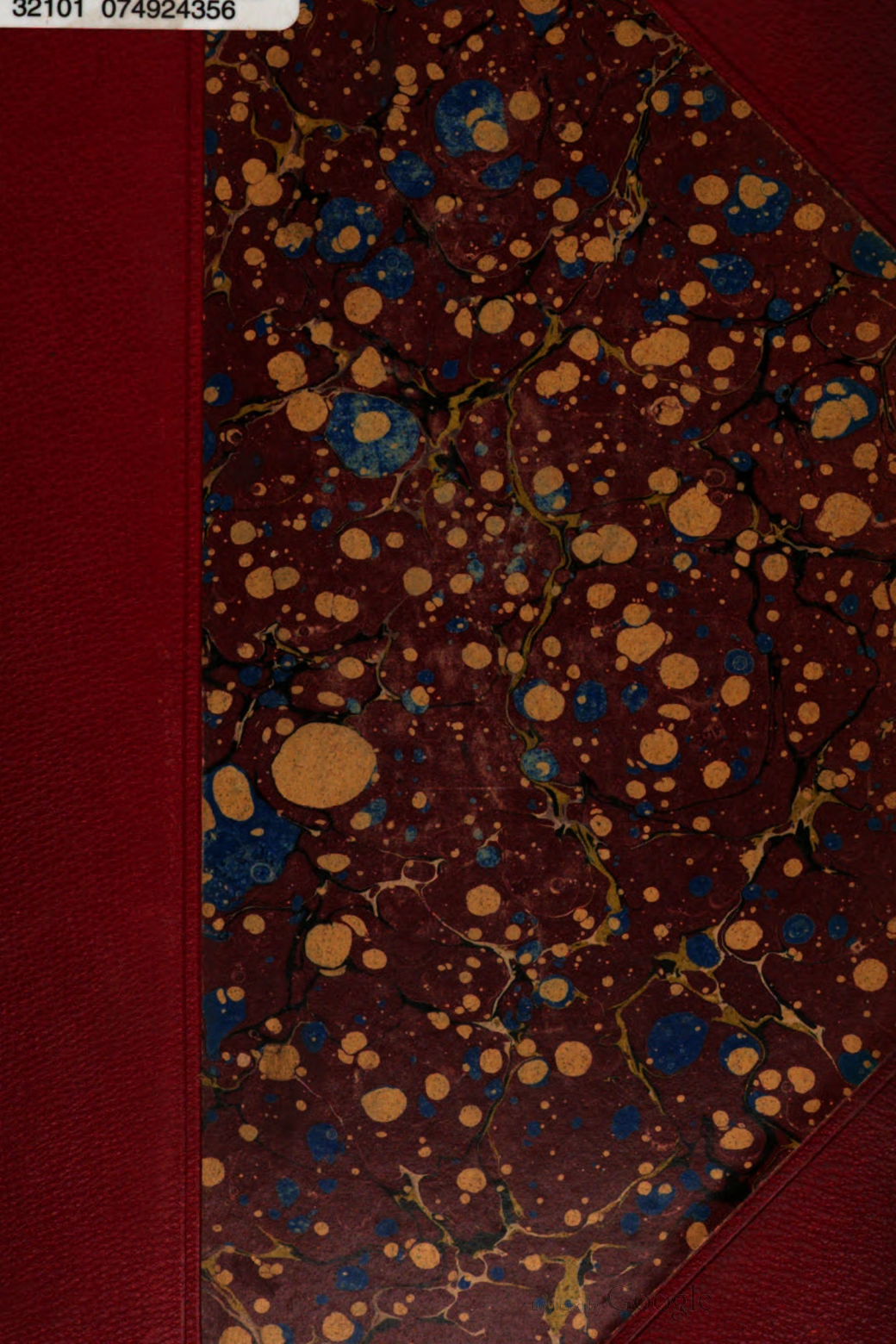

THE JOURNAL

OF

MENTAL SCIENCE.

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MDCCCCII.

"In adopting our title of the *Journal of Mental Science, published by authority of the Medico-Psychological Association*, we profess that we cultivate in our pages mental science of a particular kind, namely, such mental science as appertains to medical men who are engaged in the treatment of the insane. But it has been objected that the term mental science is inapplicable, and that the term mental physiology or mental pathology, or psychology, or psychiatry (a term much affected by our German brethren), would have been more correct and appropriate; and that, moreover, we do not deal in mental science, which is properly the sphere of the aspiring metaphysical intellect. If mental science is strictly synonymous with metaphysics, these objections are certainly valid; for although we do not eschew metaphysical discussion, the aim of this JOURNAL is certainly bent upon more attainable objects than the pursuit of those recondite inquiries which have occupied the most ambitious intellects from the time of Plato to the present, with so much labour and so little result. But while we admit that metaphysics may be called one department of mental science, we maintain that mental physiology and mental pathology are also mental science under a different aspect. While metaphysics may be called speculative mental science, mental physiology and pathology, with their vast range of inquiry into insanity, education, crime, and all things which tend to preserve mental health, or to produce mental disease, are not less questions of mental science in its practical, that is in its sociological point of view. If it were not unjust to high mathematics to compare it in any way with abstruse metaphysics, it would illustrate our meaning to say that our practical mental science would fairly bear the same relation to the mental science of the metaphysicians as applied mathematics bears to the pure science. In both instances the aim of the pure science is the attainment of abstract truth; its utility, however, frequently going no further than to serve as a gymnasium for the intellect. In both instances the mixed science aims at, and, to a certain extent, attains immediate practical results of the greatest utility to the welfare of mankind; we therefore maintain that our JOURNAL is not inaptly called the *Journal of Mental Science*, although the science may only attempt to deal with sociological and medical inquiries, relating either to the preservation of the health of the mind or to the amelioration or cure of its diseases; and although not soaring to the height of abstruse metaphysics, we only aim at such metaphysical knowledge as may be available to our purposes, as the mechanician uses the formularies of mathematics. This is our view of the kind of mental science which physicians engaged in the grave responsibility of caring for the mental health of their fellow-men may, in all modesty, pretend to cultivate; and while we cannot doubt that all additions to our certain knowledge in the speculative department of the science will be great gain, the necessities of duty and of danger must ever compel us to pursue that knowledge which is to be obtained in the practical departments of science with the earnestness of real workmen. The captain of a ship would be none the worse for being well acquainted with the higher branches of astronomical science, but it is the practical part of that science as it is applicable to navigation which he is compelled to study."—*Sir J. C. Bucknill, M.D., F.R.S.*

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1900. Fletcher Beach, M.B., 79, Wimpole Street, W.

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1881. Benedikt, Prof. M., Franciskaner Platz 5, Vienna.

1900. Blumer, G. Alder, Utica Hospital for the Insane, Providence, U.S.A. (*Ord. Mem.*, 1890.)

1900. Bresler, Johannes, M.D., Freiburg in Silesia, Germany. (*Corr. Mem.*, 1896.)

1881. Brosius, Dr., Bendorf-Sayn, near Coblenz, Germany.

1876. Browne, Sir J. Crichton-, M.D.Edin., F.R.S., Lord Chancellor's Visitor, New Law Courts, Strand, W.C. (PRESIDENT, 1878.)

1887. Chapin, John B., M.D., Pennsylvania Hospital for the Insane, Philadelphia, U.S.A.

1872. 1891. Courtenay, E. Maziere, A.B., M.B., C.M.T.C.D., M.D., Inspector of Lunatics in Ireland, Lunacy Office, Dublin Castle. (*Secretary for Ireland*, 1876-87.)

1879. Echeverria, M. G., M.D.

1865. Falret, Jules, M.D., 114, Rue de Bac, Paris.

1892. Féré, Dr. Charles, 37, Boulevard St. Michel, Paris.

1895. Ferrier, David, M.D., 34, Cavendish Square, London.

1872. Fraser, John, M.B., C.M., F.R.C.P.E., Commissioner in Lunacy, 19, Strathearn Road, Edinburgh.

1868. 1888. Gairdner, Sir William T., K.C.B., M.D.Edin., F.R.S., formerly Professor of Medicine in the University of Glasgow, Physician to H.M. the King in Scotland, 32, George Square, Edinburgh. (PRESIDENT, 1882.)

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1881. Krafft-Ebing, R. V., M.D., Vienna.

1866. Laehr, H., M.D., Schweizer Hof, bei Berlin, Editor of the *Zeitschrift für Psychiatrie.*

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1884. } Asylums, 147, Macquarie Street North, Sydney, New South Wales.

1866. } Mitchell, Sir Arthur, M.D.Aberd., LL.D., K.C.B., late Commissioner in
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1897. Morel, M. Jules, M.D., States Lunatic Asylum, Mons, Belgium.

1880. Motet, M., 161, Rue de Charonne, Paris.

1889. Needham, Frederick, M.D.St. And., M.R.C.P.Edin., M.R.C.S.Eng., Commissioner in Lunacy, 19, Campden Hill Square, Kensington, W. (PRESIDENT, 1887.)

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1900. Ritti, Ant., Maison Nationale de Charenton, St. Maurice, Paris. (*Corr. Mem.*, 1890.)

1886. Roussel, M. Théophile, M.D., Sénateur, Paris.

1887. Schüle, Heinrich, M.D., Illenau, Baden, Germany.

1880. Sibbald, Sir John, M.D.Edin., F.R.C.P.Edin., M.R.C.S.Eng., Commissioner in Lunacy for Scotland; 18, Great King Street, Edinburgh. (*Editor of Journal*, 1871–2.)

1888. Stearns, H. P., M.D., The Retreat, Hartford, Conn., U.S.A.

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1899. Allmann, Dorah Elizabeth, M.B., B.Ch., B.A.O.R.U.I., Assistant Medical Officer, District Asylum, Armagh.

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1864. Bayley, J., M.R.C.S., Medical Superintendent, St. Andrew's Hospital, Northampton.

1893. Bayley, Joseph Herbert, M.B., C.M.Edin., Assistant Medical Officer, St. Andrew's Hospital, Northampton.

1874. Beach, Fletcher, M.B., F.R.C.P.Lond., formerly Medical Superintendent, Darenth Asylum, Dartford; Winchester House, Kingston Hill, Surrey, and 79, Wimpole Street, W. (*General Secretary*, 1889—1896. PRESIDENT, 1900—1901.)

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1881. Brayn, R., L.R.C.P.Lond., Medical Superintendent, Broadmoor Asylum, Crowthorne, Berks.

1895. Briscoe, John Frederick, M.R.C.S.Eng., Resident Medical Superintendent, Westbrooke House Asylum, Alton, Hants.

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1864. Brodie, David, M.D.St. And., L.R.C.S.Edin., 68, Hamilton Road, London, N.

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1893. Bruce, Lewis C., M.B.Edin., Druid Park, Murthly, N.B.

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1896. Bubb, William, M.R.C.S., L.R.C.P.Lond., Second Assistant Medical Officer, Worcester County Asylum, Powick, near Worcester.

1892. Bullen, Frederick St. John, M.R.C.S.Eng., 12, Pembroke Road, Clifton, Bristol.

1869. Burman, Wilkie J., M.D.Edin., Ramsbury, Hungerford, Berks.

1891. Caldecott, Charles, M.B., B.S.Lond., M.R.C.S., Medical Superintendent, Earlswood Asylum, Redhill, Surrey.

1889. Callcott. J. T., M.D., Medical Superintendent, Borough Asylum, Newcastle-on-Tyne.

1874. Cameron, John, M.D.Edin., Medical Superintendent, Argyll and Bute Asylum, Lochgilphead.

1894. Campbell, Alfred Walter, M.D.Edin., Pathologist, County Asylum, Rainhill, near Prescot, Lancashire.

1880. Campbell, P. E.. M.B., C.M., Senior Assistant Medical Officer, District Asylum, Caterham.

1897. Campbell, Robert Brown, M.B., C.M.Edin., Assistant Medical Officer, Royal Asylum, Montrose, N.B.

1897. Cappe, Herbert Nelson, M.R.C.S.Eng., L.R.C.P.Lond., Assistant Medical Officer, Surrey County Asylum, Brookwood.

1891. Carswell, John, L.R.C.P.Edin., L.F.P.S.Glasg., Certifying Medical Officer, Barony Parish, 5, Royal Crescent, Glasgow.

1896. Cashman, James, M.B., B.Ch., B.A.O.Royal Univ. Irel., Assistant Medical Officer, Cork District Asylum.

1874. Cassidy, D. M., M.D., C.M.McGill Coll., Montreal, D.Sc. (Public Health) Edin., F.R.C.S.Edin., Medical Superintendent, County Asylum, Lancaster.

1899. Chaldecott, John Henry, L.R.C.P.Lond., F.F.P.S.Glasg., 2, Lancaster Road, Hampstead, N.W.

1888. Chambers, James, M.D., M.P.C., The Priory, Roehampton.

1865. Chapman, Thomas Algernon, M.D.Glas., L.R.C.S.Edin., Betula, Reigate.

1880. Christie, J. W. Stirling, M.D., Medical Superintendent, County Asylum, Stafford.

1878. Clapham, Wm. Crochley S., M.D., M.R.C.P., The Gables, Mayfield, Sussex.

1879. Clarke, Henry, L.R.C.P.Lond., H.M. Prison, Wakefield.

1901. Cleland, William Lennox, M.B., B.Ch.Edin., Park Side, South Australia.

1862. Clouston, T. S., M.D.Edin., F.R.C.P.Edin., F.R.S.E., Physician Superintendent, Royal Asylum, Morningside, Edinburgh. (*Editor of Journal*, 1873—1881.) (PRESIDENT, 1888.)

1879. Cobbold, C. S. W., M.D., The Elms, Batheaston, Bath.

1900. Coffey, Patrick, L.R.C.P.&S.I., District Asylum Limerick, Ireland.

1892. Cole, Robert Henry, M.D.Lond., M.R.C.P.Lond., 48, Upper Berkeley Street, W.

1900. Cole, Sydney John, B.A., M.B., B.Ch.Oxon., Colney Hatch Asylum, London, N.

1896. Coles, Richard Ambrose, Barham, near Canterbury.

1888. Cones, John A., M.R.C.S., Burgess Hill, Sussex.

1895. Conry, John, M.D.Aber., Fort Beaufort Asylum, South Africa.

1900. Cook, John Benson, L.R.C.P.&S.Ed., Medical Officer H.M. Prison, Borstal, Rochester.

1878. Cooke, Edward Marriott, M.D., M.R.C.S.Eng., Commissioner in Lunacy, 69, Onslow Square, S.W.

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1899. Cowper, Alfred, M.A., M.B., C.M.Edin., Valkenburg Asylum, Mowbray, Cape Town.

1884. Cox, L. F., M.R.C.S., Medical Superintendent, County Asylum, Denbigh.

1878. Craddock, F. H., B.A.Oxon., M.R.C.S.Eng., L.S.A., Medical Superintendent, County Asylum, Gloucester.

1892. Craddock, Samuel, M.R.C.S.Eng., South Hill House, South Lyncombe, Bath.

1893. Craig, Maurice, M.A., M.B., B.C.Cantab., M.R.C.P.Lond., Assistant Medical Officer, Bethlem Royal Hospital, Southwark.

1897. Cribb, Harry Gifford, M.R.C.S.Eng., L.R.C.P.Lond., Assistant Medical Officer, London County Asylum, Canehill, Surrey.

1898. Crookshank, F. G., M.D.Lond., M.R.C.S., L.R.C.P., 82, White Hart Lane, Barnes, S.W.

1894. Cullinan, Henry M., L.R.C.P.I., L.R.C.S.I., Second Assistant Medical Officer, Richmond District Asylum, Dublin.

1869. Daniel, W. C., M.D.Heidelb., M.R.C.S.Eng., Epsom, Surrey.

1899. Daunt, Elliot, M.R.C.S., L.R.C.P., D.P.H., Rosendal, Sevenoaks, Kent.

1896. Davidson, Andrew, M.B., C.M.Aber., Assistant Medical Officer, County Asylum, Dorchester.

1868. Davidson, John H., M.D.Edin., Delamere House, Liverpool Road, Chester.

1874. Davies, Francis P., M.D.Edin., M.R.C.S.Eng., Kent County Asylum, Barming Heath. near Maidstone.

1891. Davis, Arthur N., L.R.C.P., L.R.C.S.Edin., Medical Superintendent, County Asylum, Exminster, Devon.

1894. Dawson, William R., M.D., B.Ch.Dubl., F.R.C.P.I., Medical Superintendent, Farnham House Asylum, Finglas, Dublin.

1869. Deas, Peter Maury, M.B. and M.S.Lond., Medical Superintendent, Wonford House, Exeter.

1900. Despard, Rosina C., M.D.Lond., Holloway Sanatorium, Virginia Water, Surrey.

1901. De Steiger, Adèle, M.B.Lond., County Asylum, Brentwood, Essex.

1876. Dickson, F. K., F.R.C.P.Edin., Wye House Lunatic Asylum, Buxton Derbyshire.

1879. Dodds, William J., M.D., D.Sc.Edin., Valkenburg, Mowbray, near Cape Town, South Africa.

1886. Donaldson, Robert Lockhart, B.A., M.D., B.Ch.Univ. of Dubl., M.P.C., Senior Medical Officer, District Asylum, Monaghan.

1889. Donaldson, William Ireland, B.A., M.B., B.Ch.Univ. of Dubl., Assistant Medical Officer, London County Asylum, Canehill, Purley, Surrey.

1892. Donelan, J. O'C., L.R.C.P.I., L.R.C.S.I., M.P.C., First Assistant Medical Officer, Portland House, Donabate, co. Dublin.

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1890. Douglas, William, M.D.Queen's Univ. Irel., M.R.C.S.Eng., Brandfold, Goudhurst.

1897. Dove, Emily Louisa, M.B.Lond.

1884. Drapes, Thomas, M.B., Medical Superintendent, District Asylum, Enniscorthy, Ireland.

1899. Dudley, Francis, L.R.C.P.&S.I., Senior Assistant Medical Officer, County Asylum, Bodmin, Cornwall.

1899. Eades, Albert J., County Asylum, Rainhill, nr. Liverpool.

1874. Eager, Reginald, M.D.Lond., M.R.C.S.Eng., Northwoods, near Bristol.

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1895. Easterbrook, Charles C., M.A., M.D., M.R.C.P.Ed., Assistant Medical Officer, Craig House, Morningside Drive, Edinburgh.

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1900. Edridge-Green, F. W., M.D., F.R.C.S., Hendon Grove, Hendon, N.W.

1897. Edwards, Francis Henry, M.D.Brux., L.R.C.P.Lond., M.R.C.S.Eng., Assistant Medical Officer, Camberwell House, S.E.

1901. Elgee, Samuel Charles, L.R.C.P., L.R.C.S.Ire., Assistant Medical Officer, Horton Manor Asylum, Epsom, Surrey.

1889. Elkins, Frank Ashley, M.D., Medical Superintendent, Metropolitan Asylum, Leavesden.

1898. Ellerton, H. B., M.R.C.S., L.R.C.P., County Asylum, Nottingham.

1873. Elliot, G. Stanley, M.R.C.P.Edin., F.R.C.S.Edin., Medical Superintendent, Caterham, Surrey.
1900. Ellis, Henry Reginald, M.R.C.S., L.R.C.P.Lond.
1890. Ellis, William Gilmore, M.D.Brux., Superintendent, Government Asylum, Singapore.
1899. Ellison, Fras. C., M.B., B.Ch., T.C.D., Assistant Medical Officer, District Asylum, Castlebar.
1901. Elsworth, T. G., M.B., C.M.Edin., Assistant Medical Officer and Pathologist, County Asylum, Winterton, Ferryhill, Durham.
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1901. Evans, James Wm., M.R.C.S., L.S.A., Lieut.-Col. Indian Medical Service (retired), The Grange, Hogbourne, Didcot.
1897. Everett, William, M.D., Assistant Medical Officer, County Asylum, Chartham Downs, Kent.
1891. Ewan, John Alfred, M.A., M.B., C.M.Edin., M.P.C., Medical Superintendent, Kesteven and Grantham District Asylum.
1884. Ewart, C. T., M.B., C.M.Aberd., Claybury Asylum, Woodford Bridge, Essex.

1894. Farquharson, William F., M.D.Edin., Medical Superintendent, Counties Asylum, Garlands, Carlisle.
1901. Fee, Wm. George, L.R.C.P. and L.R.C.S.Edin., Assistant Medical Officer, Brooke House, Upper Clapton, N.E.
1897. Fielding, James, M.D., Victoria Univ., Canada, M.R.C.S.Eng., L.R.C.P. Edin., Medical Superintendent, Bethel Hospital, Norwich.
1873. Finch, John E. M., M.D., Medical Superintendent, Borough Asylum, Leicester.
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1867. Finch, W. Corbin, M.R.C.S.Eng., Fisherton House, Salisbury.
1901. Findlay, John, M.B., Ch.B.Aber., Assistant Medical Officer, County Asylum, Dorchester, Dorset.
1882. Finegan, A. D. O'Connell, L.R.C.P.I., Medical Superintendent, District Asylum, Mullingar. (*Hon. Secretary for Ireland.*)
1889. Finlay, Dr., County Asylum, Bridgend, Glamorgan.
1898. Finn, P. Taaffe, L.R.C.P., L.R.C.S.Ed., County Asylum, Newport, Isle of Wight.
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1900. Fleck, David, M.B., Ch.B., B.A.O.Ireland, Caterham Asylum, Surrey.
1899. Flemmings, A. L., M.R.C.S.Eng., L.R.C.P.Lond., City and County Asylum, Fishponds, Bristol.
1872. Fletcher, Robert Vicars, Esq., F.R.C.S.I., L.R.C.P.I., L.R.C.P. Edin., Medical Supt., District Asylum, Ballinasloe, Ireland.

1894. Fleury, Eleonora Lilian, M.D., B.Ch., R.U.I., Assistant Medical Officer, Richmond Asylum, Dublin.

1899. Forsyth, Charles E. P., M.B., Ch.B., Eastern Hospital, The Grove, Homerton, N.E.

1880. Fox, Bonville Bradley, M.A.Oxon., M.D., M.R.C.S., Brislington House, Bristol.

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1890. Gaudin, Francis Neel, M.R.C.S., L.S.A., M.P.C., Medical Superintendent, The Grove, Jersey.

1885. Gayton, F. C., M.D., Brookwood Asylum, Surrey.

1896. Geddes, John W., M.B., C.M.Edin., Assistant Medical Officer, Durham County Asylum, Winterton, Ferryhill, Durham.

1892. Gemmel, James Francis, M.B.Glasg., Assistant Medical Officer, County Asylum, Lancaster.

1889. Gibbon, William, L.R.C.P.I., L.F.P.S.Glasg., Senior Assistant Medical Officer, Joint Counties Asylum, Carmarthen.

1899. Gilfillan, Samuel James, M.A., M.B.Edin., London County Asylum, Canehill, Purley, Surrey.

1898. Gill, Frank A., M.D., C.M.Aber., Deputy Medical Officer, H.M. Prison, Liverpool.

1889. Gill, Stanley, B.A., M.D., M.R.C.P.Lond., Shaftesbury House, Formby, Lancashire.

1897. Gilmour, John Rutherford, M.B., C.M.Edin., Assistant Physician, Crichton Royal Institution, Dumfries.

1901. Glasgow, John George, M.R.C.S.Eng., L.R.C.P.Lond., Assistant Medical Officer, Borough Asylum, Portsmouth.

1878. Glendinning, James, M.D.Glasg., L.R.C.S.Edin., L.M., Medical Superintendent, Joint Counties Asylum, Abergavenny.

1898. Goldie-Scot, Thomas, M.B., C.M.Edin., M.R.C.S., L.R.C.P., Junior Assistant Physician, Royal Asylum, Gartnavel, Glasgow.

1899. Goldschmidt, Oscar Bernard, M.B., Ch.B.Vict., 8, Park Place, St. James's, S.W.

1897. Good, Thomas Saxty, M.R.C.S.Eng., L.R.C.P.Lond., Assistant Medical Officer, County Asylum, Littlemore, Oxford.

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1899. Goodliffe, John Henry, Morton Hall, near Sheffield.

1899. Gordon, J. Leslie, M.B., Ch.B., County Asylum, Devizes, Wilts.

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1901. Gostwyck, C. H. G., M.B., Ch.B., Medical Officer, Kent Lunatic Asylum, Chartham Downs, nr. Canterbury.

1899. Graham, R. A. L., B.A., M.B., B.Ch., R.U.I., Assistant Medical Officer, District Asylum, Belfast.

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1890. Gramshaw, Farbrace Sidney, M.D., L.R.C.P.Irel., L.R.C.S.Edin., L.M., L.A.H.Dubl., The Villa, Stillington, Yorkshire.
1897. Grant-Wilson, Charles Westbrook, L.R.C.P.Lond., M.R.C.S.Eng., St. Winnows, Bromley, Kent.
1886. Greenlees, T. Duncan, M.B., Medical Superintendent to the Grahamstown Asylum, Cape of Good Hope.
1900. Gregor, E. W., M.R.C.S., L.R.C.P., Peckham House, Peckham, S.E.
1896. Greene, Thomas Adam, Assistant Medical Officer, District Asylum, Ennis, Ireland.
1894. Griffin, Edward W., M.D., M.Ch., R.W.I., Assistant Medical Officer, The Asylum, Killarney.
1896. Griffiths, George Batho G., M.R.C.S., L.R.C.P.Lond., Assistant Surgeon, H.M. Convict Prison, Parkhurst, Isle of Wight.
1901. Grills, Galbraith Hamilton, M.B., B.Ch., Assistant Medical Officer, County Asylum, Chester.
1900. Grove, Ernest George, M.R.C.S., L.R.C.P., York Lunatic Hospital, Bootham, York.
1894. Gwynn, Charles Henry, M.D.Edin., co-Licensee, St. Mary's House, Whitchurch, Salop.
1879. Gwynn, S. T., M.D., St. Mary's House, Whitchurch, Salop.

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1901. Hannay, Mary Baird, M.B., C.M., Gartloch Asylum, Gartcosh, Glasgow, N.B.
1901. Harding, William, M.D., M.R.C.P.Lond., Medical Superintendent, Northampton County Asylum, Berry Wood, Northampton.
1899. Harmer, W. A., L.S.A., Resident Superintendent and Licensee, Redlands Private Asylum, Tonbridge, Kent.
1895. Harper, Thomas Edward, L.R.C.P.Lond., M.R.C.S.Eng., Assistant Medical Officer, St. Ann's Heath, Virginia Water.
1897. Harris, William, M.D.St. And., F.R.C.S.Edin., M.R.C.P.Edin., Medical Superintendent, City Asylum, Hellesdon, Norwich.
1898. Harris-Liston, L., M.D., M.R.C.S., L.R.C.P.Lond., L.S.A., City Asylum, Digbys, Exeter.
1886. Harvey, Crosbie Bagenal, L.A.H., Assistant Medical Officer, District Asylum, Clonmel.
1892. Haslett, William John, M.R.C.S., L.R.C.P., Resident Medical Superintendent, Halliford House, Sunbury-on-Thames.
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1890. Hay, Frank, M.B., C.M., Physician Superintendent, Ashburn Hall Asylum, Dunedin, New Zealand.
1900. Haynes, Horace E., M.R.C.S., L.S.A., Bishopstow House, Bedford.
1895. Hearder, Frederic P., M.D., C.M., Assistant Medical Officer, West Riding Asylum, Wakefield.
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1877. Hetherington, Charles, M.B., Medical Superintendent, District Asylum, Londonderry, Ireland.
1877. Hewson, R. W., L.R.C.P.Edin., Medical Superintendent, Cotton Hill, Stafford.
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1882. Hill, Dr. H. Gardiner, Medical Superintendent, Middlesex County Asylum, Tooting.
1900. Hill, J. R., M.R.C.S., L.R.C.P., Fenstanton, Christchurch Road, Streatham Hill, S.W.
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1900. Hughes, Percy T., M.B., Ch.M.Edin., London County Asylum, Bexley, Kent.
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1882. Hyslop, James, M.D., Pietermaritzburg Asylum, Natal, South Africa.
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1878. Johnstone, J. Carlyle, M.D., C.M., Medical Superintendent, Roxburgh District Asylum, Melrose.
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1866. Jones, Evan, M.R.C.S.Eng., Ty-mawr, Aberdare, Glamorganshire.
1882. Jones, Robert, M.D.Lond., B.S., F.R.C.S., Medical Superintendent, London County Asylum, Claybury, Woodford, Essex. (*Gen. Secretary from* 1897.)
1897. Jones, Samuel Lloyd, M.R.C.S.Eng., L.R.C.P.Lond., Assistant Medical Officer, London County Asylum, Colney Hatch, N.
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1900. Kay, Alfred Reginald, M.R.C.S.Eng., L.R.C.P.Lond., Middlesex County Asylum, Tooting, S.W.

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1899. Kennedy, Hugh T. J., L.R.C.P.&S.I., L.M., Assistant Medical Officer, District Asylum, Enniscorthy.

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1898. Labey, Julius, M.R.C.S., The Myrtles, St. Saviour's, Jersey.

1900. Laing, Charles Frederick, M.B., C.M.Glasg., County Asylum, Wells, Somerset.

1900. Lambert, Ernest Charles, M.R.C.S.Eng., L.R.C.P.Lond., London County Asylum, Hanwell, W.

1896. Langdon-Down, Reginald L., M.B., B.C.Cantab., M.R.C.P.Lond., Normansfield, Hampton Wick.

1898. Lavers, Norman, M.R.C.S., 33, Peckham Road, London, S.E.

1899. Law, Charles D., L.R.C.P.&S.Edin., L.F.P.G.S., Derby Borough Asylum, Rowditch, Derby.

1892. Lawless, Dr. George Robert, A.M.O., District Asylum, Armagh.

1870. Lawrence, A., M.D., County Asylum, Chester.

1883. Layton, Henry A., L.R.C.P.Edin., Cornwall County Asylum, Bodmin.

1899. Leeper, R. R., F.R.C.S.I., Medical Superintendent, St. Patrick's Hospital, Dublin.

1883. Legge, R. J., M.D., Medical Superintendent, County Asylum, Derby.

1894. Lentagne, John, B.A., F.R.C.S.I., Medical Visitor of Lunatics to the Court of Chancery, 5, Upper Merrion Street, Dublin.

1899. Lewis, H. Wolseley, M.R.C.S.Eng., L.R.C.P.Lond., Banstead Asylum, Sutton, Surrey.

1879. Lewis, William Bevan, West Riding Asylum, Wakefield.

1863. Ley, H. Rooke, M.R.C.S.Eng., Medical Superintendent, County Asylum, Prestwich, near Manchester.

1899. Ligertwood, Walter H., L.R.C.P., Wells Asylum, Somerset.

1900. Lindsay, David Lauder, L.R.C.P.&S.Edin.

1859. Lindsay, James Murray, M.D.St. And., F.R.C.S. and F.R.C.P.Edin. 26, Combe Park, Bath. (PRESIDENT, 1893.)

1883. Lisle, S. Ernest de, L.R.C.P.I., Three Counties Asylum, Stotfold, Baldock.

1899. Longworth, Stephen G., L.R.C.P. and S.I., County Asylum, Melton, Suffolk.

1898. Lord, John R., M.B., C.M., Heath Asylum, Bexley, Kent.

1872. Lyle, Thomas, M.D.Glasg., 34, Jesmond Road, Newcastle-on-Tyne.

1899. Macartney, W. H. C., L.R.C.P.&S.I., The Grange, East Finchley, London, N.

1880. MacBryan, Henry C., Kingsdown House, Box, Wilts.

1901. Macdonald, J. H., M.B., Ch.B.Glasg., Govan District Asylum, Hawkhead, Paisley, N.B.

1884. Macdonald, P. W., M.D., C.M., Medical Superintendent, County Asylum, near Dorchester, Dorset. (*Hon. Sec. S.W. Division.*)

1893. Macevoy, Henry John, M.D., B.Sc.Lond., M.P.C., 41, Buckley Road, Brondesbury, London, N.W.

1895. Macfarlane, Neil M., M.D.Aber., Medical Superintendent, Government Hospital, Thlotse Heights, Leribe, Basutoland, South Africa.

1883. Macfarlane, W. H., M.B. and Ch.B.Univ. of Melbourne, Medical Superintendent, Hospital for the Insane, New Norfolk, Tasmania.

1891. Mackenzie, Henry J., M.B., C.M.Edin., M.P.C., Assistant Medical Officer, The Retreat, York.

1886. Mackenzie, J. Cumming, M.B., C.M., M.P.C., late Medical Superintendent, District Asylum, Inverness; care of Mr. Mackenzie, Enzie Station, Buckie, N.B.

1899. Mackeown, W. John, A.B., M.B., B.A., O.R.U.I., A.M.O., County Asylum, Fareham, Hants.

* Mackintosh, Donald, M.D.Durh. and Glasg., L.F.P.S.Glasg., 10, Lancaster Road, Belsize Park, N.W.

1873. Macleod, M. D., M.B., Medical Superintendent, East Riding Asylum, Beverley, Yorks.

1901. Macleod, Neil, M.D., C.M.Edin., H.B.M. Consular Surgeon and Surgeon General, The Hospital, Shanghai, China.

1899. MacLulich, Peers, M.B., B.C., B.A.Dubl., Joint Counties Asylum, Carmarthen, S. Wales.

1899. Macmillan, Niel Harrismith, M.B.Edin., M.R.C.S.Eng., Claybury Asylum, Woodford Bridge, Essex.

1898. Macnaughton, George W. F., M.D., Warwick Lodge, 436, Fulham Road, London, S.W.

1882. Macphail, Dr. S. Rutherford, Derby Borough Asylum, Rowditch, Derby.

1896. Macpherson, Dr. Charles, Deputy Commissioner in Lunacy, 51, Queen Street, Edinburgh.

1886. Macpherson, John, M.B., M.P.C., 8, Darnaway Street, Edinburgh.

1901. MacRae, Duncan M., M.B., C.M., County Asylum, Devizes, Wilts.

1895. Madge, Arthur E., M.R.C.S.Eng., L.R.C.P.Lond.

1896. Maguire, Charles Evan, M.B., C.M., District Medical Officer, Old Calabar, Southern Nigeria, W. C. Africa.

1896. Mallanah, S., M.B.Edin., Medical School, Hyderabad, Deccan, India.

1865. Manning, Harry, B.A.Lond., M.R.C.S., Laverstock House, Salisbury.

1900. Manning, Herbert C., M.R.C.S., L.R.C.P., County Asylum, Cotford, near Taunton.

1896. Marr, Hamilton C., M.D.Glasg. Univ., Medical Superintendent, Woodilee Asylum, Lenzie.

1897. Marshall, John, M.B., C.M.Glasg., Assistant Medical Officer, County Asylum, Bridgend, Glamorgan.

1896. Martin, James Clarke, L.R.C.S.I., L.M., L.R.C.P., Assistant Medical Officer, District Asylum, Donegal.

1897. Mathieson, George, M.B., C.M.Glasg., Fir Vale, Sheffield.

1888. McAlister, William, M.B., C.M., The Elms, Kilmarnock, N.B.

1900. McClintock, John, L.R.C.P. & L.R.C.S.Edin., Resident Medical Superintendent, Grove House, Church Stretton, Salop.

1900. McConaghey, J. C., M.B., C.M.Edin., Parkside Asylum, Macclesfield, Cheshire.

1886. McCreery, James Vernon, L.R.C.S.I., Medical Superintendent, Hospital for Insane, New, Victoria.

1897. McCutchan, William Arthur, L.R.C.P.S.Edin., Assistant Medical Officer, County and City Asylum, Hereford.

1876. McDowall, John Greig, M.B.Edin., Medical Superintendent, West Riding Asylum, Menston, near Leeds.

1870. McDowall, T. W., M.D.Edin., L.R.C.S.E., Medical Superintendent, Northumberland County Asylum, Morpeth. (PRESIDENT, 1897.)

1899. McKelvey, Alexander Niel, L.&M.P.C.P.&S.I., District Asylum, Omagh, co. Tyrone, Ireland.

1882. McNaughton, John, M.D., Medical Superintendent, Criminal Lunatic Asylum, Perth.

1901. McRae, G. Douglas, M.B., C.M.Edin., Assistant Physician, Royal Asylum, Morningside, Edinburgh.

1894. McWilliam, Alexander, M.B., C.M.Aber., Medical Superintendent, Heigham Hall, Norwich.

1890. Menzies, W. F., M.D., B.Sc.Edin., Medical Superintendent, Stafford County Asylum, Cheddleton, near Leek.

1891. Mercier, Charles A., M.B.Lond., F.R.C.S.Eng., Lecturer on Insanity, Westminster Hospital; Flower House, Catford, S.E.

1877. Merson, John, M.D.Aber., Medical Superintendent, Borough Asylum, Hull.

1871. Mickle, William Julius, M.D., F.R.C.P.Lond., Medical Superintendent, Grove Hall Asylum, Bow, London. (PRESIDENT, 1896.)

1867. Mickley, George, M.A., M.B.Cantab., Freshwell House, Saffron Walden, Essex.

1893. Middlemass, James, M.D., F.R.C.P., C.M., B.Sc.Edin., Borough Asylum, Ryhope, Sunderland.

1898. Middlemist, George Edwyn, M.B., Moretonhampstead, Devon.

1883. Miles, George E., M.R.C.P., &c., Medical Superintendent, Hospital for the Insane, Rydalmere, New South Wales.

1887. Miller, Alfred, M.B. and B.C.Dubl., Medical Superintendent, Hatton Asylum, Warwick.

1893. Mills, John, M.B., B.Ch., and Diploma in Mental Diseases, Royal University of Ireland, Assistant Medical Officer, District Asylum, Ballinasloe.

1881. Mitchell, R. B., M.D., Medical Supt., Midlothian District Asylum.

1885. Molony, John, F.R.C.P.I., St. Edmundsbury, Lucan, co. Dublin, Ireland.

1897. Montgomery, Sydney Hamilton Rowan, M.B., B.Ch., B.A.O., Royal University, Ireland, Assistant Medical Officer, Borough Asylum, Nottingham.

1878. Moody, James M., M.R.C.S.Eng., L.R.C.P.&L.M.Edin., Medical Superintendent, County Asylum, Cane Hill, Surrey.

1885. Moore, E. E., M.B.Dubl., M.P.C., Medical Superintendent, District Asylum, Letterkenny, Ireland.

1899. Moore, Wm. D., M.D., M.Ch., Medical Superintendent, Holloway Sanatorium, Virginia Water, Surrey.

1892. Morrison, Cuthbert S., L.R.C.P. and L.R.C.S.Edin., Medical Superintendent, County and City Asylum, Burghill, Hereford.
1896. Morton, W. B., M.B., Assistant Medical Officer, Brislington House, Bristol.
1896. Mott, F. W., M.D., B.Sc., B.S., F.R.C.P.Lond., F.R.S., 25, Nottingham Place, W.; Pathologist, London County Asylums; Assistant Physician, Charing Cross Hospital.
1896. Mould, G. E., M.R.C.S., L.R.C.P.Lond., The Grange, Rotherham, Yorks.
1862. Mould, George W., M.R.C.S.Eng., Medical Superintendent, Royal Lunatic Hospital, Cheadle, Manchester. (PRESIDENT, 1880.)
1897. Mould, Philip G., M.R.C.S.Eng., L.R.C.P.Lond., Assistant Medical Officer, Royal Lunatic Hospital, Cheadle, Manchester.
1897. Mumby, Bonner Harris, M.D.Aber., D.P.H.Cantab., Medical Superintendent, Borough Asylum, Portsmouth.
1901. Munn, Patrick James, M.B., C.M.Edin., Assistant Medical Officer, Three Counties Asylum, nr. Hitchin, Herts.
1893. Murdoch, James William Aitken, M.B., C.M.Glasg., Medical Superintendent, Berks County Asylum, Wallingford.
1900. Murphy, Jerome J., M.R.C.S., L.R.C.P.Lond., Banstead Asylum, Sutton, Surrey.
1878. Murray, Henry G., L.R.C.P.Irel., L.M., L.R.C.S.I., Assistant Medical Officer, Prestwich Asylum, Manchester.
1891. Musgrove, C. D., M.D.Edin., 8, Herbert Terrace, Penarth, S. Wales.

1880. Neil, James, M.D., M.P.C., Assistant Medical Officer, Warneford Asylum, Oxford.
1875. Newington, Alexander, M.B.Camb., M.R.C.S.Eng., Woodlands, Ticehurst.
1873. Newington, H. Hayes, F.R.C.P.Edin., M.R.C.S.Eng., Ticehurst, Sussex. (PRESIDENT, 1889.) (*Treasurer.*)
1893. Newington, John, M.B.Edin., Zoffany House, Bushey Hall Road, Bushey, Herts.
1881. Newth, A. H., M.D., Ardlin House, Haywards Heath, Sussex.
1869. Nicolson, David, C.B., M.D., C.M.Aber., M.R.C.P.Edin., F.S.A.Scot., Balgownie, Edgeborough Road, Guildford. (PRESIDENT, 1895.)
1899. Nixon, J. C., M.B., West Riding Asylum, Menston, nr. Leeds.
1893. Nobbs, Athelstane, M.B., C.M.Edin., 339, Queen's Road, Battersea Park, S.W.
1888. Nolan, Michael J., L.R.C.P.I., M.P.C., Medical Superintendent, District Asylum, Downpatrick.
1892. Nootl, Reginald Harry, M.B., C.M.Edin., Senior Assistant Medical Officer, Broadmoor Criminal Lunatic Asylum, Crowthorne, Wokingham.
1880. Norman, Conolly, F.R.C.P.I., Medical Superintendent, Richmond District Asylum, Dublin, Ireland. (*Hon. Secretary for Ireland*, 1887—1894.) (PRESIDENT, 1895.) (*Editor of Journal.*)

1885. Oakshott, J. A., M.D., Medical Superintendent, District Asylum, Waterford, Ireland.
1901. Ogilvy, David, B.A., B.Ch., M.D., L.M.Dub., Assistant Medical Officer, Banstead Asylum, Sutton, Surrey.
1892. O'Mara, Dr., District Asylum, Ennis, Ireland.
1881. O'Meara, T. P., M.B., Medical Superintendent, District Asylum, Carlow, Ireland.
1886. O'Neill, E. D., L.R.C.P.I., Medical Superintendent, The Asylum, Limerick.
1868. Orange, William, M.D.Heidelb., F.R.C.P.Lond., C.B., Oakhurst, Godalming, Surrey. (PRESIDENT, 1883.)
1899. Osburne, Cecil A. P., F.R.C.S.Edin., L.R.C.P.Edin., The Grove, Old Catton, Norwich.

1890. Oswald, Landel R., M.B., M.P.C., Physician Superintendent, Royal Asylum, Gartnavel, Glasgow.

1899. Owen, Corbet W., M.B., C.M.Edin., Counties Asylum, Denbigh, North Wales.

1898. Parker, William Arnot, M.B., C.M., Gartloch Asylum, Gartcosh, N.B.

1899. Parsons, L. D., B.A., M.B., Ch.B., New Provincian Asylum, Nassau, Bahamas.

1898. Pasmore, Edwin Stephen, M.D.Lond., M.R.C.P.Lond., London County Asylum, Banstead, Sutton, Surrey.

1901. Passmore, Wm. Edwin, L.S.A.Lond., 2, Sylvan Villas, Woodford Green, Essex.

1899. Paton, Robert N., L.R.C.P., L.R.C.S.Edin., Medical Officer, H.M. Prison, Wormwood Scrubbs, London, W.

1899. Patrick, John, M.B., Ch.B., District Asylum, Belfast.

1892. Patterson, Arthur Edward, M.B., C.M.Aber., Senior Assistant Medical Officer, City of London Asylum, Dartford.

1889. Peacock, H. G., L.R.C.P.Edin., M.R.C.S. and L.S.A.Lond., The Homestead, Monckton Combe, near Bath, and Ashwood House, Kingswinford, Dudley.

1899. Pearce, G. Heneage, M.R.C.S., Borough Asylum, Humberstone, Leicester.

1873. Pedler, George H., L.R.C.P.Lond., M.R.C.S.Eng., 6, Trevor Terrace, Knightsbridge, S.W.

1899. Penfold, William James, M.B., C.M.Edin., 99, Frank Street, Benwell, Newcastle-on-Tyne.

1893. Perceval, Frank, M.R.C.S.Eng., L.R.C.P.Lond., Medical Superintendent, County Asylum, Prestwich, Manchester, Lancashire.

1878. Philipps, Sutherland Rees, M.D., C.M. Queen's Univ. Irel., F.R.G.S., 2, Berkeley Place, Cheltenham.

1875. Philipson, Sir George Hare, M.D. and M.A.Cantab., F.R.C.P.Lond., 7, Eldon Square, Newcastle-on-Tyne.

1891. Pierce, Bedford, M.D.Lond., M.R.C.P., Medical Superintendent, The Retreat, York.

1888. Pietersen, J. F. G., M.R.C.S., Ashwood House, Kingswinford, near Dudley, Stafford.

1898. Piper, Francis Parris, M.B.Lond., M.R.C.S., L.R.C.P., London County Asylum, Bexley, Kent.

1896. Planck, Charles, M.R.C.S.Eng., L.R.C.P.Lond., M.A.Camb., Assistant Medical Officer, East Sussex County Asylum, Haywards Heath.

1877. Plaxton, Joseph William, M.R.C.S., L.S.A.Eng., Lunatic Asylum, Kingston, Jamaica.

1889. Pope, George Stevens, L.R.C.P. and L.R.C.S.Edin., L.F.P. and S.Glasg., Medical Superintendent, Middlesbrough Asylum, Cleveland, Yorks.

1901. Potts, George, L.R.C.P., and L.R.C.S. Edin., 17, Bernard Street, Russell Square, W.C.

1900. Powell, A. B. S., L.R.C.P. and S.Edin., Grahamston Asylum, Cape of Good Hope.

1876. Powell, Evan, M.R.C.S.Eng., L.S.A., Medical Superintendent, Borough Lunatic Asylum, Nottingham.

1891. Price, Arthur, M.R.C.S., L.S.A., M.P.C., Merriebank, Moss Lane. Aintree, Liverpool.

1875. Pringle, H. T., M.D.Glasg., Medical Superintendent, County Asylum, Bridgend, Glamorgan.

1901. Pugh, Robert, M.B., Ch.B., Claybury Asylum, Woodford Bridge, Essex.

1899. Rainsford, F. E., B.A., M.B., T.C.D., Resident Physician, Stewart Institute, Palmerston, co. Dublin.

1894. Rambaut, Daniel F., M.D.Univ. Dubl., Third Assistant Medical Officer and Pathologist, Richmond District Asylum, Dublin.

1889. Raw, Nathan, M.D., M.P.C., Mill Road Infirmary, Liverpool.
1893. Rawes, William, M.B.Durh., F.R.C.S.Eng., Medical Superintendent, St. Luke's Hospital, Old Street, London, E.C.
1870. Rayner, Henry, M.D.Aberd., M.R.C.P.Edin., 16, Queen Anne Street, London, W., and Upper Terrace House, Hampstead, London, N.W. (PRESIDENT, 1884.) (*Late General Secretary.*) (*Editor of Journal.*)
1899. Redington, John, L.R.C.P., L.R.C.S.I., A.M.O., Richmond Asylum, Dublin.
1887. Reid, William, M.D., Physician Superintendent, Royal Asylum, Aberdeen.
1891. Renton, Robert, M.B., C.M.Edin., M.P.C., Courtburn, Coldingham, Berwickshire.
1886. Revington, George, M.D, and Stewart Scholar Univ. Dubl., M.P.C., Medical Superintendent, Central Criminal Asylum, Dundrum, Ireland.
1897. Richard, William J., M.A., M.B., C.M.Glasg., Medical Officer, Govan Parochial Asylum, Merryflats, Govan.
1899. Richards, John, M.B., C.M.Edin., Leicestershire and Rutland Asylum, Leicester.
1889. Richards, Joseph Peeke, M.R.C.S., L.S.A., 6, Freeland Road, Ealing, W.
1899. Richardson, A. Y., M.B., B.S., County Asylum, Melton, Suffolk.
1899. Rice, David, L.R.C.P., Cheddleton Asylum, nr. Leek, Staffs.
1893. Rivers, William H. Rivers, M.D.Lond., St. John's College, Cambridge University.
1871. Robertson, Alexander, M.D.Edin., 11, Woodside Crescent, Glasgow.
1887. Robertson, G. M., M.B., C.M., M.P.C., Medical Superintendent, District Asylum, Larbert. Stirling.
1895. Robertson, William Ford, M.B., C.M., 7, Hill Square, Edinburgh.
1900. Robinson, Harry A., M.B., Ch.B.Vict., County Asylum, Rainhill, near Liverpool.
1876. Rogers, Edward Coulton, M.R.C.S.Eng., L.S.A., County Asylum, Fulbourn, Cambridge.
1859. Rogers, Thomas Lawes, M.D.St. And., M.R.C.P.Lond., M.R.C.S.Eng., Eastbank, Court Road, Eltham, Kent. (PRESIDENT, 1874.)
1895. Rolleston, Lancelot W., M.B., B.S.Durh., Senior Assistant Medical Officer, Middlesex County Asylum, Tooting, S.W.
1879. Ronaldson, J. B., L.R.C.P.Edin., Medical Officer, District Asylum, Haddington.
1879. Roots, William H., M.R.C.S., Canbury House, Kingston-on-Thames.
1899. Rorie, George Arthur, M.B., C.M., Senior Assistant Medical Officer, Dorset County Asylum, Dorchester.
1860. Rorie, James, M.D.Edin., L.R.C.S.Edin., Medical Superintendent, Royal Asylum, Dundee. (*Late Hon. Secretary for Scotland.*)
1888. Ross, Chisholm, M.B.Edin., M.D.Sydney, Hospital for the Insane, Kenmore, New South Wales.
1899. Rotherham, Arthur, M.B., B.C.Cantab., Horton Manor Asylum, near Epsom, Surrey.
1884. Rowe, E. L., L.R.C.P.Edin., Medical Superintendent, Borough Asylum, Ipswich.
1883. Rowland, E. D., M.D., C.M.Edin., The Public Hospital, New Amsterdam, British Guiana.
1877. Russell, A. P., M.B.Edin., The Lawn, Lincoln.
1866. Rutherford, James, M.D.Edin., F.R.C.P.Edin., F.F.P.S.Glasgow, Physician Superintendent, Crichton Royal Institution, Dumfries. (*Hon. Secretary for Scotland,* 1876–86.)

1896. Rutherford, James M., M.B., C.M.Edin., Assistant Physician, Royal Edinburgh Asylum, Morningside.

1896. Rutherford, Robert Leonard, M.D., Medical Superintendent, Digby's Asylum, Exeter.

1892. Ruttledge, Victor, M.B., District Asylum, Londonderry, Ireland.

1894. Sankey, Edward H. O., M.A., M.B., B.C.Cantab., Resident Medical Licensee, Boreatton Park Licensed House, Baschurch, Salop.

* Sankey, R. Heurtley H., M.R.C.S.Eng., Medical Superintendent, Oxford County Asylum, Littlemore, Oxford.

1873. Savage, G. H., M.D.Lond., 3, Henrietta Street, Cavendish Square, W. (*Late Editor of Journal.*) (PRESIDENT, 1886.)

1862. Schofield, Frank, M.D.St. And., M.R.C.S., Windermere, Spa Road, Weymouth.

1899. Scott, Charles R., M.B., C.M.Edin., 47, Dalrymple Loan, Musselburgh, N.B.

1896. Scott, James, M.B., C.M.Edin., Medical Officer, H.M. Prisons, Holloway and Newgate; 3, Parkhurst Road, Holloway, London, N.

1889. Scowcroft, Walter, M.R.C.S., Senior Assistant Medical Officer, Royal Lunatic Hospital, Cheadle, near Manchester.

1880. Seccombe, George, L.R.C.P.L., The Colonial Lunatic Asylum, Port of Spain, Trinidad, West Indies.

1879. Seed, William, M.B., C.M.Edin., The Poplars, 110, Waterloo Road, Ashton-on-Ribble, Preston.

1889. Sells, Charles John, L.R.C.P., M.R.C.S., L.S.A., White Hall, Guildford.

1882. Seward, W. J., M.B.Lond., M.R.C.S., Medical Superintendent, Colney Hatch Asylum, London, N.

1901. Shaw, B. Henry, M.B., B.Ch., B.A.O., R.M.I., Assistant Medical Officer, County Asylum, Stafford.

1891. Shaw, Harold B., B.A., M.B., B.B., D.P.H.Camb., Medical Superintendent, Isle of Wight County Asylum, Whitecroft, Newport, Isle of Wight.

1880. Shaw, James, M.D., 310, Kensington, Liverpool.

Shaw, T. Claye, M.D.Lond., F.R.C.P.Lond., 30, Harley Street, London, W.

1882. Sheldon, T. S., M.B., Medical Superintendent, Cheshire County Asylum, Parkside, Macclesfield.

1900. Shera, K. P., L.R.C.P.I., Kent County Asylum, Chartham, near Canterbury.

1898. Sherrard, David John, B.A., M.B., M.Ch.Dubl., The Laurels, Hailsham, Sussex.

1900. Shoyer, A. F., M.B., B.C., B.A.Cantab., City Asylum, Birmingham.

1877. Shuttleworth, G. E., M.D.Heidelb., M.R.C.S. and L.S.A.Eng., B.A.Lond., late Medical Superintendent, Royal Albert Asylum, Lancaster; Ancaster House, Richmond Hill, Surrey.

1899. Sibley, Reginald Oliver, M.B.Lond., M.R.C.S., L.R.C.P., Assistant Medical Officer, London County Asylum, Cane hill, Purley, Surrey.

1901. Simpson, Alexander, M.A., M.D.Aber., Medical Superintendent, County Asylum, Winwick, Newton-le-Willows, Lancashire.

1895. Simpson, Francis Odell, M.R.C.S., L.R.C.P., Senior Assistant Medical Officer, County Asylum, Rainhill, near Liverpool.

1889. Simpson, Samuel, M.B. and B.Ch.Dubl., M.P.C.

1888. Sinclair, Eric, M.D., Medical Superintendent, Gladesville Asylum, New South Wales.

1891. Skeen, James Humphrey, M.B., C.M.Aber., Medical Superintendent, Glasgow District Asylum, Bothwell.

1898. Skeen, William St. John, M.B., C.M., County Asylum, Winterton, Ferryhill, Durham.

1900. Skinner, Ernest W., M.D., C.M.Edin., Bank House, Rye, Sussex.

1901. Slater, G. N. O., M.D., Assistant Medical Officer, Essex County Asylum, Brentwood.

1897. Smalley, Herbert, M.D.Durh., L.R.C.P., M.R.C.S., Prison Commission, Home Office, Whitehall, S.W., and 62, York Mansions, Battersea Park, London.

1899. Smith, J. G., M.D., Herts County Asylum, Hill End, St. Albans, Herts.

1885. Smith, R. Percy, M.D., B.S., F.R.C.P., M.P.C., 36, Queen Anne Street, Cavendish Square, W. (*General Secretary*, 1896-7.)

1858. Smith, Robert, M.D.Aber., L.R.C.S.Edin., Middelton Hall, Middelton St. George, Durham.

1884. Smith, W. Beattie, F.R.C.S.Edin., L.R.C.P.Lond., Medical Superintendent, Hospital for the Insane, Kew, Melbourne, Victoria.

1901. Smyth, R. B., M.D., Ch.B., Senior Assistant Medical Officer, County Asylum, Gloucester.

1899. Smyth, Walter, M.B., B.Ch., R.U.I., Assistant Medical Officer, County Asylum, Antrim.

1881. Snell, George, M.D.Aber., M.R.C.S.Eng., 33, Caledonia Place, Clifton, Bristol.

1885. Soutar, J. G., Barnwood House, Gloucester.

1883. Spence, J. B., M.D., M.C., The Asylum, Colombo, Ceylon.

1875. Spence, J. Beveridge, M.D., M.C.Queen's Univ., Medical Superintendent, Burntwood Asylum, near Lichfield. (PRESIDENT, 1899—1900, formerly *Registrar*.)

1899. Spicer, A. H., M.B., B.S.Lond., Petworth, Sussex.

1898. Sproat, James Hugh, M.B.Lond., M.R.C.S., L.R.C.P., Somerset and Bath Asylum, Wells.

1891. Stansfield, T. E. K., M.B., C.M.Edin., The Heath Asylum Bexley, Kent.

1901. Starkey, William, M.B., B.Ch., B.A.O.Roy. Univ. Irel., Assistant Medical Officer, Lancashire County Asylum, Prestwich, near Manchester.

1898. Steen, Robert H., M.D.Lond., West Sussex Asylum, near Chichester.

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1868. Stewart, James, B.A.Queen's Univ.Irel., F.R.C.P.Edin., L.R.C.S.Irel., late Assistant Medical Officer, Kent County Asylum, Maidstone; Dunmurry, Sneyd Park, near Clifton, Gloucestershire.

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1868. Strange, Arthur, M.D.Edin., Medical Superintendent, Salop and Montgomery Asylum, Bicton, near Shrewsbury.

1899. Strangman, Lucia F., L.R.C.P.&S.I., L.M., District Asylum, Cork.

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1900. Veitch, J. Ogilvie, M.B., C.M.Edin., County Asylum, Powick, Worcester.

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1901. White, William, M.B., B.Ch., B.A.O., R.U.I., Assistant Medical Officer, District Asylum, Waterford, Ireland.

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1877. Worthington, Thomas Blair, M.A., M.B., and M.C.Trin. Coll., Dubl., Medical Supt., County Asylum, Knowle, Fareham, Hants.

1899. Wrangham, John Marris, B A., M.B., B.C.Cantab., M.R.C.S., L.R.C.P., Wadsley Asylum, Sheffield.

1898. Yeates, Thomas, M.B., C.M., Borough Asylum, Ryhope, Sunderland.

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Part I.—Original Articles.

Some Cases of Pellagrous Insanity.

By JOHN WARNOCK, M.D., Director of the Cairo Asylum, Egypt.

THE existence of pellagra in Egypt has been pointed out within recent years by Dr. F. M. Sandwith, and for a description of the disease as it occurs in hospital practice reference may be made to his articles.(1)

As a cause of insanity in Egypt, pellagra seems to have attracted little notice until Dr. Sandwith drew my attention to its existence in this asylum in 1895. Since then the number of cases admitted annually has been as follows:

Year.	Number of cases of Pellagra admitted.		
	Male.	Female.	Total.
1896 . .	9	2	11
1897 . .	13	10	23
1898 . .	29	10	39
1899 . .	14	19	33
1900 . .	27	8	35
Total .	92	49	141

Most cases came from the Delta, few from Upper Egypt. The *country* districts produce practically all the cases, in contrast to the *towns*, which, free from pellagra, send almost all the general paralytics and hasheesh cases that arrive here.

The usual symptoms as observed here are those of melancholia, which soon passes into dementia; later on great emaciation and anæmia with paresis of the lower limbs, intermittent diarrhœa, and a prolonged state of prostration precede the fatal termination.

Pellagra is never uncomplicated in the stage seen here. Every patient suffers from parasitic diseases. Favus, often producing complete baldness, is frequently present. The anchylostomum worms are always present, and the resulting extreme anæmia accounts partly for the great prostration of these cases. Other intestinal worms often occur. Bilharziosis of the rectum or bladder affects many cases and further aids the development of the anæmia and exhaustion. In fact it is a matter for astonishment that an individual preyed on by so many kinds of parasites is able to survive so long. Many of these patients have a dried-up wizened look, suggesting that of a mummy.

All cases admitted here arrive late in the course of the disease, the mental symptoms not having been sufficiently alarming in the early stages to necessitate removal to the asylum. The characteristic skin lesion of pellagra has therefore often disappeared before the patient is brought here ("pellagra sine pellagra"), but its former existence can be inferred from the state of the skin left bare after the exfoliation of the rash. The dark flaky rash of pellagra leaves the diseased skin paler than that of the surrounding parts, with a darker areola along the line where the diseased meets the healthy skin. This paleness does not always persist, but gradually the skin assumes a brownish shrivelled appearance and its texture becomes thinner, especially around the neck.

The situations where the signs of old pellagrous rashes are most often found are the dorsal surfaces of the hands and feet, the forearms and legs, the neck and the front of the upper portion of the thorax; all these parts are exposed to the sun when the patients work in the fields. Dark indurated patches are also found over the great trochanters and on the elbows and knees, which persist often when the rest of the rash has disappeared.

A number of patients who were admitted without noticeable skin lesion have developed the characteristic rash of pellagra while in hospital during the spring. The rash appears annually, chiefly at this season, and after some months gradually de-

squamates and disappears, only to return in the next spring-time.

Some sufferers complain of burning and itching in the affected skin, and there seems to be a connection between this discomfort and the frequent delusions of being burned, of sorcery, and of persecution.

Tenderness on pressure at the sides of the dorsal vertebræ, near the scapulæ, was obtainable in many cases, but the mental condition often prevented the investigation of this symptom. I noticed scars of cauterisation over the spinal column, probably done to cure back pain, in ten out of forty-five consecutive cases.

The patellar reflexes are usually much increased in force, though in five out of forty-five cases they were noted to be absent. A paretic gait is observed in advanced cases; the patient walks with the legs well apart, the shoulders raised and bent forwards, and after a few short feeble steps he falls over. Many cases are unable to stand up, or even to raise themselves up in bed. This loss of power is sometimes accompanied by tremors of the limbs. Ankle-clonus can be obtained in some advanced cases. Wrist-drop developed suddenly in one case, and epileptic convulsions in another. I may mention that epilepsy is a common disease in Egypt, and, as in other countries, is associated with insanity; no doubt epileptic patients acquire pellagra occasionally, and the convulsions observed in the course of pellagra may not be a symptom of this disease. A general atrophy of all the muscles of the body occurs as part of the general emaciation and malnutrition. Loss of control of the rectum and bladder is common.

The alimentary system is profoundly affected. Intermittent and uncontrollable diarrhœa occurs almost invariably. The pale anæmic tongue has often a peculiar appearance, being smooth and "slimy looking" at the tip and sides, as though stripped of its epithelium. This "bald tongue," as Sandwith calls it, was noticed in about three fourths of the cases, but its presence varies with the state of the patient's nutrition. Spongy gums, easily bleeding on pressure, and scorbutic cachexia were several times noted. A swelling of the parotid glands occurred in a few cases.

Mentally.—Usually the mental condition on admission is

one of melancholia. There is great depression, with feelings of illness and discomfort, and a childish, unreasoning discontent with everything. Resistiveness, refusal of food, and suicidal tendencies are common. Unpleasant delusions as to possession by devils, persecution, poisoning, sorcery, or of impending violent death of self or relatives often occur. Hallucinations of taste and smell are more frequent than those of the other senses. The melancholia does not last long without showing signs of oncoming dementia. Besides apathy, one notices some confusion and incoherence, loss of memory and slowness in comprehension, and gradually the patient becomes demented, so that in the later stages there are few signs of melancholia remaining; the patient smiles vacantly and appears to have lost interest in everything, and cannot give any account of himself. His remarks become limited to requests for more food and cigarettes.

It seems to me that the form of insanity occurring with pellagra is one peculiar to it, and is not simply the mental expression of the incidental cerebral malnutrition and anæmia. For we admit numbers of emaciated patients suffering from the terrible anæmia of anchylostomiasis who do not present symptoms of such grave melancholia as occurs in pellagra; in fact, the majority of them are maniacal, and, indeed, so excited that the treatment of their parasitic malady has to await their becoming more tranquil.

The frequent early occurrence in pellagra of symptoms of dementia, with loss of memory and childishness, points to organic brain disease, and reminds one of the mental condition of patients suffering from organic dementia due to gross brain lesions, and of the later stages of general paralysis. Indeed, the last stage of a general paralytic of the melancholic type and that of a pellagrous patient have many resemblances to one another.

The melancholia of pellagra is so much in contrast to the maniacal forms of insanity prevailing among the Arabs, that whenever an Arab fellah is melancholic the suspicion is raised that he may have pellagra, and search is made for signs of that disease. Among the Copts, on the other hand, who are descended from the ancient inhabitants of Egypt and profess a form of Christianity, melancholia is not uncommon even apart from pellagra. I may note in passing that the Copts suffer more

frequently from insanity than the Arabs, and that in them hereditary influence is often apparent. Also the Copts use alcohol as well as hasheesh, while the Arabs mostly indulge in the latter stimulant.

One type of pellagrous insanity, though not common, deserves special mention. In lieu of melancholic ideas, the patient develops expanded notions of himself. He has an exaggerated feeling of *bien-être*, mental and physical; although emaciated and unable to stand he declares he is in good health, very strong and rich, etc. The differential diagnosis of cases of this type from general paralysis is not always easy. At first sight one would expect the skin lesions of pellagra to be sufficiently distinctive; however, in some cases the rash has disappeared, and the patient having been confined to his house for some years from debility only exhibits a dirty-coloured skin. Unfortunately the pupillary reactions are often unobservable owing to old eye disease resulting in corneal opacities, iritic adhesions, etc. Even when the eyes are healthy, the observation of the pupillary reactions of an insane Arab patient in whom the iris is almost black is not easy. So far as my experience yet extends, the speech does not seem affected in pellagra, beyond being hollow and nasal in tone in a few cases, and, provided the patient can be induced to speak freely, the diagnosis may thus be effected. I append notes of two cases of pellagrous insanity of this uncommon type (Cases I and II).

Cases III and IV are in advanced stages of the disease.

Case V was formerly an inmate here in good bodily health, but maniacal and without pellagrous symptoms.

Case VI presented the usual melancholic symptoms.

CASE I.—A. R. A—, admitted July 1st, 1901; Arab, fellah, from Gharbieh Province, æt. about 45. His *medical certificate* states that he is delirious, talks nonsense, is destructive, and is dirty in habits.

On admission his weight is 46 kilogrammes. He is emaciated and anæmic; all musculature atrophied. He has a typical pellagrous black rash on the back of the neck, on the legs, forearms, dorsal surfaces of hands and feet. The black scales are peeling off. There are no signs of syphilis.

Pupils.—Examination impossible owing to opacities of corneæ.

Gait.—Paretic. He staggers and falls after a few moments; while standing kept his feet widely separated.

Patellar reflexes exaggerated in both sides.

Ankle-clonus well marked in both legs.

Tongue pale flabby, fairly steady.

Speech slow, but no actual articulatory defect.

He is bald from old favus of scalp. There are cautery marks along his spinal column, and he complains of tenderness on pressure over the dorsal vertebræ. He is dirty in habits.

Mentally.—He has expanded and quite unfounded ideas of his strength and abilities. He smiles, saying that he is happy and is as strong as ten men, is the "Lion of lions," etc. He is childish and can't explain his statements; he is passive, prostrate, and demented; his memory is much impaired.

Note of autopsy of Case I, who died on September 25th, 1901. P.M. twelve hours after death; temperature 95° Fahr.

The calvarium was very thin and transparent, especially in the temporal and parietal regions.

The brain, with membranes, weighed 1300 grammes. *Dura mater* thickened; on its under surface, over the superior and lateral surfaces of the left hemisphere, there was a layer of brownish-red semi-transparent membrane, adherent to the dura mater, but peeling easily; numerous rusty stains on under surface of dura mater (pachymeningitis hæmorrhagica). *The pia mater and arachnoid* were generally healthy, but there was some milky opacity over the fourth ventricle. These membranes stripped easily from the convolutions and left *no* erosions. Vessels at base healthy. The brain was generally soft and flabby, and collapsed on the table. On section no obvious changes were observed beyond anæmia, excess of fluid, and marked dilatation of lateral ventricles. (Spinal cord preserved for microscopical examination.)

Heart weighed 250 grammes; coronary arteries convoluted and white; endocardium shrivelled and pale; valves and aortic arch healthy; no atheroma; heart muscle flabby, and faded brown in colour; large *ante-mortem* clot; condition of *brown atrophy*.

Kidneys.—Capsules of both were difficult to remove; on removal, kidney surfaces were fairly smooth; long, depressed, linear scars traversed both kidneys. *Left* weighed 150 grammes; pyramids congested and dark in colour, large dilated veins; cortex not atrophied, but yellowish. *Right*, in section, was of dark purple colour; congested; weighed 140 grammes; pelvis dilated.

Intestines generally atrophied, and almost transparent, contained anchylostoma.

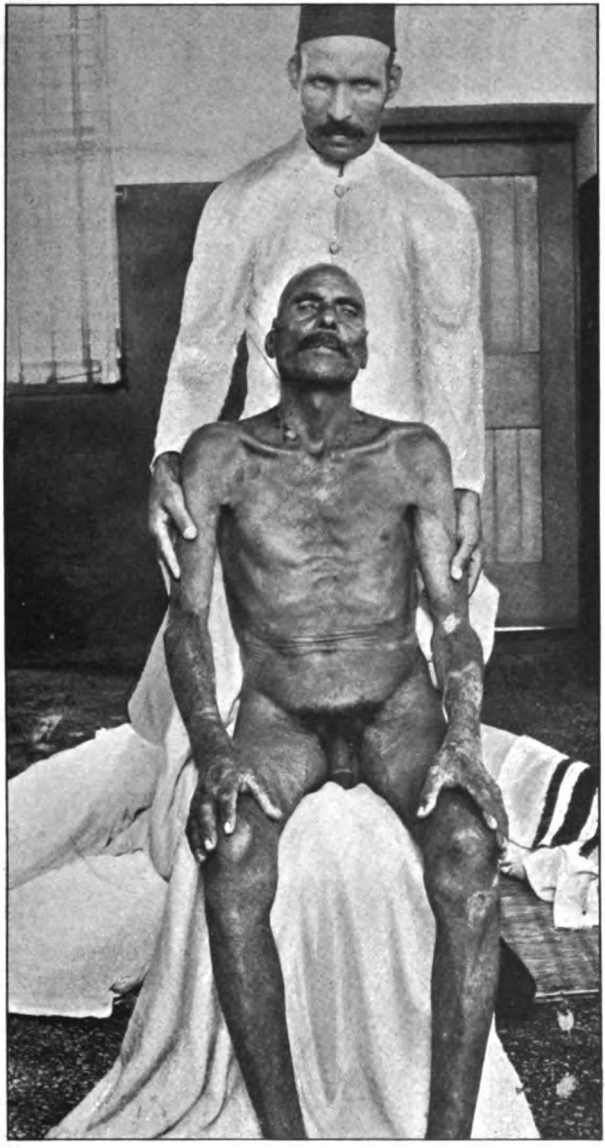
Spleen weighed 340 grammes; soft, friable, congested.

Liver 1220 grammes; dark purple in colour.

Lungs both congested and œdematous. A patch of gangrene existed at base of right lung.

CASE II.—S. K—, admitted July 27th, 1901; Arab, fellah, from Gharbieh Province, æt. about 45. His *medical certificate* states that he is excited, dirty in habits, and suffers from pellagra.

On admission patient was found to be emaciated and anæmic from anchylostomiasis. The skin of the neck, especially behind, is the seat of marked changes; flakes of hardened epithelium, black as though caked with soot, still adhere in some places; in others, pale



CASE II.

To illustrate Dr. WARNOCK's paper.

Bale and Danielsson, Ltd.

skin is left bare by the exfoliation. A yoke of diseased skin is easily discernible around the neck. Over the upper portion of the chest, on the extensor surfaces of the forearms, wrists and hands, legs and feet, a similar, though somewhat paler, indurated layer of diseased epithelium exists. The patient says that he has had eruptions for seven years (see photograph).

Patellar reflexes.—Very strong reactions.

Pupils.—Both clouded.

Gait.—He makes a feeble attempt to walk, but has little power in his lower limbs, and soon falls.

Tongue.—Pale, clean, steady.

Speech clear, no stammer.

There is no pain in back or cautery marks. He is clean in habits here.

Mentally.—He says he is very well and strong, "stronger than the world," then says he is weak; he says he is happy; he is incoherent; his memory is much impaired; he cannot relate his recent history; he is passive, contented, and unconcerned; he is demented, asks for food at all hours, and doesn't know where he is.

Case III.—M. I—, admitted July 2nd, 1901, from Sharkiyeh Province; Arab, fellah, æt. 35. Duration of insanity, two years (?). His *certificate* states that his neighbours complain of his excitement, and that he is irrational and resistive.

On admission he objected to examination, and refused to give any information about himself. There are patches of black indurated skin over his elbows, buttocks, great trochanters, and knees. He is extremely emaciated, and has a dried-up appearance.

Gait.—He walks feebly, with bent back; he has tremors in his limbs.

Pupils equal; reactions cannot be observed on account of patient's violence.

Tongue smooth, denuded, and characteristic of pellagra.

Speech clear, but his voice is hollow and nasal in tone.

Patellar reflexes.—Slight reaction on right side, none on left. The existence of back pain cannot be investigated, but he has cautery scars along the spine. His habits are dirty. There are no signs of favus or syphilis.

Mentally he is very demented, and appears unable to comprehend simple questions; he is irritable and restless; he gropes about the floor, and snaps at me, and makes feeble attempts to strike the attendants; he mutters incoherently; he seems to be suspicious of every one; he strips himself naked.

Case IV.—F. S. F—, admitted June 18th, 1901, from Sharkiyeh Province; Arab, fellah, æt. about 40; his brother is insane. Duration of existing attack, three months (?). His *certificate* states that he is unfit to be at liberty, that he talks incoherently and is resistive.

On admission he was emaciated and anæmic, weighing 43 kilogrammes. There is a well-marked pellagrous rash on the elbows and arms; it is exfoliating, leaving pale skin evident.

Gait.—He couldn't stand on admission; to-day (August 1st) he can walk feebly.

Speech.—Nasal and monotonous voice.

Tongue raw, denuded at tip and edges.

Pupils react to light satisfactorily.

Patellar reflexes both exaggerated. He has back pain and cautery scars on spine. His habits are dirty. No signs of favus or syphilis.

Mentally.—His memory is impaired as to recent events. He sleeps much and is always hungry. He has a vacant expression of face; he doesn't know where he is; he is demented; he talks to himself, but cannot converse intelligibly; he seems to be uncomfortable; continually asks for food.

CASE V.—K. I—, re-admitted July 17th, 1901, from Gharbieh Province; Arab, prostitute, æt. about 30. Her *certificate* states that she is noisy, weeping and laughing, frowning and making grimaces. She has pellagra.

On admission she was emaciated and anæmic. A well-marked dark pellagrous rash exists on her neck and chest, and on the extensor surfaces of her arms (see photograph).

Gait normal.

Tongue coated. She suffers from diarrhœa.

Pupils sensitive to light.

Speech clear. She has tenderness on pressure over the dorsal vertebræ.

Patellar reflexes are diminished. Her habits are dirty.

Mentally.—Patient is depressed and in a state of fear; she rushes suddenly away from me and moans and weeps. She is restless and resistive.

In 1895 this patient was an inmate of the asylum for seven months, suffering from mania from which she recovered.

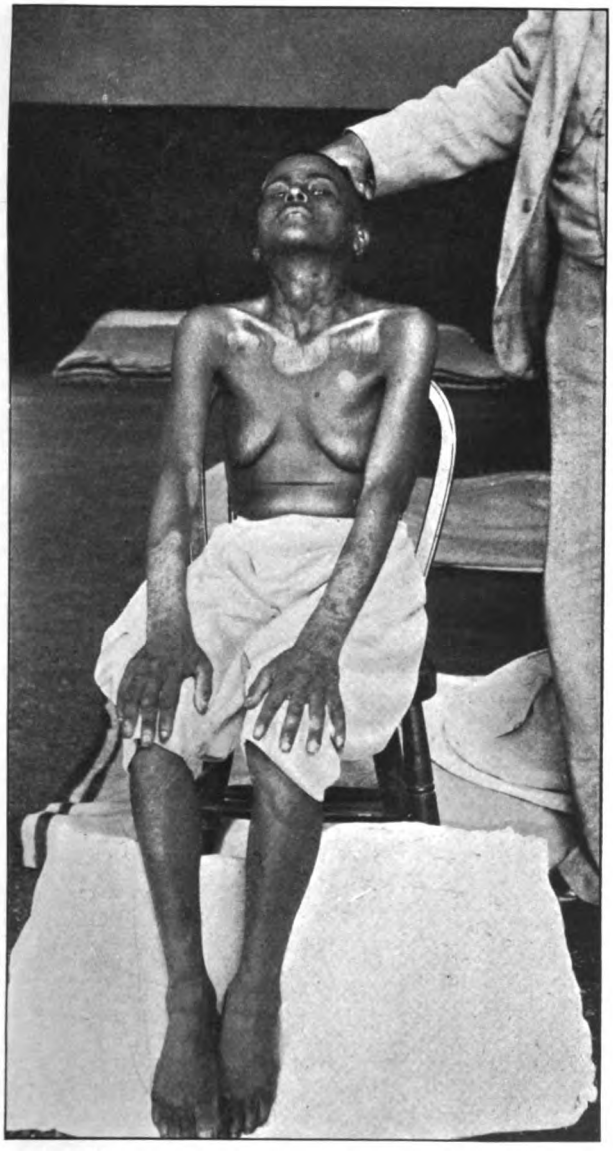
In 1898 she was again admitted, suffering from mania, attributed to hasheesh. She was also suffering from secondary syphilis. She completely recovered after ten months' treatment. On neither of these occasions were there any signs of pellagra.

CASE VI.—A. N. A—, admitted June 20th, 1896, from Sharkiyeh Province; Arab, fellah, æt. about 20.

On admission he was emaciated and had a dwarfed, shrivelled appearance. Weight 33 kilogrammes. Anæmic and cachectic. Skin of a yellowish tint generally. Had pellagrous rash, and cautery marks along spine.

Mentally.—He was talkative, emotional, and deluded. He kept repeating the statement that he had drunk poison and would be killed. He was melancholic and frantically afraid of poison.

June 1st, 1898.—Since admission he has steadily become worse mentally, and is now a restless, urgent melancholiac, distressing his neighbours by his cries, catching hold of visitors and imploring protection from his poisoning enemies. He often refuses food and exhibits his abdomen, declaring it to be full of poison. He becomes destructive and reckless when his entreaties are disregarded. He is usually sleep-



CASE V.

To illustrate Dr. WARNOCK's paper.

less, declaring that when he sleeps his enemies fill him with poison; he says that salt drinking-water has made his legs swell. He points to the ward medicine bottles, declaring they are for the purpose of poisoning him. He steals food when unobserved; he thinks that the tell-tale clock shakes him at night. He had an attack of stomatitis last year, and became very exhausted, refusing food and medicines, and suffering from retention of urine. He often suffers from diarrhœa; he has back pain between the scapulæ; his tongue is raw-looking. His face, hands, and shins are black in patches; his patellar reflexes are much exaggerated. No abdominal skin reflexes exist. Cremasteric reflex is weak. He has advanced favus of scalp.

He died in January, 1899.

(1) Sandwith, F. M., "Pellagra in Egypt," *Journal of Tropical Medicine*, Oct., 1898, and *Brit. Journal of Dermatology*, No. 121, vol. x, 1898. "Three Fatal Cases of Pellagra, with Examination of the Spinal Cords," *Journal of Pathology and Bacteriology*, November, 1901. Article on "Pellagra" in *Encyclopædia Medica*, 1901.

Note on the Prefrontal Lobes and the Localisation of Mental Functions.

By P. W. MACDONALD, M.D., Medical Superintendent, Dorset County Asylum.(1)

ABOUT the time that this very interesting specimen came under notice, the members of the Medico-Psychological Association were being treated to an able exposition of the present-day views on the burning question of the localisation of mental functions. The intention of this short contribution is very humble, my main object being to explain the specimen, and while doing so to offer a few general observations on any bearing it may be thought to possess regarding the localisation of intellect.

Before dealing with the specimen, I think I ought to say a few words respecting the subject from which it was obtained. The patient had been in the Dorchester Asylum for over twenty-five years, and at the time of his death was almost 60 years of age. He was a congenital imbecile, with a fairly well-formed head, a short stumpy body and limbs, and was from birth afflicted with primary spastic paraplegia. He could not read or write, but he could mutter words and appeared to know after a fashion what was going on, whether in a room or out of doors. By the aid of his mutterings and signs he was able

to make himself fairly well understood, *e. g.* if he had a pain he would shake his head violently, muttering unintelligible jargon, and place his hand over the spot. I do not think he was possessed of reasoning power, or of any of the higher or finer intellectual faculties, but he was unquestionably the possessor of a certain amount of intelligence as shown by his childish precociousness. After a lingering illness he died from chronic pulmonary disease.

Let us now turn to the specimen. From its defective and irregular development this brain is of unusual and exceptional interest, not only to the anatomist but equally to the physiologist and medico-psychologist. Professor Reid, of Aberdeen University, has been kind enough to examine the brain, and I cannot do better than quote you his words. He says: "The specimen shows absence of the superior longitudinal fissure in the region of the frontal and the anterior part of parietal regions, so that here the lobes of opposite sides are quite continuous with each other, the convolutions passing across without interruption. There is also a marked want of development of the frontal lobes. Without a dissection little further can be noted, but there seems to be a want of development of the body of the corpus callosum." (See Figs. 1 and 2.)

The marked deficiency and errors in development make the specimen of great value to any pathological museum. Here I would remind you that the patient's head was fairly well shaped; by this I mean there was not a flattened or receding forehead, as might have been expected with such a brain. Nature seemed to provide against this by an enormously thickened frontal bone, which in places was over half an inch in thickness. As this specimen will probably form the basis of a communication from the anatomist's point of view, I will not further trespass on his preserves.

Meeting with a brain of this description in a case of congenital imbecility obviously leads up to the question, what, if any, connection was there between the state of the intellectual faculties in this case and the arrested development of the prefrontal lobes?

At the present time two theories are held regarding the localisation of mind, or, to put it more concretely, the intellectual faculties. In the April number of the *Journal of Mental Science* for the present year Dr. Hollander contributes

FIG. 1.

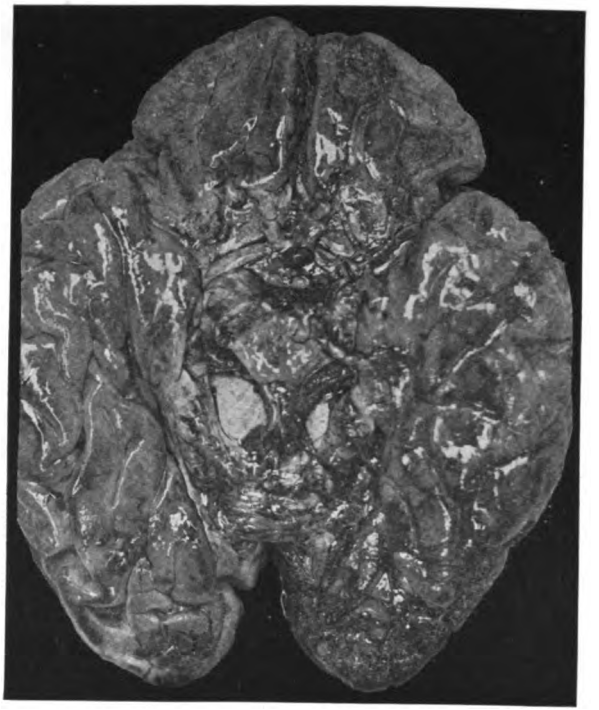


FIG. 2.

To illustrate Dr. MACDONALD'S paper.

a carefully prepared paper, since given to the reading scientific world in book form, in which he advocates and supports the more generally accepted view of this vexed question. He says: "It has been a universal belief at all times that the frontal lobes, or, more correctly speaking, the prefrontal lobes, are concerned with the highest intellectual operations." It is not the object of this note to enter the field of speculative theories, therefore I do not intend to trouble you with extracts from the writings of leading and distinguished men who do still accept the prefrontal theory. The later theory maintains that the occipital lobes are the seat of the intellectual faculties, and in the *Handbook of Physiology* for 1900 it is asserted "that experimental physiology lends no support to the view that the frontal brain is the seat of the intellectual faculties." The April number of the *Journal of Mental Science* for 1898 contains a paper by Dr. Crochley Clapham, on the "Comparative Intellectual Value of the Anterior and Posterior Lobes," in which he strongly and absolutely supports the occipital theory of the seat of intelligence, closing his paper with these words: "I think the evidence scales heavily in favour of the superior intellectual value of the posterior lobes."

These opposing views are supported by voluminous quotations and extracts from the writings of able thinkers; nay more, statistics are tabulated, experimental researches rehearsed, and a position claimed, which savours rather of philosophical speculation than the humble truth of sound reasoning deduced from facts. Wishing, therefore, to abide by facts rather than opinions, I have made a careful study of the *post-mortem* records of the idiots and imbeciles who died in the Dorchester Asylum between the years 1883 and 1901, and with the following results:—Out of a total of forty, in twenty-five instances the brain was of fair size with no marked deficiency, but much irregularity in the convolutions; twelve showed marked irregularity with arrested development in the prefrontal lobes; in two cases the occipital lobes were small and defective, and in one instance both prefrontal and occipital lobes showed defective development and irregularity.

These facts are curiously in agreement with the opinion of a distinguished pathologist, Professor Hamilton, who records a case in his *Text-book on Pathology* wholly in support of the prefrontal theory. Without venturing on any definite ex-

pression of opinion, it may be that the rigid localisation of mental functions is not so clearly established as either school of thought would have us believe. In one of the discussions following the papers already mentioned, it was stated that in all probability the cortex of the brain, with its magnificent cells and their multiplicity of ramifications, was largely concerned in the process of mental functions. Yet notwithstanding the intimacy, sympathy, unionism, and collaboration between the various sections of the grey cortex of the brain, there would still seem to be a consensus of opinion in favour of the theory that the finer reasoning processes of mental action are localised in the prefrontal region. Take the subject whose brain has been the starting-point of these observations. It could not be said that this man was absolutely without intelligence, it could not be said that he was dead to everything going on around him; but throughout his life it was manifest that the higher intellectual operations of reasoning, judgment, memory, reflection, etc., were wanting. May it not, then, reasonably be assumed that these defects followed and resulted from the arrested development of the prefrontal lobes? There is one further argument strongly opposed to the occipital theory. We are all familiar with the fatuity of mind and intellectual dementia so commonly met with in general paralytics, and so characteristically described by Dr. Yellowlees as brain death—the morbid evidences of which are mostly met with in the mid and fore brain.

I do not wish to put forward these facts as proof for or against either theory, but, speaking generally, I think they establish a sound link in the evidence which has helped to build up the universal belief that the prefrontal lobes are concerned with the highest intellectual operations. Individual and scattered fragments are apt to be lost in the conflict of opinions, but a combination of action and a sifting of truthful facts in the common sphere of work will go far to unravel the tangled skein of scientific thought which at the present time hovers around the localisation of the higher intellectual faculties. Is it too much to ask and expect a mighty contribution in this and other fields of scientific reckoning from amongst the hidden wealth of our asylum laboratories? No; I do not think so. Every individual worker should go steadily onwards, and if his efforts are not

rewarded as he and others might wish, and think they should be, he will at any rate receive that reward which even time does not efface, the indebtedness of science and the gratitude of fellow-workers.

(1) Read at the Autumn Meeting of the South-Western Division, Bath, October 22nd, 1901.

Female Criminal Lunatics: a Sketch. By JOHN BAKER, M.D., Deputy Superintendent, State Asylum, Broadmoor.

IN the communication which I have the honour to submit to the members of the South-Western Division to-day, I intend to bring forward some facts and some figures, not hitherto recorded, relating to the female patients now and formerly resident at this asylum.

In passing, I may remark that the term criminal lunatic embraces two classes of individuals entirely distinct from one another. First, there are those persons who have been found guilty of certain crimes or misdemeanours, but have been acquitted on the plea that they were insane at the time such acts were committed—persons, therefore, strictly speaking, free from the taint of crime, having been held to be irresponsible for the acts in question by virtue of their affliction, with certain cerebral diseases or disorders damaging to their power of self-control, or, in legal phraseology, to their judgment between right and wrong. The law provides that such persons shall be taken care of, not with a view to the punishment of the individual, but for the purpose of ensuring the safety of the public at large. These are the criminal lunatics properly so called.

The other class consists of convicts and felons who, during their sentence of penal servitude or imprisonment, display symptoms of mental derangement, and are transferred to Broadmoor on certificate. In contradistinction to the former they are termed lunatic criminals.

In the early days of the asylum the proportion of the two classes amongst the female inmates was about equal, but from various causes, such as the diminution in the number of female

convicts, the gradual absorption of wandering lunatics into asylums, and the readier recognition of mental disease, the number of female lunatic criminals has very sensibly diminished, and they now form but a small class—a class, however, very much in evidence, owing to their capacity for taxing the resources of the institution, and creating turmoil and disturbance in the wards. Since the opening of the asylum in 1864, this class has constituted about one third of the female admissions. Most of them were convicted of larceny ; arson, housebreaking, robbery, and false pretences were amongst the other offences. Fifty-five per cent. of these women were under thirty years of age, 45 per cent. had reached middle life,—indeed, the proportion who became insane at the climacteric is striking ; 5 per cent. were old women. In nearly one fourth of the younger females congenital defect was noted, in 18 per cent. a history of previous attack was ascertained, a limited number suffered from epilepsy and general paralysis.

The type of insanity most commonly observed amongst these lunatic criminals is delusional mania. As a rule they are demonstrative and noisy, obscene in language, degraded in behaviour, and subject to outbursts of paroxysmal violence. The maniacal affection is often associated with delusions of suspicion and persecution, and with aural and visual hallucinations ; perversion of the senses of smell and taste is sometimes also met with. Very frequently these insane manifestations have a sexual bearing, and it is noteworthy that the ranks of this class of lunatic are mainly recruited from women of loose character and irregular life.

In their quieter moments they seek one another and herd together just like epileptics ; but jealousy soon springs up, they denounce one another, conspire one against the other, friendship is hardly born before it dies, and is transformed into enmity. They are indolent and idle by nature, but can sometimes be induced to work. They then form great projects and good resolutions, are full of energy and activity, become very fussy and desirous of showing everyone how industrious they can be, but the effort is sustained for a brief period of time only, and they sink again into the ways of indolence. Whilst offences of acquisitiveness are most prevalent amongst lunatic criminals, crimes of violence predominate

amongst criminal lunatics. They include murder, manslaughter, and attempted murder, together with a few cases of suicidal attempts and assault. I do not propose to discuss the cases of homicide outside the class of child-murder, because they are comparatively few in number; suffice to say that in thirteen instances the victim was a relative, and in five cases a fellow-patient in another asylum. One woman was made a criminal lunatic for the manslaughter of an attendant. This brings us to the consideration of the cases which form the bulk of the female population of Broadmoor, viz. the infanticides. This class of crime perpetrated by insane women has not attracted the attention it deserves; the literature on the subject is scanty in the extreme; such cases do not lead to sensational trials, and the interest aroused is, for the most part, purely local. The facts surrounding the commission of the deed are simple, there is rarely any attempt at concealment, except in the case of single women who endeavour to hide their shame; indeed, amongst married women, the culprit is usually the first to draw attention to the tragedy. Further, the lawyers are more than ready to accept a plea of insanity, pity inspires both judge and jury, and the opinion of the expert is not often required in evidence.

It is a sad fact to record, but the registers of Broadmoor show that 253 women slaughtered their children. In 24 instances the lives of 2 children were involved, and in 8 cases 3 children were sacrificed by the mother at one fell swoop. In addition, maternal violence was responsible for attempts on the lives of 33 infants. The difference between the number of murders accomplished and the number attempted is remarkable, and indicates that great deliberation is exercised in the perpetration of this class of crime.

In reviewing the subject from a psychological standpoint I have included the attempted murders, because it was only an accident that a fatal result did not ensue, and I therefore propose to consider these 286 cases of infanticide, completed and attempted, in their relation to the mental disorders associated with gestation and the climacteric.

It is not my intention to dwell on the symptoms of those disorders, our business is with the medico-legal aspect of the question. The text-books say that the child may be in danger, but how, or why, or at what period, is not definitely stated.

It is affirmed that homicidal and suicidal propensities are present, separately or combined, in at least one third of the cases of puerperal insanity, but that, as a rule, they are neither vicious, nor deliberate, nor well-directed. Vicious, no; but deliberate and well-directed, yes, especially after the first week. It may seem paradoxical, but it is not vice that leads to the death of the infant, rather is it morbid and mistaken maternal solicitude; rarely do they deny the act, but excuse themselves on the plea that the child is happy in Heaven. The mental disorders connected with gestation are conveniently divided into three groups, each having its special characteristics, viz. the insanity of pregnancy, puerperal insanity, and the insanity of lactation. The insanity of pregnancy is the rarest form, puerperal insanity the most common. From a medico-legal point of view the same holds good with regard to the insanity of pregnancy, but not with respect to the other two forms, for I find, from a study of the Broadmoor cases, that infanticide occurs much more frequently in connection with the insanity of lactation than it does in association with puerperal insanity. This may appear surprising, for the term puerperal mania is invariably employed in connection with such cases. The term has become established by use and wont, but is really a misnomer, and puerperal melancholia would be much more accurate. In true puerperal insanity the maniacal form is apt to come on at a period much nearer delivery than the melancholic type; thus Batty Tuke found that all his cases of mania appeared within sixteen days of parturition. In such a condition of affairs those in attendance would naturally remove the child and guard against the contingency of danger. At this early period violence is usually directed towards the husband; the child may be attacked, but it does not seem to happen often, for out of sixty-four cases of infanticide occurring during the puerperal period, *i. e.* within two months of parturition, only sixteen took place during the first three weeks. In this computation the murder of newly-born children is excluded.

Infanticides occur in the following proportion (Broadmoor cases):

In the insanity of pregnancy . .	5 per cent.
In puerperal insanity . . .	35 per cent.
In the insanity of lactation . .	60 per cent.

Insanity of Pregnancy.

We are still far from possessing an adequate comprehension of the psychology of pregnancy. We are aware that it is often accompanied by intense mental depression, which sometimes deepens into true melancholia. The Broadmoor cases eleven in number, were of this type. In all but two cases the insanity was developed and the infanticide committed during the later months of pregnancy. Ten of these women were delivered in the asylum (two recently), and one gave birth to a child in prison just prior to admission. The age of the patient is supposed to have some influence on the development of the insanity of pregnancy, the proportion of cases between thirty and forty years of age being stated to be much larger than in younger women. This is not confirmed by the Broadmoor cases, for seven were between twenty and thirty years of age, three between thirty and forty, and one, a widow, was forty-one; she had an illegitimate child. Eight were married and two single. Six were primiparæ, five multiparæ. Hereditary influence was ascertained in four cases, two direct, and two collateral. In one instance a previous attack had occurred. There was no history of drink. Domestic trouble, desertion of husband, and illegitimacy of child were recognised as concurrent causes. Two recovered, five remain, two were transferred to other asylums, and one died.

A disposition to steal is sometimes observed amongst pregnant women. This propensity displayed itself in one of our recent cases, and really had much to do with her subsequent trouble. Without being in actual need or want, she stole a shawl of no great value from a neighbour's house. She was detected and arrested for the theft. The stigma preyed upon her mind, she became very melancholic, poisoned her youngest child, and attempted to poison herself. From the time of her admission until the child was born she maintained a quiet and reserved attitude, varied occasionally by waves of emotional disturbance, when she took a desponding view of her condition and looked forward to the result of her labour with gloomy apprehension. Such oscillating exhibitions of dejection are not infrequently associated with the insanity of pregnancy, but in her case the depression was

intensified by the fact that she had taken poison, and in a piteous way she appealed to know whether her suicidal attempt was likely to have a prejudicial effect on her unborn child. Her fears on this score were ultimately removed, for she was delivered at full time of a remarkably healthy male infant. All went well until a fortnight after delivery, when one morning she was reported to be rather restive and querulous. She happened to look up as I entered the room. I was struck by that look—I do not think I ever saw it before; it conveyed dread and apprehension, and something undefinable. It approached the look of a hunted animal. I immediately removed her from the vicinity of the child, although they had never been permitted to be alone together, nor had she been allowed to nurse it. There were no physical symptoms to account for the restlessness. She explained that she was fretting because she was aware that the child would soon have to be removed to the care of its grandmother, and she was afraid of becoming too much attached to it, which would make the separation all the harder. That was no doubt true, but the look in her eyes expressed a good deal more, and I believe that the child was in danger had she got a suitable opportunity to injure it. She seemed relieved when removed to the infirmary ward, and the symptoms passed away in a few days. She bore the departure of the child with equanimity, and is now progressing favourably. This episode serves to introduce the subject of puerperal insanity, which may be defined as that form of mental disorder which comes on within a limited period after delivery, and which is probably intimately connected with that process. Authorities are not agreed as to where the influence of the puerperal state ends and that of lactation begins. Clouston gives six weeks as the technical limit for puerperal insanity, Batty Tuke fixes it at a month, but allows two months for debatable cases; Campbell Clark proposes that a post-puerperal period of two to three months should be allowed in mixed and uncertain cases. In dealing with the Broadmoor cases, I have regarded, as puerperal, those in which the crime of infanticide took place within two months of parturition, and as lactational, those in which the child-murder occurred later. But, in truth, the distinction is an arbitrary one, for in many cases the mental causes are insidiously at work for weeks and months of pregnancy, and

continue for weeks and months afterwards, finally culminating in a tragedy during the lactational period.

In connection with puerperal insanity we have first to consider the murder of newly-born children. In all, I find twenty instances of this form of homicide, and in no less than sixteen cases the mother was single. What usually happens is this: The girl has concealed or strenuously denied the fact of pregnancy, she has made no preparation for the birth, except that sometimes a knife or pair of scissors is kept at hand for the purpose of severing the cord. Labour comes on, the child is born, and begins to cry. This contingency has been overlooked, and in desperation lest its wail be heard, she cuts its throat, stabs, or otherwise mutilates it. In some cases this is followed by an attempt to conceal the body. It may be called transient frenzy; no doubt it is, but the mother is generally capable of afterwards detailing all the circumstances.

If the child has had a separate existence the law calls it murder, but in cases of this sort, judge, counsel, and jury, as a rule, combine to prove the contrary, or to reduce the charge to concealment of birth, or to bring in a verdict of insanity. Occasionally sentence of death is passed, but is never carried into effect. It seems to me that the Legislature might devise some term short of constructive murder to define such cases, so that the sentence might be apportioned according to the degree of guilt and the measure of responsibility. The gravity of the mental symptoms may be gauged from the fact that twelve of the twenty Broadmoor cases were discharged after a comparatively short detention. This is the highest recovery rate of any class of homicidal insanity preceding or following gestation.

One of the cases recently admitted is probably unique. She is a married woman, a multipara, and the subject of epilepsy; she had previously been confined in an asylum. Left alone in the house one day, labour suddenly came on, and almost immediately she was delivered of a child whilst standing holding on to a table. She severed the cord, took the child in her arms, walked out of the house, and threw the infant into a canal which flowed past the rear of her dwelling-place. She returned to the house, and was shortly afterwards found in a state of acute mania, with the placenta undelivered. She recollects the birth of the child, the severance of the cord, the

act of drowning, and her return to the house; then memory fails her. It is more than probable that a fit occurred when she regained her abode, followed by post-epileptic mania, and that the homicidal act was one of those phenomena sometimes associated with pre-epileptic conditions, for she had experienced no trouble in connection with her previous confinements. Amnesia is more frequently met with in the delirious mania of the puerperal period proper. It may be that the woman, especially if she belongs to the poorer classes, has been allowed to get about too soon, or that some form of blood-poisoning has set in. The milk ceases to flow, the lochia disappear, the temperature rises, and mania occurs. During the continuance of this state the child sometimes falls a victim to violence of an extreme character. The child's head is dashed against the bed-post, or a pair of scissors is driven into the brain, or the throat is cut, or the head battered in with a poker; the more deliberate acts of drowning and poisoning are reserved for the later stages, and are usually associated with melancholia. When the mother regains her mental balance after the maniacal attack, she is invariably unable to recall the circumstances, or can only give a confused and incoherent account of the affair.

These are the cases which occur in the early days after parturition, and, as explained before, they are comparatively few in number. I have already stated that most of the infanticides take place in the later stages of the puerperal period, and are due to mental disorder of the melancholic type. They resemble in their general bearings the homicidal cases of the lactational variety, and may be fitly considered with that class. I find in all sixty-four cases of child-murder occurring during the puerperal period, *i. e.* within two months of parturition. They are exclusive of the twenty cases of infanticide of newly-born children previously alluded to. In thirteen instances the child deprived of life was not the youngest. The only explanation I can give of this somewhat unusual occurrence is that either the mother sacrificed her favourite child, or that, having killed an elder one, she was interrupted in her gruesome work before she could take the life of her latest-born.

The great majority of these women were multiparæ, forty-eight were married, fourteen single, and two widows. One was under 20 years of age, thirty-four between 20 and 30,

twenty-seven between 30 and 40, and two over 50. Twenty recovered and were discharged, thirty-two remain, and twelve died.

The occurrence of child-murder is far more frequent in the insanity of lactation than in the preceding insanities. Lactation is an exhausting process, and, to quote Campbell Clark, "many undertake nursing with an eager maternal desire who should be strongly dissuaded or firmly obstructed in their attempts to do so. These are frequently the women who break down. Another group is that numerous set in the poorer walks of life who seem to be pregnant or nursing mothers all the time, who toil and moil all their married life through; while a third class is of the over-lactation species, suckling to prevent conception, which is ruinous for mother and child." Is it to be wondered at that many develop melancholia, and frequently become actively suicidal? for suicide completed, attempted, or contemplated, almost invariably accompanies the infanticide. Their act, although at first sight it looks like infanticide, followed by suicide, is in reality, so to speak, only the completion of their own self-inflicted death. To die alone and leave their children is impossible for them, the children being almost an organic portion of themselves. Maternity is a function which exists for the protection of the weak, and a mother provides for her children by every means in her power, such means including at times the pathological phenomenon at present under consideration

In many cases the mother has a happy home and comfortable surroundings, but weighed down by the strain of lactation, and in addition, perhaps, by overwork and the anxiety of nursing a sick child, or by grief, perchance, if it dies, depression comes on, everything looks black and dismal, the idea takes possession of her that want and poverty are in store for her and her family. At first an obsession, it becomes a delusion; the thought of suicide projects itself into her mind, she cannot leave the child behind, it must be sacrificed first; the dreadful thought is banished again and again only to recur with renewed intensity, until it really seems to fascinate, and finally overwhelm her—the deed is done, and a ruined home is the result. These tragedies are frequently preventable. Although the patient is, as a rule, sanely conscious of many things and usually coherent, it begins to dawn on the friends that the mind

is gradually giving way, yet, owing to some perverse reasoning, they defer placing her under asylum care and treatment, even if the woman herself begs to be safeguarded.

As already stated, the murder of the child is often followed by the self-destruction of the mother; some try, but fail to succeed, others again are detected before they can carry out their design. Many experience a feeling of relief immediately after the infanticide, as if some tension were removed from their over-wrought brain. The feeling of vertex headache, which is one of the commonest symptoms, seems to be relieved, and tends to postpone the suicidal act.

Some women after drowning their children have prepared them for burial, and have laid them out in bed, sitting calmly by and contemplating them with a quiet sort of satisfaction, reasoning in their insane way that their offspring are happy in Heaven; but reaction soon comes, they begin to dimly realise the gravity of the act, melancholic despair again seizes them, their only wish is to die, and they cry aloud to be led to instant execution. In others the crime is followed by a dazed feeling, they confess to their offence in a mechanical manner, they shed no tears, express no remorse, but stare vacantly in front of them. The cerebral action seems for the time being to be nearly suspended, they are in a dream-state somewhat similar to that seen in post-epileptic conditions. The advent of tears brings relief, only to be followed by the same train of melancholic symptoms.

Others, again, immediately run to tell their nearest neighbour of the crime, or give themselves up to the police; their story is always the same—the child is free from trouble and happy in Heaven.

It is remarkable how frequently, in these cases, religious ideas colour the mental obsessions. Sometimes the child is offered up as a sacrifice to appease an angry deity, whose displeasure has been aroused by some trifling fault or omission, magnified by the poor deluded creature into the unpardonable sin. In one case the sacrificial altar was the child's bassinette, under which the mother proceeded to kindle a fire; her subsequent suttee-like act of self-immolation was only prevented by an hallucinatory appearance of the Saviour, whose imaginary voice was heard by the woman calling upon her to desist.

At other times the child is afflicted with some deformity;

talipes and cleft palate are mentioned in our cases. This is put down to the agency of the devil, and the child is destroyed as the offspring of the evil one.

The number of females classified under the insanity of lactation is 115. They differ from the puerperal cases in that more were older women. Fifty-two were between the ages of 20 and 30; fifty-three between 30 and 40; and ten between 40 and 45. The recovery rate, however, as in the former insanities, was highest amongst the younger females. Multiparæ were in the majority, forming 70 per cent. of the whole. One hunded and two were married, ten single, and three were widows.

In these homicidal cases associated with the mental disorders accompanying gestation, there are various circumstances which tend to retard or militate against the chances of recovery. They may be enumerated as follows:

1. The age of the patient. As a rule the older the patient on admission the less the chance of recovery.

2. The number of children. Where a woman has been exhausted and debilitated by frequent pregnancies, the prognosis is generally unfavourable.

3. The incidence of previous attacks. These attacks are, for the most part, puerperal. They occurred in 24 per cent. of the Broadmoor cases.

4. Hereditary predisposition, which was ascertained in 28 per cent.

5. The complication of epilepsy.

6. Where the child killed has been the illegitimate offspring of a married woman or widow.

There were thirty-three cases admitted of females who had killed their children under the influence of climacteric insanity. They resemble in most particulars the cases hitherto described, only amongst this class the children murdered were naturally older. Drink, also, which was infrequently noted as a complication in the insanities associated with gestation, played a conspicuous part amongst a section of these cases. In two instances of this form of insanity the circumstances associated with the tragedy were so singular and peculiar in their character that they may be deemed worthy of record. Only one involved the crime of child-murder, but in this case the father was an accomplice in the act, which was followed by the

attempted suicide of both parents. The couple were in monetary difficulties, and poverty stared them in the face. The combination of adverse circumstances and the climacteric had unhinged the woman's mind, and it was agreed that they should poison the child (aged eight years) and thereafter poison themselves. The decision was carried out with fatal effects to the boy, but the dose was insufficient to cause the death of the parents. They were subsequently tried for murder, a verdict of insanity was brought in, and both were sent to Broadmoor. The man has since died, the woman survives. This case is probably unique. In the next case the element of infanticide did not enter. Similarly, however, a married couple of middle age agreed to take poison. The husband did so and died soon afterwards, the wife was prevented from following his example by someone appearing on the scene. She was tried for murder and acquitted on the ground of insanity, which was due to climacteric origin.

These cases are, perhaps, not quite germane to my subject, and reach beyond the limitations to which I had bound myself, but I have narrated them as instances of attempted double suicide, which is of extremely rare occurrence amongst married couples. Only one such case has come under the observation of Lombroso, but in this instance the double suicide was completed.

In the remaining cases of infanticide not included under the foregoing classification, pregnancy was not present, the age of the child precluded puerperal or lactational insanity, the age of the woman climacteric disorder. The causes of the insanity in this class were principally domestic trouble and desertion of husband amongst the married women; congenital defect, illegitimacy of child, and destitution amongst the unmarried.

In all these cases of homicide associated with the mental disorders connected with gestation and the climacteric, the form of insanity on admission has invariably been melancholic, —simple, delusional, resistive, or stuporose. The maniacal type has been comparatively rare. When recovery has taken place the melancholia has given way after a period of shorter or longer duration, or has been succeeded by an attack of mania prior to the restoration of mental health. In cases of non-recovery the melancholia either becomes chronic or is followed by attacks of recurrent mania, or chronic mania supervenes,

passing into dementia. Even at their mental best many of these mothers are haunted by the ever-present shadow of their crime, which spreads around an almost universal tendency to sadness.

On admission, many cases suffer from amenorrhœa. To show the prevalence of this form of disordered menstruation, I have taken the cases of patients admitted since June, 1900—twelve in all. Two were women at the climacteric, and are therefore deleted. Of the ten remaining, no less than six suffered from amenorrhœa on admission, in one it still continues, in two it lasted seven months, and in four from three to six months. Whenever natural menstruation returns, an improvement is noticeable in the mental condition. In climacteric cases on the other hand, menorrhagia is often found. One woman, recently admitted, murdered two children after an exhausting flooding of nine days' duration.

In the course of these investigations I was enabled to elucidate the curious and interesting pathological fact that the brain-weights of homicidal female lunatics were below the normal standard of sane women, and that the brain-weights of lunatic criminals—the thieves and fire-raisers—were still more deficient in this respect.

The average weight of the normal female brain as stated in 'Quain's Anatomy' is 44 ounces, or 1247 grammes, that of the homicidal female lunatics who died in Broadmoor, 1190 grammes, and that of the female lunatic criminals, 1120 grammes, a deficiency of 57 and 127 grammes respectively. To those interested in the subject the following table may be of use in comparing the brain-weights of the different classes at various ages:

Age.	Brain-weight of sane women ('Quain's Anatomy').				Brain-weight of female criminal lunatics.							
					Homicidal offences.				Crimes of acquisitiveness, etc., lunatic criminals.			
	Number of brains weighed.	Maximum.	Minimum.	Average.	Number of brains weighed.	Maximum.	Minimum.	Average.	Number of brains weighed.	Maximum.	Minimum.	Average.
		oz.	oz.	oz.		oz.	oz.	oz.		oz.	oz.	oz.
From 20 to 30 years .	72	55·2	35·7	43·7	7	47·5	35	40	5	46·5	28·5	39·4
From 30 to 40 years .	89	53	33·2	43	12	51	35·5	42·5	7	43·5	34·5	38·4
From 40 to 50 years .	106	52·5	27·5	42·8	19	47·5	27·5	42·5	12	47·5	31·5	39·5
From 50 to 60 years .	103	52·5	36·2	43·1	13	51	35·5	43	5	49·5	39·5	43
From 60 to 70 years .	149	54	32·5	42	17	47·5	34·5	41	5	42	39	40·8
From 70 to 80 years .	148	49·5	29·2	41	9	48·5	37·5	41	—	—	—	—

The table requires little explanation. It will be seen at a glance that, with a few exceptions, there is a progressive decline as regards maximum, minimum, and average brain-weights through the different classes at the various ages.

There are many important features, both clinical and pathological, which I have been unable to embody in a communication of this scope. I am conscious of having but touched the fringe of my subject, and I must leave to future effort the further elucidation and explanation of a wide and intricate medico-legal question.

Discussion

At the Autumn Meeting of the South-Western Division, Bath, October 22nd, 1901.

Dr. L. Weatherly said that the part of the paper which appealed to him was that which referred to grades of criminal responsibility. That was a question upon which they were all agreed—that there were grades of responsibility in all crimes, and that the punishment should fit the amount of responsibility. It seemed to him that in many cases, if these murders by females had been committed by men instead of women, the murderers would have gone to the gallows. The sympathy of judge and jury with a woman was well known, and he was perfectly satisfied that many of the cases of females sent to Broadmoor as having been insane would not have been so dealt with had the murderer been a man instead of a woman. In the discussion which took place not long ago in their Association with regard to the question of punishment, he was astounded that no gentleman who spoke at that meeting—unfortunately, they were deprived of listening to many of their own fraternity, because the discussion was taken up by men who did not belong to the Association—correctly represented their views on the matter. He was surprised to find that whereas they classified the punishment of crime under two headings—that which acts as a deterrent and that which tends to the reformation of the criminal—they more or less sneered at the psychological section of the profession as trying to make out that people who committed crimes were more or less insane and ought not to be punished. Every medical man who went into the witness-box to try to prove that a person was not responsible by reason of mental disease, did not enter the box to make out that he ought not to be punished, he simply said it ought not to be of the same class as if he were perfectly responsible. He asked the judge to incarcerate them somewhere, to take away their liberty—which was one of the greatest punishments man or woman could have—and to send them to some place where the disease could be properly treated, and the patient could get better. Therefore any person who went into the witness-box did not ask the judge not to punish them, but to do what the law required, to give them a punishment to fit the crime, firstly as a deterrent, and secondly as a reformatory measure.

Dr. Goodall thought that the percentage of 28 as being hereditary seemed low; he dared say fuller facts and a more careful inquiry, in which relatives were not keen in aiding, might produce a larger percentage of heredity. He should like to know whether or not it was common for the offspring of parents and grandparents who had whilst insane committed criminal acts during the period of gestation, to show the same tendency. The paper having a wide name, he might be pardoned for asking whether anything was done in the way of examining these people anthropologically so as to establish whether they were degenerates or not. He held strong views on the union of asylums with prisons as was done in Belgium and other countries.

Dr. Deas said the paper covered a very wide range of the subject dealt with. He had had occasion to be called in in many cases, and the only class of case he had a difficulty about was one Dr. Baker did not allude to. It was the case of a single woman where there had been a little natural weak-mindedness and nothing more, but where the element of malingering came into play. He remembered one where a woman got off at the trial because there was evidence of a certain amount of weak-mindedness, but he believed himself it was a case of decided and brutal murder, and he was not sure that there was not an element of malingering. He did not think Dr. Baker alluded to persons of the criminal type who commit murder from the pure reason of getting rid of the bother of the child. He recalled a case in

which the girl had been in the workhouse, and she got her discharge, and took the child away into a quiet place where, having stripped it, she threw the child into a ditch of water. As in so many cases, she overlooked the fact that little things may attract attention. She had gone in an omnibus to a small village in North Devon, and had been noticed by the driver. When returning, she happened to meet the man, who had got off his 'bus in a side lane; she had a bundle but no baby, and giving him confused answers as to what had become of the child, her arrest followed. She showed great deliberation and forethought, but she overlooked the possibility of being met by the man who drove the omnibus. That was a case one would not say was due to insanity, although it had many of the apparent features connected with it, and he would like to ask Dr. Baker whether, at Broadmoor, they might not have the means of checking cases which had been passed as insane, and which afterwards at Broadmoor exhibited no trace of insanity. Such cases did occur, and he was not sure fuller justice would not have been done in the one he had mentioned, if she had met the full penalty of the law.

Dr. BAKER, in reply, said with regard to Dr. Weatherly's point about making an analogy between men and women, he did not think one could do that in this case because the fact of parturition came in. With regard to Dr. Goodall's remark about heredity, he had no doubt in a good many cases—in the greater proportion—heredity was present, but they had no means of ascertaining unless the relatives came to the asylum. The cases were tried, and the patients came to them from prison, and they had only the prison records for information, and unless, as he had said, the relatives came, they could not get information about their antecedents. With regard to the anthropometrical point, he had seen many of the measurements, but he could not say they were of any great value from his own experience, at all events so far as gauging the mental calibre. Of course in prisons there was a great majority of the ordinary type seen, but there was a residue of 2 or 3 per cent. which showed symptoms of congenital weak-mindedness, and he dared say the measurements would be different in those cases. He knew the case referred to by Dr. Deas, because she was a congenital imbecile, and his opinion was that justice had been done.

Crime in General Paralysis. By W. C. SULLIVAN, M.D., Deputy Medical Officer, H.M. Prison, Pentonville.

THE minute study of morbid organisation as a factor in the genesis of crime which has been extensively pursued in recent years has been for the most part concerned with conditions of arrested or distorted cerebral development, with the different forms and degrees of innate defect. Less attention has, on the whole, been given to the other large class of neuropathic criminals, those in whom the morbid aptitude for criminal acts is connected with deterioration of brain, where the mental defect is acquired.

It has appeared to me, therefore, that some relative freshness of interest might be found in a discussion of these conditions of acquired defect; and this the more because of the exceptional clearness with which their study illustrates certain essential points in the relation of organisation to conduct.

One of these morbid states—perhaps the most important in our special point of view—that, namely, due to chronic intoxication by alcohol, I have discussed in some detail in papers published in the *Journal of Mental Science* and elsewhere.(1) The natural direction of our inquiry leads next to those conditions nearest allied to chronic alcoholism, chief among which are general paralysis and senility. The present paper, then, will deal with the former of these diseases, the term "general paralysis" being taken for the purposes of the discussion at its current value, as—to use Schüle's phrase—a convenient "clinical collective name" for a not very clearly delimited group of cases with more or less distinct, but nowise pathognomonic clinical and pathological characters.

Forms of crime in general paralysis.—The examination of conduct in chronic alcoholism showed a remarkable frequency of suicidal and homicidal impulse, and, in very much lesser degree, a tendency to certain forms of sexual crime, especially the defilement of children; offences of acquisitiveness, on the contrary, did not appear to be very importantly related to this condition.

Crime dependent on the senile involution to a great extent resembles alcoholic crime in all these points.

In general paralysis, on the other hand, the character of conduct is entirely different. A rough illustration of the contrast may be given in statistical form. During nine years (1888–96) among accused and convicted prisoners certified as insane in the local prisons of England and Wales there were 274 cases (261 males and 13 females) in which the form of mental disease was considered to be general paralysis.(2) Amongst the other prisoners found insane during the same period were 140 males aged sixty years and upwards. Comparing the character of the delinquency in this senile group with that in the group of male paralytics we get this result:

	G.P.	Senile.
(*a*) Crimes of violence—Homicide	4	5
Homicidal attempts	5	8
Assaults	21	24
Threats	8	6
(*b*) Suicidal attempts	8	24
(*c*) Crimes of acquisitiveness	144	30
(*d*) Sexual offences	13	4
(*e*) Other offences	58	39
	261	140

Thus, while in the senile insane grave homicidal acts (first two groups of crimes of violence) and attempts to commit suicide amount respectively to 9·2 per cent. and 17·1 per cent. of the total delinquency, in the paralytics the corresponding figures are only 3·45 per cent. for homicidal acts, and 3·07 per cent. for suicidal attempts ; and while impulses of acquisitiveness account for 55·17 per cent. of paralytic crime, they appear in only 21·76 per cent. of the senile cases.

It is, of course, needless to point out that these figures are to be taken with large qualifications ; they are quoted here merely to give a general view of the character of paralytic crime before entering on the detailed discussion of its varieties.

Crimes of acquisitiveness. — Offences of this class are notoriously common in general paralysis, and they have been so often described in this connection that a very summary account of them will suffice here. Their most typical form is petty larceny, but frauds, forgery, and embezzlement are also frequent.

Generally the circumstances and execution of the offence show a characteristic silliness. Exceptions to this rule, however, are met with ; paralytics do sometimes commit robberies and frauds with an appearance of adequate motive and premeditation. In an observation, for instance, published by Maudsley,[3] a general paralytic in the prodromal stage skilfully robbed a number of railway passengers of their watches ; he had provided himself for his expedition with a false beard and a dagger. And other somewhat similar instances of premeditation are on record.

Such relatively intelligent acts are linked by cases intermediate in complexity to the more simple expressions of acquisitiveness—the automatic theft and the rubbish-gathering of advanced dementia (Mendel).

The most important point to be noted about this tendency is that it occurs in exalted or at least optimistic paralytics, and not in those with the melancholic form of the disease. Ritti,[4] indeed, has seen some instances of theft by depressed paralytics ; but such cases would appear to be quite exceptional.

This association of acts of acquisitiveness with exaltation has led some observers (Burman)[5] to suppose that the acts are *caused* by the delirious ideas. Clinically, however, it is very

rare to see cases which would conceivably admit of this interpretation. Very often, on the contrary, the impulse precedes the delusions of exaltation by a long period of time—seven years in one of Brierre de Boismont's observations.(6) And acts of acquisitiveness are very common in the purely demential form of the disease where such delusions never develop; this is the form of paralysis most frequently seen in prison experience.

Corresponding with the purely impulsive character of his conduct is the paralytic's confused state of consciousness. Sometimes he will deny all knowledge of his action, or if he remembers it, he may profess amnesia of the motive. And very often, when he does not explicitly plead amnesia, but on the contrary endeavours to explain or excuse his conduct, his explanation is really nothing more than his personal theory to account for an action whose true motive entirely escapes him. This *ex post facto* origin of the paralytic's idea of his own motives is most apparent in the later stages of the disease, when the patient in the course of a few minutes' interview may assign three or four different and contradictory reasons for his action, his explanations varying with his moods. The following observation illustrates this point:

H. F— stole a piece of bacon from a stall outside a shop in a large thoroughfare; he simply picked the bacon up, hid it under his coat, and walked away; the shopman stopped him, he replaced the bacon on the stall, and waited till the police came and arrested him.

Prisoner is æt. 55, painter by trade, married, has three children. Marked lingual and facial tremor, blurred speech, exalted patellar reflexes. No special ocular symptoms. No signs of alcoholism. Very demented, *e. g.* blunders over the names and order of the months, cannot calculate his earnings over more than two weeks, etc. Facile, self-satisfied in mood; no obvious delusions; has had several congestive seizures.

Asked why, being an honest man, he committed a theft, says he was in drink and did not know what he was doing. Says later that he is hard-working and devoted to his family, that he has not taken liquor for years; becomes emotional on the subject of his children. Asked now why he stole the bacon, says it was to take it home to his children who had nothing to eat. Questioned about his work, says he is an excellent workman, gets good wages, has saved money, has £15 in the bank; beamingly optimistic. Asked now why he stole the bacon, says he did it for a joke. Reminded of his other explanations, says he does not know why he stole it, "it must have been for a joke."

Besides this impulsive origin, acts of acquisitiveness may

also be more indirectly connected with general paralysis. Paralytics, for instance, who have blundered in their accounts or lost money, may in a more lucid phase embezzle to make good the deficit. This is a point of some practical importance in relation to the question of legal responsibility, because it may happen—and I have recently seen an instance of the sort—that the fraud has the appearance of intelligent execution, while the error it was designed to cover was stamped with the character of dementia.

Paralytics are also very amenable, through their *naïveté* to criminal suggestions by others. Magnan (7) quotes the case of a patient who was sent by his wife to steal in the Bon Marché; and Foville (8) mentions two instances where paralytics were used as tools to utter forgeries.

Suicide.—The frequency of suicidal tendency in general paralysis is a question regarding which opinion appears to be divided. The majority of authors consider it as very exceptional. Brierre de Boismont,(9) however, speaks of it as a not uncommon initial symptom. And this is also the view of Mendel,(10) who even suggests that an important proportion of suicides in middle life are to be attributed to this disease in its prodromal stage; in 180 patients observed by him, 12 had attempted to commit suicide, and in 7 of these cases the subsequent symptoms were of the exalted type. Kaes(11) in a recent analysis of the anomalies of conduct in general paralysis found 33 cases of suicidal attempts in a series of 268 men, and 12 cases in a series of 69 women. Kaes and Mendel agree in assigning suicidal tendency in the early stages of the disease mainly to the sense of cerebral incapacity, and the consequent feeling of anxiety for the future; suicide in these conditions is not an impulse of directly morbid origin, but rather a last act of reason.

Regarding the later stages of the malady, there is practical unanimity that suicidal acts are very rare. As a rule, genuinely suicidal attempts are met with only in melancholic cases, and are of directly affective origin. It sometimes happens, however, in exalted paralytics that opposition to the patients' desires and pretensions leads, in the emotional instability of the disease, to more or less serious suicidal acts.

Generally the suicidal attempts of the paralytic, like their other actions, are marked by the essential dementia of the

disease, and are clumsy, absurd, and liable to arrest by intercurrent impressions. Mendel ([12]) mentions a characteristic case where a patient with hypochondriacal ideas walked into the water with the intention of drowning himself, but was checked by the recollection that he suffered from rheumatism.

Suicidal attempts of a more determined and skilful character are very rare; and the number of actual suicides by paralytics recorded in medical literature is extremely small.

Voisin and Burlureaux ([13]) report the case of a woman who hanged herself in the prodromal stage of the disease; she had had systematised delusions of persecution for at least eighteen years previously, and these delusions persisted after the onset at the menopause of symptoms of general paralysis. Kaes ([14]) mentions (without details) that one of his paralytics committed suicide by hanging. In a very remarkable case reported by Sezaret *fils* ([15]) the patient, æt. 50, suffering from tabetic general paralysis, had hypochondriacal ideas and delusions of culpability, and after two abortive attempts, succeeded in killing himself by thrusting a piece of wood into the pericardium. Monestier ([16]) has recorded a case of suicide (hanging) by an exalted paralytic where the cause may perhaps have been the patient's irritation at the refusal of his liberty. I do not know of any other published cases.

Homicide.—Most of what has been said in reference to suicide applies equally to acts of violence in general paralysis. The only exception is that the reasoned suicide from the consciousness of commencing brain failure has no counterpart in homicide; and even this exception is not perhaps absolute, for at least one case of murder and attempted suicide by a paralytic is on record (see Fritsch's case below) where such a feeling may have entered into the causation. In other respects the parallelism is complete.

Acts of violence, like suicidal attempts—and very much oftener than such attempts—may be committed by paralytics when their expansive tendencies meet with opposition. In this way originate a good many assaults of more or less gravity, and sometimes, though rarely, offences of a more serious character (see cases of Marondon de Montyel and Max Simon below).

Occasionally, too, the paralytic dement may attempt murder under the influence of a simple suggestion; one of Kaes'

patients,[17] for instance, nearly choked a child because he had read in a newspaper that death by strangulation only occurred after nine minutes, and he wished to verify the statement.

The large majority, however, of grave acts of violence depend on a primary homicidal impulse, and are related to more or less persistent states of emotional depression. This is the view of all writers on the subject, and it is fully borne out by the few observations recorded in medico-legal literature.

The following summary of a number of the recorded cases will give an idea of the conditions under which the impulse appears in paralytics. In one or two of the cases, it will be noted, the diagnosis is, perhaps, open to question.

1. *Ebers.*[18]—A soldier, æt. 47; chronic alcoholism and gout; placed in an asylum owing to an attack of hallucinatory delirium, was found to be suffering from general paralysis. Discharged on remission of symptoms, murdered his wife, of whose fidelity he had suspicions.

2. *Hagen.*[19]—Well-known case of Count Chorinsky, who, in prodromal stage of general paralysis, poisoned his wife. He acted in collusion with his mistress, whom he desired to marry; had also a pecuniary motive. Crime cleverly planned and executed.

3. *Sisteray.*[20]—A man, æt. 43; as a result of head injury had developed persecutory ideas, in connection with which he made well-planned attempts to murder, on one occasion, a relative, and on another a neighbour. The mental symptoms existed some ten years prior to the crime. The grounds for diagnosis of general paralysis appear very slight.

4. *Kraft-Ebing* (quoted by).[21]—A man, æt. 46; history of alcoholism. Had mixed delusions of exaltation and of persecution by his wife, and had often threatened to get rid of her. Strangled her, and tried to represent her death as natural. Typical *délire des grandeurs* developed subsequently.

5. *Lotz.*[22]—Policeman, æt. 50; history of alcoholism. Murdered a woman by shooting her with a revolver, subsequently firing on people who attempted to arrest him. Wanted to marry the woman, whose family opposed the union. Stated that the woman had agreed to a double suicide; this assertion was not in accord with her letters. Diagnosis of probable general paralysis rested on symptoms of increasing dementia, ataxic speech, paresis of right side, oscillatory emotional state.

6. *Schmidt.*[23]—Woman, æt. 45; insane heredity; always eccentric; symptoms of general paralysis dated from childbirth three years before crime. Murdered her husband with an axe, and buried his body in

garden. Pleaded that she acted in self-defence, her husband in a state of drunkenness having attempted to kill her.

7. *Fritsch.*(24)—Shoemaker, æt. 43; head injury twenty years previously; alcoholism. Murdered his wife and four children during their sleep, and attempted to commit suicide. Had been worried about work for some time. Alcoholic symptoms marked at time of crime. Exaltation appeared a little later with characteristic physical signs.

8. *Baume.*(25)—Symptoms of general paralysis did not appear until fourteen years after the crime—the murder of a friend—committed under the influence of systematised delusions of persecution.

9. *Marondon de Montyel.*(26)—Workman, æt. 45. Made a murderous assault on a girl with the object of robbery. Clumsy defence. General paralysis of exalted form.

10. *Marondon de Montyel.*—Man, æt. 39, in early stage of exalted general paralysis, made a well-planned attempt to murder one of his friends. It appeared that the murderer had offered to his victim, who was about to be married, the loan of his penis, to which he attributed very exceptional qualities; losing the power of erection soon after, he suspected that his friend had kept possession of the organ.

11. *Villard.*(27)—Farm labourer, æt. 45; history of alcoholism. Entered a farmhouse where the people were at supper, saluted them in a friendly way, and a few minutes later made a sudden attack on one of them with a bill-hook, after which he ran away. Went next day to the doctor's house to ask about his victim's state; spoke very ill of the man, accusing him among other things of being the author of a fire in a neighbouring village thirty years previously; when it was pointed out that the man had not then been born, said "Well, it was his grandfather." A few weeks later his ideas were exalted, he was quite unable to suggest a motive for his action, and was unwilling to believe that he had been guilty of it.

12. *Ballet.*(28)—Female, with hereditary taint, always eccentric, and with vague persecutory ideas, committed a cleverly planned murder in the prodromal stage of general paralysis.

13. *Camuset.*(29)—Magnan quotes without details an observation of Camuset where a general paralytic committed a murder in a phase of automatism resembling that of epilepsy.

14. *Max Simon.*(30)—A general paralytic in the advanced stage, annoyed by the groans of the patient next him, crawled out of bed, and beat out the disturber's brains with a wooden shoe.

It is interesting to note that in nearly all these cases where the homicidal act was not incidental to an acquisitive intent, there existed some special circumstances apt to modify the

emotional tone. Several of the patients, for instance, were alcoholic ; others had a history of antecedent persecutory ideas ; others (*e. g.* Marondon de Montyel's second case) acted under the influence of a disorder in visceral sensation. This point will be discussed more fully later on.

Sexual offences.—In the early stages of general paralysis, particularly in the optimistic form, genital excitement is frequent, and leads not uncommonly to criminal acts.

All varieties of sexual crime—rape, defilement of children, sodomy, bestiality, minor offences against public decency—have been observed in paralytics ; but there is not sufficient statistical information to show what is the predominant form of the sexual impulse in the disease, and in what way differences in the direction of the impulse are related to differences in the emotional state. It is, however, interesting to note that in several recorded instances of defilement of children by paralytics ([31]) the disease was of the melancholic type. If this association is a general rule, it shows another striking correspondence between the depressed form of paralysis and the dementia of alcoholism and senility, in which the same variety of sexual crime is particularly common.

Other offences.—Of offences not included in the foregoing classes, malicious injuries to property are most frequent.

Paralytic dements, particularly in the lower classes of the population, frequently incur punishment through *quasi*-criminal offences—drunkenness, vagrancy, and various social sins of omission. These do not call for special remark.

It remains now to consider the causes which determine the special directions of the will in general paralysis, and to explain the contrast in conduct between that disease and the dementia of chronic alcoholism and of senility. The discussion will be confined to acts of acquisitiveness, acts of violence, and suicide. Sexual offences, which form the only other important group, will be treated apart.

Restricting our attention, then, to the forms of conduct just mentioned, and considering only the nature of the primary impulse, we recall, as the chief result of our inquiry, that acts of acquisitiveness are almost always related to the optimistic form, or to optimistic phases of the disease, while acts of violence to self or others are generally related to the melancholic form of the disease. Impulses of acquisitiveness are, in

fact, the expression in the will, as the delirium of exaltation is the expression in thought, of the optimistic emotional tone. And here, as always, the impulse is the earlier and more constant expression of the emotion, of which, indeed, it is rather a constituent, while the corresponding thought is later in appearing, or may not appear at all.

Of course, in the large majority of cases of general paralysis, the affective tone is constantly or predominantly optimistic. This is obvious in the exalted paralytics of the classic type; it is evident, too, though less obtrusively, in the more numerous cases of simple dementia, most of which exhibit a facile, contented mood, and show in conduct the acquisitive tendencies which we have seen to be characteristically related to that mood. Only in a small minority of cases—27 per cent. in the highest estimate that of Kraepelin ([32])—is the prevalent mood one of depression.

It is, then, because the affective tone in general paralysis is most usually optimistic that impulses of acquisitiveness are frequent, suicidal and homicidal impulses rare. In senility and in chronic alcoholism, on the contrary, where the affective tone is generally pessimist, impulses of violence are relatively common.

The explanation, therefore, of the character of conduct and thought in general paralysis enters into the larger problem of the origin of the affective state in the disease.

Many solutions of this problem have been suggested. In the limits of this paper it is not possible to give more than the briefest summary of them.

The earlier observers, who regarded the delirium of exaltation as characteristic of the disease, appear to have had no hesitation in connecting this symptom in all its elements with the cerebral lesions. In this view the difficulty was to account for the occurrence of melancholic cases. The first mode of explanation was to attribute the hypochondriacal delirium to special visceral disorders. Bayle ([33]) suggested this origin in a case where the depressed form of delirium occurred in a patient with chronic gastritis. The theory was elaborated by Michéa ([34]) and others, and it has been accepted as at least a partial explanation by most subsequent writers.

Others have tried to meet the difficulty by supposing a difference in the site of the cerebral lesion, or in its nature in

melancholic cases. Mairet,(35) for instance, held that exaltation accompanied meningo-encephalitis of the vertex, and depression the same lesion affecting the base. Austin (36) attributed the melancholic form to visual hallucinations depending on congestion of the optic thalami. Luys,(37) assuming a localisation of visceral sense in the ventricular region, regarded congestion of that region as the cause of the hypochondriacal delirium. These views, however, to say nothing of the fallacies of their psychological analysis, are entirely unsupported by pathological evidence; their interest is now purely historic. And the same may be said of such theories as have yet been put forward to connect the emotional tone of the delirium with peculiarities in the intimate nature of the brain lesion.

The origin of affective depression in paralysis has also been looked for in the influence of painful moral impressions acting as the exciting causes of the disease. Voisin,(38) to a certain extent, leans to this view; but most observers have failed to discover any confirmation of it. Lunier,(39) for instance, out of 65 cases of general paralysis developing during, or soon after, the Franco-Prussian War and the Commune, and attributed to the stress of these events, found only six which at any stage of the disease presented melancholic symptoms.

These various hypotheses, it will be noted, set out with the assumption that the optimistic delirium at all events is directly connected with the cerebral lesions; and this position is still taken up by some authors, who regard the delirium of exaltation as the "psychic equivalent of a cortical hyperæmia," the "psychic function of a nutritively over-stimulated thought-cell" (Schüle).

In the more radical theory of Baillarger,(40) on the contrary, it was admitted that there was no better warrant for attributing the optimistic delirium directly to the brain lesions than there was for so attributing the delirium of depression. Whatever value may be attached to the constructive part of Baillarger's theory—that concerning the *folie paralytique*—it is certain that criticism has not hitherto in any way weakened the fundamental proposition that the known cortical changes cannot account for any psychic symptom except the dementia.

And the same statement will apply to the other organic dementias.

The recent researches in cerebral pathology which have

added so much to our knowledge of the minute anatomy of the paralytic, the alcoholic, and the senile brain, have shown nothing to connect the active psychic symptoms in these diseases with the visible cortical changes, even when these latter are eked out with fanciful hypotheses. There is no evidence to suggest that the cerebral lesions in melancholic paralysis differ from those in paralysis with exaltation. There is nothing in the pathological changes in the brain in chronic alcoholism or in senile degeneration to explain why the affective tone is as ordinarily depressed in these diseases as it is exalted in general paralysis. In short, whatever be the nature of the cerebral conditions which underlie the different affective moods, there is no reason to suppose that any of the visible brain changes in the organic dementias can be regarded as morbid reproductions of these conditions.

So far, then, the assumption of special brain lesions to explain the varieties of feeling and thought in general paralysis is unsupported by direct evidence. And we may go beyond this negative position, and maintain that such an assumption is unnecessary. What is pathological in the exaltation or depression of the paralytic—the quality of excess—is a character of dementia, a result of the brain dissolution, and does not at all imply that the emotional tone, as such, arises otherwise than in normal conditions,—that is to say, from the state of the organic life. This simpler explanation can be, to a certain extent, tested by clinical evidence.

Take first the melancholic form of the disease. The chief conditions under which depression appears in general paralysis may be classed thus:

(*a*) *Age.*—Kraepelin ([41]) has pointed out that general paralytics of the melancholic type are usually above the average age for the disease, and frequently show signs of premature senility. Cullerre,([42]) in his observations of general paralysis with diffused atheromatous disease, notes the constancy of emotional depression in such cases.

(*b*) *Intoxications.*—Depression is the rule in general paralysis with a history of alcoholism. Talon ([43]) in 100 alcoholic cases of the disease, found only 12 with expansive delirium.

Similarly, when general paralysis develops in patients suffering from lead-poisoning, Devouges ([44]) has pointed out that lypemania is constant in the early periods, and Régis ([45])

indicates the pessimist and malevolent temper as a distinctive character in saturnine general paralysis.

(*c*) *Visceral disease.*—As already mentioned, hypochondriacal delirium is often related to visceral disorders. Clouston ([46]) says that his "belief and experience is that in almost all these cases with melancholic symptoms there is some organic visceral disease or disturbance, which transmits to the convolutions sensations which are disagreeable and depressing." He notes that nearly all his paralytics who had tubercular disease were melancholic. Mendel,([47]) in several of his observations, found the delirium of depression associated with heart disease. Voisin and Burlureaux,([48]) Mickle,([49]) and others, express similar views. The frequency of depression in tabetic cases is a fact of the same order.

(*d*) *Vesanic antecedents.*—We have seen that even intense emotional states, arising as normal reactions to external stimuli, do not influence the affective tone when general paralysis subsequently develops. It is otherwise when such states are of morbid origin. For instance, when general paralysis supervenes in a patient with chronic persecutory delirium, the ideas, the affective tone, and the impulses of that delirium, are likely to persist until late dementia. Several of the homicidal cases quoted above are instances of this influence.

And, further, as Magnan ([50]) has proved, where there is merely a latent aptitude to persecutory delirium in a degenerate subject, the onset of general paralysis is likely to hasten its development, and its symptoms will then colour the paralytic dementia. This is probably the origin of the melancholic tone in a good many instances, since it has been latterly shown, especially by Nacke,([51]) that the disease is very frequently related to the degenerate organisation.

With the possible exception of the last group, we see accordingly that the ascertainable causes of depressed affective tone in paralytic dementia are those that influence unfavourably the state of the organic life. Of course, the clinical method can only detect the grosser and more obvious of these causes, but the evidence it gives is strong enough to suggest that the undetected causes which generate that tone in other cases are probably of the same nature. There is a perversion of the chemical or mechanical processes which cause the internal

sensations—a perversion probably similar to that which occurs in the organic decadence of age or in general intoxications; and therefore the affective tone is depressed, and the emotions, impulses, and thoughts of these paralytic dements are like the emotions, impulses, and thoughts of the chronic alcoholic or of the senile.

Conversely, when these special conditions are absent, and the state of the organic life is healthy, the emotional tone will be optimistic. And this optimism will be manifest in impulses and ideas, more or less intense, more or less extravagant, according to the organic energy which inspires them, and the degree of the dementia which allows their development.

This optimistic form is that which general paralysis more usually takes, because it is typically a disease of the years of fullest vital activity; the period 30—55 is given by most authors as that of its maximum incidence.

It follows from this hypothesis that similar optimistic symptoms should attend other forms of dementia with sound organic functions, and this is, in fact, what occurs.

When, for instance, by exception, chronic poisoning by alcohol, instead of producing general visceral disorder, limits its action mainly to the brain, dementia with optimism will ensue, and the clinical features of exalted general paralysis will be more or less exactly reproduced. At all events, if I may trust my personal experience, exaltation in chronic alcoholism is regularly associated with a relatively healthy state of visceral function; and though observations bearing on the point are scanty in medical literature—reference to the visceral condition being usually omitted—such information as is accessible tends in the same sense. Régis,[52] for instance, has published a remarkable case of a chronic alcoholic who presented typical physical and mental symptoms of exalted general paralysis, including the impulses of acquisitiveness; at the *post-mortem* none of the appearances of that disease were found; there was atheroma of the brain-vessels, and "no lesions in the thoracic or abdominal organs." An almost parallel observation has been recorded by Camuset.[53]

And a somewhat similar interpretation suggests itself in those cases where chronic drunkards presenting at first the normal depressed delirium of alcoholism, develop exaltation when they have been for some time under treatment. In such

cases the graver incidence of the poison on the brain leaves a lasting dementia; the damage to the viscera is slighter and transitory, and when it passes away and normal function is restored, the affective tone changes correspondingly from depression to exaltation. A case published by Bonville Fox ([54]) is a good example of this evolution; a chronic alcoholic on reception was suffering from chronic gastritis, and had a delusion that the stomach of a corpse had been put into him; after four years' treatment this delusion disappeared and was succeeded by ideas of exaltation.

In dementia due to other forms of organic brain disease, the dependence of the affective tone on the visceral state appears in exactly the same way. Diseased conditions of various kinds affecting the prefrontal lobes, for instance, when extensive enough to cause mental symptoms, give rise to a state of enfeeblement, which is accompanied sometimes by exaltation, sometimes by depression. Jastrowitz([55]) found that in such cases the dementia was associated with gay excitation (moria); while Burzio,([56]) Voegelin,([57]) and others have published observations where the emotional tone was melancholic. These differences in the affective tone cannot be traced to differences in the character of the brain lesion; they are, on the other hand, easily explicable as reflections of differences in the conditions of the organic life. Thus, in Burzio's case—softening of the left frontal lobe with dementia, melancholia, and epilepsy—the patient was a chronic alcoholic, with cirrhosis of the liver and general visceral disease, and to these conditions one may safely attribute his melancholia. In Voegelin's case, again, where a tumour growing from the hypophysis produced cortical changes in the frontal and, to a less extent, in the occipital lobes—other parts of the nervous system being normal—the melancholic symptoms were associated with the onset of the menopause.

In senility one finds the same thing; usually the dementia of age is accompanied by emotional depression, the reflection of the failing organic life; more rarely the affective tone is optimistic, and in these cases there is, as a rule, a remarkable retention of visceral health.

So far, then, as it goes, the clinical evidence from these various sources leads to the same conclusions. In all these conditions—general paralysis, alcoholism senility and the

rest—the dementia is the only direct result of the brain lesions, and is proportionate in degree to their extent. The active psychic symptoms in impulse and in thought, which colour the dementia, are not direct effects of these lesions; they are the expression—thanks to the dementia, a greatly exaggerated expression—of the influence of the organic life "in which the emotions and the will are rooted" (Maudsley).

That is to say, the simpler conditions of dementia only make plainer and more gross the same relation that governs at least a great part of the normal operations of the mind. "It is the association of the emotions, and, with the emotions, that of the impulses, that determines the association of ideas." On the cœnæsthesis depends the grouping of the memories which go to constitute the delirious impulses and ideas. When the organic stimuli which make up the cœnæsthesis are normal, pleasurable, as they are more usually in general paralysis, exceptionally in alcoholism and in senility, then the emotional tone is optimist, the impulses of acquisitiveness, the ideas of exaltation. When, on the other hand, the stimuli are of disordered function, as they mostly are in the senile and the alcoholic, and sometimes in the paralytic, then the emotional tone with its accompanying impulses and related delusions is pessimistic.

(1) *Journ. of Ment. Sc.*, April, 1898; *ibid.*, April, 1900; *ibid.*, Oct., 1900. *Comptes rendus du Congrès pénit. de Bruxelles*, 1900.—(2) *Reports of Commissioners of Prisons.*—(3) *Lancet*, 1875.—(4) *Ann. médico-psych.*, 1875.—(5) *Journ. of Ment. Sc.*, 1873.—(6) *Ann. d'hyg. publ. et de méd. lég.*, 1860.—(7) *La paralysie générale*, Paris, 1894.—(8) Art. "Paralysie générale" in Jaccoud's *Dict. de méd. et de chir.*, Paris, 1878.—(9) Op. cit.—(10) *Die progressive Paralysie*, Berlin, 1880. (11) *Allg. Zeitschr. f. Psychiatrie*, 1896.—(12) Op. cit.—(13) *De la mélancolie dans ses rapports avec la paralysie générale*, Paris, 1880.—(14) Op. cit.—(15) *Ann. méd. psych.*, 1892.—(16) *Ann. méd. psych.*, 1900.—(17) Op. cit.—(18) *Die Zurechnungsfähigkeit*, Glogau, 1860.—(19) *Chorinsky*, Erlangen, 1872.—(20) *Ann. méd. psych.*, 1873.—(21) *Méd. lég. des aliénés*, édit. franç., 1900.—(22) *Arch. f. psych.*, 1877.—(23) *Arch. f. psych.*, 1881.—(24) *Wien. medis. Presse*, 1881.—(25) *Ann. méd. psych.*, 1881.—(26) *Ann. d'hyg. pub. et de méd. lég.*, 1888.—(27) *Ann. d'hyg. pub. et de méd. lég.*, 1889.—(28) Ref. in *Arch. d'anthropol. crim.*, 1891.—(29) Quoted in *Magnan et Sérieux*, op. cit.—(30) *Crimes et délits dans la folie*, Paris, 1886.—(31) *Ann. méd. psych.*, 1879.—(32) *Psychiatrie*, ed. 5, Leipzig, 1896.—(33) *Traité des mal. du cerveau*, Paris, 1825.—(34) *Ann. méd. psych.*, 1864.—(35) *De la démence mélancolique*, Paris, 1883.—(36) Quoted in Voisin et Burlureaux, op. cit.—(37) *Traité des mal. mentales*, Paris, 1881.—(38) Op. cit.—(39) *Ann. méd. psych.*, 1874.—(40) *Recherches sur les mal. mentales*, vol. ii, Paris, 1890.—(41) Op. cit.—(42) *Ann. méd. psych.*, 1882.—(43) Ref. in *Ann. méd. psych.*, 1883.—(44) *Ann. méd. psych.*, 1857.—(45) *Ann. méd. psych.*, 1880.—(46) *Mental Diseases*, ed. 5, 1898.—(47) Op. cit.—(48) Op. cit.—(49) *General Paralysis*, ed. 2, 1886.—(50) *Leçons sur les mal. mentales*, 1897.—(51) *Neurol. Centralbl.*, 1899 and 1900; *Allg. Zeitsch. f. Psych.*, 1879 and 1899.—(52) *Ann. méd. psych.*, 1881.—(53) *Ann. méd. Psych.*, 1883.—(54) *Journ. of Ment. Sc.*, 1884.—(55) *Deut. med. Wochenschr.*, 1888.—(56) *Archivio di Psichiatr.*, 1900.—(57) *Allg. Zeitschr. f. Psych.*, 1897.

Discussion

At the General Meeting, London, November 21st, 1901.

Dr. Robert Jones said the paper dealt with very valuable material in the field of medico-psychical research in which the majority of those present had no experience, *i. e.* those who came to asylums from the prisons. Dr. Sullivan had touched upon the relation of exaltation and depression. Bevan Lewis endeavoured to explain that, physically, a process of reduction took place in the nerve-cells, which was described as a dissolution of a greater depth in the exaltation of mania than took place in the depression of melancholia, the difference in the nerve-cells being essentially one of degree. He was interested in hearing that those forms of general paralysis which came under Dr. Sullivan's care were of a mentally depressed type. Such had been his own experience. He had had several cases transferred from Broadmoor to Claybury, and his experience agreed with Dr. Sullivan's. He thought very little was known about the relation of insanity to organic life. Ford Robertson had worked at the subject of the condition of the intestinal mucous membrane in cases of general paralysis, and it was interesting to see that he accounted for digestive abnormalities and diarrhœa as being probably caused by the same toxæmic changes which caused general paralysis itself. At Cheltenham, that gentleman showed beautiful preparations of lesions in the intestinal canal dependent upon toxic changes in cases of general paralysis of the insane. With regard to the emotional character of senility, it was somewhat difficult of explanation. So much depended on the balance between action and inhibition, and when that was disturbed, the slightest stimulus, otherwise insufficient, was likely to give rise to some fleeting effect. One found that particularly so in old people, in whom there were marked senile arterial changes. Such persons were irritable, and would be pleased or irritated momentarily by trivial causes. Possibly at the root of these changes was an abnormal involution in the arterial system. He said, in conclusion, that he felt very much interested in Dr. Sullivan's paper, for it suggested the necessity for further investigation into a fertile field hitherto but little worked upon, viz. the psychology of the emotions as bearing upon action, normal and abnormal.

Dr. Seymour Tuke said he would like to mention one case which he thought might interest Dr. Sullivan. That gentleman mentioned fifty-five years as being the limit of age, and he referred to depression in people who were of a certain age as being a special attribute of the general paralytic. He, Dr. Tuke, last year had a very interesting case, that of an old gentleman who was the most magnificent type of old man that he had ever seen. He was, and always had been, very keen on athletic exercises and massage. He was in the habit of massaging himself thoroughly every morning, from the head downwards. He was sixty-two years of age, and had a typical attack of general paralysis, with the most extraordinary exaltation. He was exalted from the commencement, and even in his dementia he was not known to be once really depressed. He was always full of the idea of driving a four-in-hand, and going about in steam launches. He had done a good deal of that sort of thing in his earlier years. He went through all the typical stages of general paralysis, and throughout his optimistic delusions persisted, as well as his idea of his own youth.

Dr. Sullivan, in reply to the observations of Dr. Robert Jones, said he gathered from Bevan Lewis's account of his work, that in his endeavour to explain the mental symptoms related to alcoholism by reference to the brain, he had appealed to certain facts of autopsy and conditions of the brain-cell, about which there was a lack of absolute unanimity. Some others, who had also endeavoured to explain emotional states by the condition of the brain, notably Dr. Turner, had mentioned similar conditions, but they explained the influence of those conditions on the emotional tone in an opposite manner. There must, no doubt, be an underlying cerebral condition for the affective tone, but that was still a matter of pure speculation. He thought one could sufficiently explain impulse and thought in conditions of dementia without supposing that impulse and thought depended on changes in the brain; that all the changes in the brain did was to allow the ordinary emotional conditions to develop in a more exaggerated form than they otherwise would, and that consequent upon those emotional changes was the condition of thought in the disease.

Notes on Hallucinations. I. By CONOLLY NORMAN.[1]

ALTHOUGH hallucinations are so common and universally recognised as an indication of insanity (Esquirol reckons, probably truly if we count every stage of every case, that they occur in 80 per cent. of cases of mental alienation, and we all know that even with the general public there is no proof of aberration more convincing), yet there are many points connected with the study of hallucination which are worthy of more attention than they generally receive.

In any individual case in which hallucinations are a prominent symptom, one of our first inquiries will be whether they owe their special interest to an unusual extension over the entire sensory field or to an unusual distribution within some division of sense. There are not a few cases in which every sense and many subdivisions of senses, if this phrase is allowable, are attacked; others in which one or more stand out as being the only senses involved, or as being so pre-eminently engaged that the involvement of the other senses is dubious or is concealed.

In the present memoranda I propose to consider the points which arise in a particular case now under my observation. This case is not very complete with regard to extension, inasmuch as the engagement of two of the senses is somewhat doubtful, as will be shown hereafter. One of these is vision and the other the sense of mental action. No one will deny the importance of the sense of vision in respect of our relation to our environment. The sense of mental action, on the other hand, is one which has escaped the notice of the physiologist because it is of no great importance in the normal state, when it rarely appears above the threshold of consciousness. The conditions under which we are conscious of mental action usually approach the abnormal. Thus, when we are very tired, when the attention is exhausted by prolonged occupation with one topic, or fatigued by the strain of endeavouring to fix the thoughts on one subject while another, perhaps reinforced by strong emotion, is constantly obtruding itself into the mind, we feel that our thoughts cannot be controlled, or we feel an intense sense of mental weariness. Perhaps distinct obsession is too absolutely pathological a con-

dition to be classed together with normal phenomena, but the state analogous to obsession in which the sight of a train coming into a station or the looking over a precipice produces a curious feeling of impulse to precipitate oneself is probably due to an interference with the sense of mental action. Ordinarily, however, and in most matters, we use our minds without any distinct sense of mental action. Nevertheless, in paranoia where we see many of those dissections through disease which often throw unexpected light upon normal function, the sense of mental action is often of great importance, since its morbid manifestations serve to reinforce delusions of malign and occult influence. Nothing is more common among patients of this class than the complaint that their thoughts are influenced, that they are compelled to think in certain ways or are rendered incapable of thought or the like. It is often obvious that we are not dealing with a mere inference in these cases, but that the feeling (sense) of mental action (taking place in an abnormal way) is as distinct as the hallucination of any other sense.

The following is a brief abstract of the case on which I desire to comment on this occasion :—G. L—, a single woman, who had formerly been a servant, whose age was 60, was admitted to the Richmond Asylum towards the end of October, 1901. There was absolutely no history further than that she had been four years in the workhouse whence she came.

She was a well-nourished person presenting no physical indications of disease. The skin of the face, backs of hands, and forearms was much tanned, as if from exposure to the weather. The left pupil was somewhat larger than the right. Both were normal in outline, and responded normally to light and accommodation. Vision good in both eyes.

The facial expression was intelligent and cheerful ; she was tranquil and free from confusion ; she conversed with intelligence. Replying to questions about her condition, she revealed numerous hallucinations, together with delusions of the common organised paranoiac type. Enumerated systematically, the following were the hallucinations found :

General sensibility.—Sharp pains all over the surface, described as " pricks," " stabs of pain," " stitches," " darts " of pain, " like hot sparks from an anvil," together with more constant aching pains in the joints and muscles. Sometimes the sharp

pain seems to be all over the surface, so that she feels as if surrounded by fire, as if her bed were on fire.

Temperature sense.—Besides the feeling of burning or painful heat, a sense of warmth and flushes of sudden heat are shot over her, or sudden chills and sensations of icy cold.

Muscular sense.—Extreme feeling of lassitude and weariness without cause. The limbs feel like lead, so that the patient is surprised that she can walk, so heavy are her legs, or lift her food to her mouth, so heavy are her arms.

Tactile sensibility.—Here she complains of a peculiar sensation which I have not before found in cases of hallucination. Her hands from time to time feel dry and glossy. The dryness she describes is not a harsh dryness, but a smooth dryness. She states that it is as if her hands were polished, as if they were covered with a thin layer of dried gum, or varnished. Again, she describes the surface as "glassy" or as "silky." This sensation she obtains by rubbing her finger tips together, or touching the fingers of one hand with those of the other.

Now, besides being most likely very rare, this sensation is of singular interest, as corresponding precisely to the sensation produced in patients who are taking belladonna. That the feeling in the latter case may be in part a nervous one is possible, but it is more likely that it is conditioned by the dryness of the skin arising from the suppression of perspiration produced by the drug. It is scarcely necessary to say that my patient has not taken belladonna. Neither does she present that dryness of the skin of the hands which would account for the sensation she describes. There is no reason to believe that she can have associated with a person presenting this silky dryness of the skin; all the probabilities are against suggestion of this sort.

Gustatory.—She tastes intensely acid tastes; also the taste of alum, a strongly astringent taste. These tastes are not stated to be confined to the back of the tongue, as one has occasionally found such gustatory hallucinations to be. The physiological writers state that the true tastes are but four—sourness, sweetness, saltness, bitterness. It appears to me that this list ought to be increased by the addition of two others—astringency and pungency. The sensation of astringency (in this case compared to alum) is certainly a taste. It

has nothing to do with smell. Its connection with general sensibility is remote if it can be said to exist at all, for the sensation that alum produces on the tongue seems absolutely of a different order from that produced by astringent and desiccating substances applied to the skin or mucous membrane elsewhere than in the mouth. I am not so clear as to pungency. Of course the savours which distinguish different pungent substances from each other are largely a matter of smell, but with regard to the underlying pungency itself, it seems to somewhat closely resemble the smarting which similar substances produce when applied to the surface. Perhaps this sensation of pungency or acridity may be called the least differentiated branch of taste—may, as it were, furnish a connecting link between general sensibility and taste.

Olfactory.—She is worried with odours of fæces and such-like filthy substances, or she smells the scent of fruit, more specifically of lemons.

Respiratory.—There are a series of sensations connected with respiration which I believe ought to be regarded as a separate sense. We are little conscious of them in the normal state, but they readily come prominently into consciousness when respiration is impeded, and disturbances in this region of sensibility are common in the insane. They are frequently associated with olfactory hallucination, but they may exist alone. In the case before us the patient suffers from the feeling that she is, as she expresses it, being fumigated; her breath is caught. She has also "chucking" sensations in the throat, as if her wind-pipe were being forcibly dragged up.

Visceral sensibility.—Sensations of movement in the abdomen and of torsion. "It is like as if a stick was thrust up through me and twisted round." Similar complaints are common among paranoiacs and hypochondriacs. They probably connote the appearance in consciousness of disturbances in regions commonly below its threshold.

Genital sensibility.—An electric wire is thrust into the vagina, and causes much distress, by producing not only pain, but specific sensations.

Visual.—No visual hallucinations appear to exist now and none have existed recently, but the patient says that four years ago, when, as she states, probably correctly, the annoyances

began, she had a vision once of an angel with a drawn sword. This vision occurred in church. I am not sure how far this is to be regarded as a true hallucination. As is so frequently the case, the patient seems to attribute something less of reality to it than she does to her auditory hallucinations. The latter she *hears*, the former she does not say she *saw*, but she *had a vision of*. It is interesting to note that while in some cases visual and auditory hallucinations coincide as to time and are often closely associated together, it very frequently occurs that hallucinations of vision cease comparatively early, while the auditory remain. In some cases we are told of visions, or what are apparently visual hallucinations, appearing but once and intimately associated with the building up of a whole scheme of delusion. Thus in a case at present under my care the patient relates how a man whom he had never seen before but whose appearance he describes came into the room where patient was working one day. Nothing particular happened then, but the following night voices began to torment the patient as well as all other kinds of sensory disturbances, and these he attributes to the unknown visitor, though he never saw him again nor has he had any further visual images of persons. In such a case, however, unless one should have trustworthy contemporary evidence of the vision, it would seem probable that the sequence of the events is not as described by the patient, and that the vision was not an hallucination but merely a delusion by reminiscence arising out of an endeavour to explain subsequent experiences.

Sense of Mental Action.—Besides the senses ordinarily recognised, disease at least seems to show, as we have said above, that there is a sense of mental or cerebral action. The very frequent complaints of paranoiacs that their thoughts are interfered with, that they are made stupid, that they are made say, do, and think things that they know to be wrong, and that they do not wish to do, do not present themselves in this case. The nearest approach is "they sometimes make me stupid with the tar gas which they make me smell;" but as she appeals to the fact that at such times the eyelids feel heavy, as a sign that she is stupefied, there is probably little true sense of interference with thought. What exists is rather an inference than a sensation.

Auditory Hallucinations.—She hears sounds of buzzing and

whirring, rolling of wheels and peculiar clattering, all of which she is confident are the sounds produced by the action of electric and magnetic machines. She also hears voices, which talk about her doings and her affairs, which abuse and threaten her, which are often horribly obscene and blasphemous. They talk also of the mode in which they torment her—"now we will put on the machine," "now we will give it to her," and the like. Further, she sometimes hears voices which remonstrate with the others, and speak in her favour.

The auditory hallucinations present many characters, which are frequent. They consist mostly of "voices," and the voices are as usual personal, abusive, indecent, and blasphemous. These characters are sufficiently accounted for by the "egocentric" suspicious nature of paranoiacs, and by the fact that the patient is a respectable elderly woman. Besides the voices (verbal auditory hallucinations) she hears the sound of the machine that is working upon her, and she distinguishes the whirring of wheels, etc. (common auditory hallucinations).

It will be remembered that Séglas has divided auditory hallucinations into three classes: *elementary* (vague noises); *common* (sounds associated with definite objects); and *verbal* (where a voice is heard). These three orders, as he points out, indicate the engagement of physiologically separable functions, the hearing of noise, the recognition of sound, and the comprehension of speech. They are correlated to the conditions existing in another series of pathological states, where we have respectively cortical deafness, psychical deafness, and verbal deafness.

This patient also shows, among her auditory hallucinations, the interesting phenomena of a voice which takes her part against those who abuse and defame her. This has been regarded as a *malum signum* and an indication of chronicity, and my experience coincides with the notion, though I fail, as I have pointed out elsewhere, to perfectly appreciate the theoretical explanation which has been given for its grave prognostic importance.

The points, however, of special interest are that the patient is only conscious of hearing sounds of machinery and the voices of her persecutors, etc., with the right ear, while she is in fact absolutely deaf of that ear. The voices, etc., seem to her to proceed from a point about a foot to the right of her right

ear. She was, when I first saw her, conscious of being somewhat deaf of her left ear, but did not recognise till I tested her hearing that she was deaf of the right. I gathered that the constant hearing of voices on the right side satisfied her of the soundness of her hearing on that side. Nevertheless I found that she could not hear a watch on the right side, even when touching her ear, nor when pressed against the skull. Being anxious to obtain a skilled opinion about the aural condition, I sent the patient to the well-known specialist, Dr. R. H. Woods, who very kindly examined her for me and courteously wrote to me as follows:

"In the left ear there was no cerumen, the drum was slightly anæmic but otherwise normal in appearance. The hearing distance with a watch was $\frac{1}{4}$; Rinne's test was $\frac{+6}{+6}$ normal. The tuning-fork placed on the vertex was heard only in the left ear. The right ear was plugged with cerumen; the drum normal in appearance, but would probably look a little anæmic if sufficient time elapsed after syringing. The hearing distance of a watch was lost, Rinne's test was $\frac{0}{+5}$. There was no Eustachian obstruction in either ear. The conclusion, therefore, that I draw is that she is suffering from either auditory or labyrinthine deafness in her right ear, the hearing in the left being very fair."

The association of hallucinations of hearing with deafness has long been observed. It was noted by Calmeil some sixty years ago. Brierre de Boismont repeats the observation in his book on hallucinations. Ball more recently goes so far as to mention deafness as a cause of hallucinations of hearing. Savage endeavours to account for the association through the tendency to suspicion that naturally seems to spring up in people who have grown deaf. It is apparently intelligible that the irritation produced by a growing defect, the liability to think that that conversation which is not heard relates to oneself, and the constant straining of the attention in an effort to hear should combine to bring about hallucination. To accept this it is not at all necessary to refer to the old psychic theory of hallucination. It is an equally plausible doctrine if we accept with, no doubt, the majority of modern thinkers, the theory of Tamburini. However explained, the association is one that is quite familiar to most alienists, though it does not appear to have attracted much attention among otologists. It has been

suggested that tinnitus, the noises arising from cerumen, etc., may give rise in some cases to auditory hallucination by the transitional path of delusive interpretation, but against this notion it may be argued that in the most familiar examples of delusive interpretation there is little that is analogous to the conversion of a vague sound arising in the ear into a distinct verbal hallucination. Besides, in my experience, it has certainly not been with cases where there was tinnitus, etc., that hallucinations were markedly associated, but with cases of complete deafness.

Unilateral hallucinations, either occurring alone or occurring in cases where other hallucinations existed, have been occasionally described. I think they are rare, though Dagonet may be right in saying they are often overlooked. Ball, and subsequently Régis, wrote accounts of a case of unilateral auditory hallucinations coinciding with otitis media of the same side. Mabille has described a case in which a melancholic woman suffered from right auditory hallucinations and was found to have a foreign body in the right external auditory canal. When the foreign body was removed the hallucinations ceased, but the patient remained melancholic. Féré has recorded a case of unilateral hallucination of hearing associated with herpes in the trigeminal region. In such cases peripheral influences seem undoubtedly to have some share in bringing about hallucination. How they act it is not easy to see. Raggi, some years ago, described two cases in which it is difficult to find a common explanation. In one an elderly drunkard, unaffected with any discoverable ear disease, had unilateral hallucinations of hearing and bilateral of vision. In another an old woman had visual hallucinations confined to the right side, the right eye being affected with cataract. After cataract operation the hallucinations disappeared, but recurred shortly afterwards in a worse form than before.

The suggestion that functional disease is more liable to appear in a centre thrown out of gear by the absence of the normal stimulation might be plausible in some cases of auditory hallucination in deafness, whether unilateral or bilateral, but it does not seem to meet certain other experiences. Thus v. Gräfe's case points rather to peripheral irritation. Here a middle-aged man, who had lost the sight of both eyes apparently through panophthalmitis, developed visual

hallucinations. Both eyeballs were atrophied and contained calcareous deposits. Neurotomy was performed and the hallucinations at once disappeared. It does not seem that the patient had other hallucinations, but he would appear to have accepted the truth of the visual hallucinations while they existed.

It is to be observed that in the case which I have endeavoured to describe, none of the hallucinations are unilateral save those of hearing. Dismissing the doubtful visual hallucinations, and assuming that the auditory took the lead in time, we are on the horns of a curious dilemma. If peripheral irritation or injury was an important element in producing unilateral auditory hallucinations, why should bilateral hallucinations of many other senses appear? On the other hand, with a strong tendency to hallucination of all the senses, why do auditory hallucinations, so common in those that hear and in the deaf, only appear in this case on the side which is deaf?

As I have mentioned, the delusions existing in my case are quite of the classical type. The patient does not know (but suspects that I know) who are her persecutors. She talks of "this system of annoyance and defamation;" dates events from the time when "they began to practise upon me;" believes that the annoyance and "practice" are carried out by means of electricity, magnetism, and "mesmericks." She pities the officers of the asylum who are unable to control the "practice" to which she is subjected, and she describes their personal eccentricities with some astuteness and a marked absence of favourable prejudice.

(1) Read at a meeting of the Medical Section of the Academy of Medicine in Ireland, November, 1901.

Clinical Notes and Cases.

Case of Unilateral Hallucinations of Hearing, chiefly Musical; with Remarks on the Formation of Psycho-cerebral Images.

By Alex. Robertson, M.D., F.F.P.S.G., Consulting Physician, Glasgow District Asylum, Gartloch.

IN supplement to my paper on one-sided hallucinations in the *Journal of Mental Science* for April, 1901, the following case of a similar kind, but presenting special features, is, I think, of sufficient interest to be recorded. The patient is an inmate of the Glasgow Old Men and Women's Home, and is a man of some literary ability, as is shown by his still continuing to contribute articles from time to time to journals published in London. The Home, it need scarcely be said, is for people of sound mind, though many manifest indications of the ordinary mental decay incident to old age. The patient referred to is, however, acute and intelligent, and free from all suspicion of mental weakness or disorder. The account of his experiences, which he submits, may therefore be regarded as very reliable. It seems preferable to give it in his own language, only pruning it a little from unnecessary detail. The form in which it appears is due to his great deafness, on account of which the desired information could only be obtained from him as replies to written questions.

The appended report by Dr. Barr, author of a well-known treatise on diseases of the ear, on the condition of the patient's hearing, along with his remarks on that and other like cases in people of sound mind, will be regarded as of considerable importance and value.

A. L—, æt. 76, merchant.

Questions and Answers.—1. Which ear are imaginary musical or other sounds heard in? *Ans.* The right ear only.

2. Are they always heard in that ear? *Ans.* Yes; the left ear seems impervious to all sounds.

3. Do the sounds ever appear like voices? and, if so, what do the voices say? Are they men's or women's voices, or both? *Ans.* No; they do not resemble the human voice, but instrumental sounds only. (Answer to question 5 modifies this answer. It there appears that he has heard "voices," but only as singing.)

4. Describe the musical sounds in some detail, such as the character of the instruments, and particularly if they are high or low notes. Whether are the high or low notes heard best? *Ans.* They are those of orchestral brass instruments, and the middle notes inclining to the lower seem predominant.

5. During how many years have these sounds been heard? Have they been constant during these years, or sometimes absent? What time of day generally? *Ans.* It is about ten or twelve years since these sounds began to manifest themselves. Then they became very troublesome and intermittent, and this led to the fear that the brain was being affected. Often during the day, while at business, I heard the sounds as of an orchestra, which suggested the presence of a German band, and I would look out to see if it were playing in the street. Even at night, 10 or 11 o'clock, the same effects would be produced, and I have opened the windows for the same reason, to find it was only illusory. On one occasion, at Queen's Terrace, I seemed to hear strains of music in the next house, and could discriminate the various instruments, the music that was being played, and a very fine baritone voice singing along with the instruments. I called the attention of Mrs. S— to it, and asked her to listen, which she did, but told me that she could hear nothing. I persisted, however, in saying that I could follow the music with perfect confidence, and it was only by perceiving that the National Anthem was being too often repeated that I came to the conclusion I must be in the wrong. It happened frequently that after getting into bed I heard a rushing sound, as if the room was crowded with bats violently flapping their wings, at which I would sit up till the sounds gradually disappeared. It was about the same time that my sleep was much disturbed by unpleasant dreams and visited by frightful spectres, which would give me no rest. This distressing state has quite disappeared, but there still remains in the left ear a faint sound as of falling water, which was the first indication of my ear trouble; and in the right ear when I hum to myself, especially in bed, there is the sound of a harmonium, soft or loud, according to the pressure on the ear. In attending church now I use an ear-trumpet, but derive little benefit from it. I hear two voices in church, the first being the natural voice, the other of a different kind, which overlaps the natural voice and destroys all articulation, which is quite lost.

6. Are you always conscious that the sounds are imaginary, or do you think them real sometimes? *Ans.* I am now convinced that they are wholly imaginary, as I cannot hear the sounds really produced, unless through the ear-horn.

Note by Dr. Barr.

First saw patient eight years ago when very deaf in both ears, with a constant rushing sound in left ear. At that time there was a history of defect in the left ear for ten years, and in the right for two years. Now the hearing is extremely defective. A watch heard ordinarily at forty inches from the

ear is not perceived in pressure on either ear. On left side loud speech close into the concha is not understood. On right side such speech is only heard and understood very near to the ear. A Galton's whistle is not heard at any degree of pitch. There is nothing in the external or middle ears to account for such an extreme degree of defective hearing. The Eustachian tubes, as tested by the catheter, are quite permeable. The examination therefore points to an affection of the *nerve structures* as the cause of the defect. Whether this be central or peripheral (in the labyrinth) cannot, I think, be determined with any degree of certainty. No doubt the idea of a central lesion is suggested by the peculiar subjective sounds or hallucinations of hearing which he experienced for a considerable time. These took the form of complete tunes (described in his own statement).

In a note accompanying above report Dr. Barr remarks, "I had a lady under my care (now dead) who assured me that she heard *constantly* going on in her ear (or head) the tune usually heard with the singing of the metrical version of the 100th psalm. This had gone on for years, and followed a fall on the pavement, when her head struck the kerb-stone violently. There was no explanation in the ear so far as it was accessible. I now know a gentleman (I think also known to yourself) who hears the sound of an electric bell at definite and perfectly regular intervals of time in his ear. I had also a case a few months ago, of musical compositions being heard in the ear. I cannot at present find my note of this case."

"Apparently Mr. L— is a man of distinct musical gifts, and has also evidently some literary power."

Remarks by Dr. Robertson.—In accordance with accepted doctrine regarding the functions of the cerebrum, it is probable that a complex combination of sounds such as constitute a complete tune or other piece of music, assumes a definite shape and enters into consciousness in the related perceptive centre in the temporo-sphenoidal lobe. There may probably be a certain arrangement of impressions in the labyrinth and auditory nerve, but it is not likely, considering the structure of these parts, that this will go beyond such an assortment as will prepare them for fitly taking their place in the central blend that constitutes the fully developed form.

The reappearance in the mind, from time to time, of the same combination of impressions as in Dr. Barr's case of the recurring psalm-tune, or the words, "come this way, come this way," in one of my own cases,(1) raises a question of still greater difficulty than the one just referred to, viz. how on the physical side is the revival produced? The same problem is involved in the memorial recurrence of all sensory images, and, indeed, in the exercise of thought. Some light may ultimately be thrown on the subject by the study of simple and one-sided phenomena, such as are recorded in this and the previous paper, or we may at all events be able to formulate a working hypothesis as a platform for further investigation. It would, of course, be out of place in the present connection to attempt a discussion of questions of such magnitude. I may, however, in accordance with the most generally accepted views of the neuron and its associations, briefly indicate the direction in which, as appears to me, progress is most likely to be made.

In the higher animals the gemmæ of the protoplasmic processes and collaterals of the axis-cylinders are discontinuous, though in close proximity to each other, and are thus open to receive impressions coming by different routes. It is further to be noted that in immediate relation to the cell-body of the neuron there is a pericellular reticulum, which is in intimate association with the similar reticula of at least neighbouring nerve-cells. In these structural conditions there seems to be a mechanism fitted to combine and unify the elementary parts of images into one harmonious whole. Again, it is to be borne in mind that the molecules of matter are believed to be in constant motion—motion that is under the plane of observation with our present powers.

Turning now to the formation and renewal of cerebral images, we may conceive that impressions coming from external objects are transmitted as waves of subconscious vibration to the reception-centre, where a group of neurons, through the reticula surrounding their cell-bodies, enter into corresponding or related vibration, as a result of which the complete form is presented to the mind. Further, just as the combined action of nerve and muscle in any movement facilitates the repetition of that movement, so the impress produced on living nervous matter in the production of the image will dispose to the recurrence of the same combination

of neurons and the same character of vibration in them with the revival of the image in consciousness.

Thus, then, we may entertain the thought that memorial representations of all kinds, on their physical side, are vibratory in their nature, and that the vibrations occur in definite associated groups of neurons. We may further suppose that with the changes in the countless images that pass before the mind, there is a corresponding kaleidoscopic change in the mutual relations of the neurons concerned in their production.

(1) *Journal of Mental Science*, p. 281, April, 1901.

Degeneration of the Optic Thalami (Preliminary Note).

By J. B. BLACHFORD, M.D., Assistant Medical Officer, City and County Asylum, Bristol.

T. W—, shorthand writer, admitted January 16th, 1899, suffering from mania.

Family history.—Father alive; mother died of heart disease. Brother: one, alive and well. Sisters: two, both died of scarlet fever. Children: one girl æt. 7 years, alive and well. One child died; death certified as being due to syphilis. Wife has had three or four miscarriages. Mother's sister very neurotic.

All mother's brothers had something wrong in their head. Some had "water on the brain."

Personal history.—Patient has been a heavy drinker, has no history of cough or fits; has been engaged as a clerk, but sight has been failing for three and a half months. Vision began to fail at periphery of field; he has been under Dr. Critchett and Mr. Cross for optic atrophy.

On admission, patient's thoracic and abdominal organs were apparently normal. There was an old ulcer and pigmentation scar on left shin, four inches by three. Knee-jerks absent; gait not ataxic; no plantar reflexes; no Romberg's symptom; pupils did not react to light; there was right external strabismus; patient was quite blind.

He was ordered Hyd. Perch. and Pot. Brom. For a time he was restless and excited, striking at imaginary persons, and had to have a sleeping draught at night. He took his food well, and on January 28th is noted as being quieter but very lost. He gradually got weaker and died on February 2nd, 1899, just twenty-nine days after his admission.

At the post-mortem examination the following appearances presented themselves. Skull-cap, average thickness; dura mater, average thickness; pia mater very congested, slightly thickened, stripped in patches; no adhesion to cortex. Brain weighed 1341 grammes, vessels healthy. Circle of Willis complete and symmetrical.

Grey matter very congested and soft; white matter congested, soft and œdematous. Ventricles full of fluid; ependyma granular, very congested. Choroid congested; fornix soft; velum interpositum congested; ependyma of fourth ventricle very granular.

The basal ganglia and capsules were soft and congested. After these had been hardened in picro-formalin the whole of both optic thalami, and to a certain extent the anterior corpora quadrigemina, presented on section a marbled appearance, having various-sized lighter patches scattered throughout them, and on being treated by Lord's modification of Nissl's method a number of the cells appeared to have degenerated, but owing to other work pressing at the time only a few sections were examined, and careful investigation was not made with a view to locating the more extensively diseased parts.

A. H—, æt. 39, married, gas stoker, admitted September 16th, 1897, suffering from dementia.

Family history.—A niece on his father's side is subject to fits. Patient has six healthy children alive, and four died of convulsions at various ages.

Personal history.—Patient has been a heavy drinker. Five years ago was seized with a strong fit, after which he kept well for a year, when he had a second; then for a time he had them frequently. For the past twelve months has been going gradually blind and has been deluded for six months.

On admission his thoracic and abdominal organs were apparently healthy, knee-jerks brisk, pupils reacted to light but slowly, and he was blind.

Present condition very demented, laughs foolishly on being spoken to. Disc atrophied, pearly white; can stand, but cannot walk without assistance, and then drags his right leg somewhat. Right hand partially paralysed. Some anæsthesia of right forearm and outer side of right thigh. Knee-jerks equal, brisk, no clonus. Pupils equal, average size, fixed.

G. B—, 33, single, labourer, admitted August 14th, 1901, suffering from dementia

Family history.—Father and mother both dead; brothers (four) all alive and well; sisters (five) all alive and well. No history of insanity, paralysis, epilepsy, or drink in the family. One of mother's sisters died of phthisis.

Personal history.—Patient was in the army for seven years; left about ten years ago; he used to drink a fair amount of beer. (Says he has had syphilis.) Four or five months ago he complained of pain in the back of his head; this got better in a few weeks' time, and he went to work again for the next few weeks; he then became worse and went to bed, where he has been for the past fifteen weeks. During the whole of this time his eyesight has been gradually failing.

On admission, lies quietly in bed, taking no interest whatever in his surroundings. It is difficult to attract his attention, and he shows no sign of understanding what is said to him, except by protruding his tongue when requested. When any movement is required he has to be

assisted; put out of bed he would fall if unsupported. His gait could not be tested as he would make no attempt to walk. He moves his arms about aimlessly, coarse tremors accompanying these movements. No tremors of the head, face, or tongue. Pupils widely dilated, equal; do not react to light. Sudden approach of an object to the eyes causes no reflex contraction of lids. Knee-jerks exaggerated; no clonus; vision very defective. He has a puckered scar over top of the manubrium sterni, and another behind the right shoulder, and has, since his admission, stated that he had syphilis some years ago.

On August 16th he was put on Pot. Iod. and Hyd. Perch.

August 26th.—Has distinctly improved under treatment. Vision somewhat better.

September 3rd.—Answers questions quite smartly, and has a bright and cheerful manner. Vision improving, but still defective. Gait fairly good; stands and turns without difficulty; stands alone with eyes shut, touching tip of nose with index finger easily with eyes shut; pupils equal, regular, react to light, accommodation, and consensual reflex. Plantar reflexes equal, normal. Knee-jerks equal and brisk. No clonus. Sensation unimpaired.

G. M—, 48, single, labourer, admitted July 11th, 1901, suffering from dementia.

Family history.—Father died of apoplexy, otherwise there does not appear to be any history of insanity or neurosis in the family.

Personal history.—Patient was in the army for fifteen years; he left it six years ago, since then he has been doing labourer's work. He has been a fairly heavy drinker, and had syphilis twenty years ago.

On admission, thoracic and abdominal organs apparently normal. He is unable to stand; vision very defective; mentally, very demented; memory almost gone; pupils equal, regular, react to light readily; knee-jerks equal and brisk. On attempting to stand sways in every direction, but chiefly backwards and forwards. Sensation apparently normal. Shortly after admission was put on Pot. Iod. and Hyd. Perch.

September 8th.—Gait improved; mentally much clearer; vision improved.

Present condition (October 2nd).—Answers questions smartly and intelligently; works usefully about the ward; vision much improved, that of the left eye still rather defective.

These four cases may be summarised thus:

Mental condition.	Vision.	Pupil reflexes.	Gait.	Sensation.	Knee-jerks.	Syphilis.
1. Mania	Blind	Absent	No ataxia	—	Absent	1
2. Dementia(1)	Blind	Sluggish; absent	—	—	Brisk	1
3. Dementia	Defective; improved	Absent; normal	—	Normal	Brisk	1
4. Dementia	Defective; improved	Normal	Ataxic	Normal	Brisk	1

The first is the only case in which the diagnosis could be verified by post-mortem examination, and in it, as above stated, there was ample evidence of degeneration of the optic thalami, and, to a less extent, of the anterior corpora quadrigemina.

The symptoms, however, in the three following cases are so like those in the first that I think we shall be justified in attributing them to a similar cause; and, from the facts that in three of the cases there is a distinct history of syphilis, and in the last two marked improvement occurred under anti-specific treatment, the primary cause would appear to be degeneration of the neuron brought about by that disease. If, after more extended experience, we find this to be so it will be interesting as marking off a distinct form of nervous affection which in the past has no doubt at times been attributed to general paralysis, at others to cerebral tumour, and, perhaps, even to that amaurosis which is a frequent accompaniment of Bright's disease, and less so of chronic nicotine poisoning. Evidence, which has been accumulating for some years, now tends more and more to compel us to believe that syphilis is the great cause of degeneration of the neuron in locomotor ataxy, and perhaps also in general paralysis; and other facts which strike one as being significant in this connection are that all these diseases appear to be more common in men than in women, and that they affect similar periods of life, namely, the middle adult, and also that in the case of T. W—, in which a post-mortem examination was made, the ependyma of the ventricles was very granular, especially that of the fourth, a condition which has always struck me as being more frequent in general paralysis than in any other disease.

The clinical symptoms appear to be few, being practically limited to rapidly increasing dementia and loss of vision, with a slight amount of ataxia, indicated more by swaying to and fro than by inco-ordinate movements of the legs. The knee-jerks were noted as being absent in the first, and exaggerated in the remaining three, but except in spinal diseases, they are at the best very dubious guides to diagnosis. The absence of other symptoms is no doubt to be accounted for by the localised position of the part affected, and by that affection not being of such a nature as to cause pressure on surrounding parts. There is, however, one particularly interesting anatomical point which is difficult to understand. Why is sensation apparently so little

affected? The fillet, which carries up all sensory impulses except the visual and olfactory, is divided into three parts: the lateral, carrying impulses from the auditory apparatus, terminates in the posterior corpora quadrigemina, sending a few fibres to the anterior; the crustal fillet, receiving the impulses from the sensory nuclei of the cranial nerves, terminates in the globus pallidus of the lenticular nucleus of the striate body; while the central or spinal fillet, receiving all sensory impulses from the trunk, terminates in the optic thalamus. Under these circumstances one would expect that any general degeneration of the thalamus, such as, at any rate, occurred in the first case, and which went so far as to cause absolute blindness, would have for one of its early symptoms general trunk anæsthesia, but this does not appear to be so. The condition of the pupils is also interesting, but is probably more easily explained. In the first case the patient was blind on admission and his pupillary reflexes were absent. In the second the patient was blind but could distinguish light from dark, and was not so far advanced as the first; the reflexes are noted as sluggish, and later on absent. In the third vision was defective and reflexes apparently absent, but as vision improved the reflexes returned and became normal, although vision did not do so; and in the last, vision on admission was defective, but pupillary reflexes normal, and this was the least advanced case. I think that the explanation of these phenomena consists in the difference in function of the optic thalami and anterior corpora quadrigemina. If we consider the latter to be chiefly reflex ganglia, while the former are intercalary ganglia, between the optic tracts and the visual centre in the cuneus, we can understand that the predominance of visual over reflex symptoms and *vice versâ* will depend upon which centre is first affected.

From a clinical view one point is of special interest, namely, the rapid improvement in early cases under antisyphilitic treatment, although the last two cases, which are those to which I am now referring, have not yet recovered mentally, and probably never will quite recover their vision. They both have so far improved that they will probably shortly be able to be discharged as recovered, and the loss of vision has certainly not only been checked, but a certain amount of recuperation has been effected.

I can find very little written, at any rate in English papers,

with regard to the function of the optic thalami. Experiments of M. J. Sellier and N. H. Veryer apparently go to prove that their *rôle* is sensory, but according to these two observers this does not include sensibility to pain (October number of *Archives de Physiologie*, 1898). Dr. Henri Engel, in the *Philadelphia Medical News*, describes a case of gliomatous tumour growing from the fornix, and spreading back over both thalami, in which the symptoms were pain in the head, staggering gait, anæsthesia of right side of body, loss of sense of taste on right side. Nine days later complete loss of taste and smell on both sides and deafness in both ears were observed, and two days subsequently there occurred sudden blindness in both eyes and convulsions followed by death. It is difficult to say which of these symptoms were due to pressure on the thalami and which to pressure on surrounding parts; and the same may be said of the following case recorded by Dr. A. J. Edwards in the *Lancet* for August 3rd, 1895. This was a case of tubercle of the left optic thalamus; there was trembling of the right hand with dragging of the right leg, headache, and vomiting. No nystagmus or syllabic speech; no facial paralysis. There was ankle-clonus on the right side but not on the left; gait was ataxic, but sensation was universally normal; there was defective vision and optic neuritis.

(1) Since writing the above I have seen Dr. Flemming, by whose courtesy I have been enabled to publish these cases, which are at the present time under his care, and he informs me that A. H—, the second case, has had syphilis, but that the condition of his choroid is not suggestive of syphilitic choroiditis; this is, therefore, further evidence in favour of the syphilitic origin of the disease, and would also seem to imply that the loss of sight was not primarily due to disease in the eye itself, but was of more central origin.

Discussion

At the Autumn Meeting of the South-Western Division, Bath, October 22nd, 1901.

Dr. Bullen said he was afraid he could add very little to a paper so full of detail. He saw two of the cases at Fishponds this summer. From a practical point of view, one would certainly, many years ago, not have regarded one of the cases—the third one—as a general paralytic, but as one grew more acquainted with the type of general paralysis one was more inclined to accept the diagnosis. The marked difference in the patient's condition under syphilitic treatment was striking, and it was questionable whether, even when there was no trace of syphilis, the treatment should not be applied. He tried it systematically, but he could not say there were any good effects,—in fact, some patients seemed to get worse.

Dr. Goodall, in commenting on the paper, remarked that if any more cases should come to an autopsy, it would be interesting to see the connection between the optic thalami and the cortex. The connections were very obscure, and they would like to know whether the fibre could be held to have degenerated.

Dr. MACDONALD said that the cases were most interesting; the great regret was that Dr. Blachford was not able to satisfy himself more often on the post-mortem table. He (the speaker) wondered if he could do anything to find out the condition of these not very important bodies, the optic thalami, and he had gone through the records of all the post-mortems made in his time at Dorchester Asylum, numbering over 600. While he was not prepared to state that every fact had been carefully gone into as regarded the optic thalami, it might be taken for granted they were not overlooked in the examination of the brain any more than any other part of the brain or organs of the body. Out of these 600, he found in nine cases only were they able to detect and satisfy themselves that there was actual degeneration of the optic thalami. In four cases the right optic thalamus was absolutely and entirely degenerated; in two cases the left, and in three both. The most common form was the hæmorrhagic condition. As to the mental condition of these patients, five were chronic maniacs, one was a general paralytic, one was a melancholiac, and two were dements.

Dr. BLACHFORD briefly replied.

Two Cases of Lipoma of the Brain. By ADÈLE DE STEIGER, M.B., Assistant Medical Officer, Essex County Asylum, Brentwood.(1)

CASE I.—L. M. W—, æt. 37, admitted June, 1901, died eighteen days after admission.

History.—Has had two previous attacks, 1897 and 1899, and was treated in Colney Hatch Asylum after birth of the eighth and ninth children. Present attack, duration six to seven months. Cause, puerperal state after birth of tenth child. The attack began five weeks afterwards.

Condition on admission.—Does not sleep, will take no food voluntarily, will not speak or do as she is told, strongly resists being examined. Reflexes: Knee-jerks exaggerated. Pupils equal, she is too obstinate for reaction to be tested. Fairly well nourished, sordes on lips, and saliva dribbling.

Progress.—After a day or two patient talked in a surly, disagreeable way, and would take liquid food. She then developed symptoms of pneumonia, and died.

Autopsy.—Skull-cap thick and tough. Dura mater firmly adherent to the skull-cap over the vertex. Meninges clear, not adherent. Tumour: Lying over the corpus callosum and curling round the knee posteriorly was a firm yellow mass. Size, quarter-inch thick, and as long as the corpus callosum; on section the mass was almost round in circumference. In the choroid plexus of the right ventricle was also a firm yellowish nodule about the size of a split pea.

Microscopic.—Both masses were found to consist entirely of adipose tissue, enclosed by a capsule of fibrous tissue, thicker in some parts than others. There were numerous blood-vessels in the mass and in the capsule. Between the tumour and the corpus callosum was some very gritty material, apparently calcareous deposit.

Other organs.—Liver, distinct fatty infiltration. Kidneys granular.

CASE II.—E. J—, æt. 31, male. Admitted June, 1899, died August, 1901. General paralysis.

Condition on admission.—State of mania with delusions of persecution, owns to habits of intemperance; well-nourished. Reflexes: Knee-jerks very slight. Pupils: Left, + irregular, Argyll-Robertson. Speech distinct.

Course.—Later on patient became very dull and apathetic. August 19th, 1900: Had a "seizure," with strong convulsive movements of the left side; these continued for some days and some paralysis of left arm and leg persisted. September, 1900: Another "seizure." August, 1901: "Seizure," with again twitchings of left side; she remained unconscious, with absence of conjunctival reflex on left side, and twitchings for three days. Temperature irregular, 99° to 103° F. Died on August 21st, 1901.

Autopsy.—Skull-cap: Membranes very congested, not adherent to the cortex, but to each other over inner surface of frontal lobes. Gyri small, shrunken, and closely packed. Right side: over the superior parietal lobe was a patch of softening, with adherent membrane. Cortex thin and pale; ventricles dilated; granulations in floor of fourth ventricle.

Tumour.—Over and adherent to the posterior perforated space lay a hard, yellowish growth, about the size of a small bean. Microscopically this was found to consist of adipose tissue, with numerous blood-vessels and a distinct capsule of fibrous tissue.

Other organs.—Heart, flabby, small; liver, pale and soft; kidneys, granular.

Cases of lipoma of the brain have been reported by Benjamin, Bernhard, and Taubner. In Benjamin's case part of the tumour was ossified.

Dr. Gowers reports a case of myolipoma of the spinal cord, and says, "Very few examples have been met with of fatty tumours connected with the nerve centres," although "the cellular structure of the subarachnoidal tissue might be conceived to offer a ready field for fatty infiltration." It may be doubted whether *simple* fatty tumours ever cause damaging pressure upon *organs*. The effect of pressure is to limit the infiltration of the cells of the growth, rather than to injure a resisting structure.

Müller (on cancer) describes a fatty tumour between the optic nerves and corpora albicantia. Osler, W. A. Turner, and Obermeier all refer to the "rareness" of fatty tumours of the brain.

Bland-Sutton (on tumours) describes a case of fatty tumour within the spinal meninges, but makes no reference to the brain.

Probably in none of the cases had the fatty tumour any bearing on the origin or course of the symptoms (mental or physical).

These cases are recorded merely on account of their rare occurrence.

(1) Read at the Autumn Meeting of the South-Eastern Division at the Holloway Sanatorium, October 16th, 1901.

A Case of Epilepsy following Traumatic Lesion of Prefrontal Lobe. By A. R. URQUHART, M.D., and W. FORD ROBERTSON, M.D.

No. 2345, æt. 27, transferred from Saughton Hall to Murray's Asylum, Perth, on June 4th, 1897. An unmarried male.

Personal history. — Strong and healthy, except for occasional blepharitis. As a boy he was shy and emotional, and gave some anxiety on account of his running away from home on several occasions. His education was meagre, and he went to sea at an early age. Specific disease was not admitted and may be excluded from consideration.

Family history.— Hereditary tendency to insanity was denied. Father died of apoplexy, æt. 60; mother alive and well, æt. 60 in June, 1897. The eldest of the family is a girl, who had been epileptic since 1892; the second married, with one healthy child; the third was the patient; the fourth reported normal. Thus two were epileptic, a male and a female, and two were healthy, a man and a girl.

History of malady.—In 1885, at the age of 18, the patient fell into the hold of the vessel on which he was then serving as apprentice. He sustained severe injuries of the head and lay unconscious for some weeks in the Melbourne Hospital. Two years later, after great heat in Calcutta, he began to suffer from epilepsy. These fits were followed by a maniacal attack, and he was placed in the Dumfries Royal Asylum. After some time at home, where he was regarded as dangerous and troublesome, he was sent to the Carlisle Asylum, whence he was transferred to Saughton Hall.

Up to the date of his last transfer (1897), the patient had an epileptic seizure generally once in every two months, and these were followed by maniacal storms of diminishing severity in the course of the eight and a half years during which the malady had persisted. He was regarded as troublesome and dangerous, and his mental state was characterised by untruthfulness, low cunning, and deception. He fought with attendants and other patients, stole a knife and gave it to a suicidal patient, and attempted to set the house on fire.

Physical condition.—On admission it was noted that the patient possessed good muscular power, and that his condition generally was satisfactory. There was œdema of the hands, and some irregularity of

cardiac action. No scar was visible on the scalp, but there was apparent tenderness at a point a little in front of right parieto-occipital suture; and running parallel with this suture a slight depression was evident. A scar was noted under the right orbital ridge. Sensation was somewhat dulled, and the left plantar reflex was diminished. The pupils were rather dilated (the right more than the left); both reacted well to accommodation, but sluggishly to light (especially the right). This may have been due to belladonna given medicinally. He complained of seeing black spots at times, was deaf on the right side, and awkward in gait. Mental condition generally enfeebled. Confusion and impaired memory were specially noted. He had a dull, stupid appearance, and was furtive and tiresome in his conversation. Mentalisation slow.

During his stay in Murray's Asylum the patient gradually declined in health, mental and bodily, the epileptic seizures became more frequent, and were not marked by maniacal attacks. Ninety-five fits were recorded in twenty-seven months, finally culminating in the status epilepticus which closed his life on September 28th, 1899. During the first half of his residence in Perth the fits averaged two or three monthly, and were generally diurnal; latterly the seizures were frequently nocturnal, and increased in number. The aura was marked; it consisted in a feeling of lightness in the head and weakness in the knees. The latter persisted after the fit. During the fit it was certain that the spasms began in the left arm, and spread to the left facial region, and so became general. As a rule the convulsions were more intense on the left side. His head was turned to the left, and there was conjugate deviation of the eyes to the left. The clonic contractions passed away from the left side of the body before the right became exhausted. The fits were always followed by a stuporose condition, and this was succeeded by a period of greater irritability.

Certain indefinite trophic disturbances were noted, *e. g.* occasional tenderness of the external ear, and unaccountable blisters on the right hand.

The cessation of bromides invariably resulted in increased epilepsy.

The question of operative interference was raised, but the patient's mother objected. He himself earnestly desired to take his chance of relief by surgery, but in the circumstances the question was considered as settled by his mother's attitude. The matter could not be pressed in view of his

unsatisfactory boyhood, the slight signs of external injury, the lapse of time, and above all, the existence of epilepsy in his sister.

Examination of Hardened Brain and Spinal Cord.—There was a slight degree of thickening and opacity of the pia-arachnoid over the convexity of the hemispheres. On the mesial aspect of the right frontal lobe, extending from near the lower border upwards for about 20 mm., there was a slightly depressed, rounded area, over which the membrane was thickened and puckered. The spinal dura mater was much thickened, more especially in the upper cervical region, where it attained in places a breadth of 3 mm. It was not adherent to the pia-arachnoid. On horizontal sections of the brain being made, a large area of softening, of a pale yellow-grey colour, was found in the right frontal lobe, subjacent to the depression on the mesial surface. It first came into view on a section being made immediately above the level of the upper surface of the corpus callosum, appearing as an area 5 mm. in length at the anterior extremity of the white matter. Below this level the softening increased considerably in dimensions, gradually involving the adjacent mesial cortex, and appearing at the surface. At a distance of 40 mm. from the under surface of the lobe it measured 25 mm. antero-posteriorly, and 15 mm. transversely (Fig. 1). At a distance of 25 mm. from the under surface of the lobe the area attained its greatest dimensions, measuring antero-posteriorly 30 mm., and transversely 25 mm. It here involved the whole depth of the mesial cortex. Posteriorly it faded away in the grey matter of the anterior end of the lenticular nucleus (Fig. 2). Below this level the softening rapidly diminished in extent, and did not quite reach the under surface of the lobe. No other gross lesion was found. Microscopical examination confirmed the observations made with the unaided eye, except that it revealed an involvement of the cortex in front of the softened tissue (Fig. 2). Unfortunately a minute investigation of the course taken by the degenerative process in the medullated fibres behind the softened area could not be made, owing to the circumstance that the formalin solution in which the brain was hardened had not penetrated the deeper tissues in time to fix them properly. There was no general sclerosis of the brain. The first layer of the cortex presented in both hemi-

FIG 1.

Horizontal section of anterior part of right frontal lobe, 40 mm. above under surface of lobe. (*a*) Mesial surface. (*b*) Outer surface. (*c*) Softened tissue.

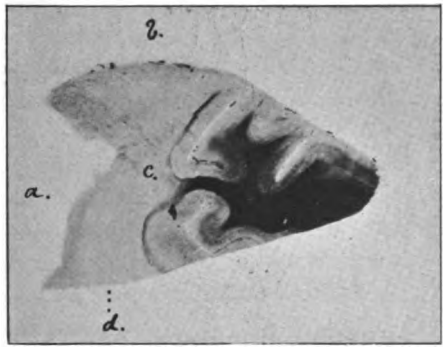


FIG. 2.

Horizontal section of anterior part of right frontal lobe, 25 mm. above under surface of lobe. (*a*) Mesial surface. (*b*) Outer surface. (*c*) Softened tissue. (*d*) Anterior extremity of lenticular nucleus. Weigert-Pal Staining.

To Illustrate paper by Drs. URQUHART and FORD ROBERTSON.

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spheres a slight degree of neuroglial overgrowth. A large proportion of the cortical nerve-cells (motor areas) showed well-marked recent degenerative changes, such as are constantly associated with the occurrence of death in status epilepticus. The cells were not perceptibly diminished in number. Some of the vessels of the first layer of the cortex showed fibroid thickening. The thickened spinal dura had throughout a dense fibrous structure without demarcation into layers. The spinal cord was practically normal.

It seems clear that in this case the softening in the frontal lobe was the result of a traumatic hæmorrhage. A quantity of blood must have escaped into the subdural space and formed on the inner surface of the cerebral and spinal dura a false membrane, which in course of time became replaced by fibrous tissue. The special interest of the case lies in the fact that though the traumatic lesion did not primarily involve any motor area of the brain, the accident was followed by general epilepsy after some years. Several cases of this kind have lately been recorded. Thus Angiolella ([1]) has described the case of a man who became epileptic ten years after having been injured on the forehead by a blow with a hatchet, and who died some years later in status epilepticus. He found, in addition to a destructive lesion of the anterior portion of the left frontal lobe, certain general histological changes in the hemispheres which seemed to him to indicate an extension of an inflammatory process from the focal lesion. He considered that the development of the epilepsy might be explained by involvement of the motor areas in this inflammatory process. Ventra ([2]) has described the case of a man who developed epilepsy at the age of twenty-one, six years after having been shot through both frontal lobes. Pastrovich and Modena ([3]) have recently fully reported a case in which epilepsy appeared at the age of fifteen, four years after a similar injury of the anterior third of the right middle frontal convolution. The microscopical changes were entirely confined to this area, and did not involve the motor regions. References to some additional cases of the same nature recorded in literature will be found in the papers of these writers. In the case we have described, the motor disturbance arose two years after the receipt of the injury. As in the case of Pastrovich and Modena no important

histological changes of a chronic nature were found in the motor regions. It is quite possible, however, that localised changes, of the nature of those described by Angiolella, may have escaped observation.

(1) *Annali di Nevrologia*, 1898, p. 277.—(2) *Rivista Sperimentale di Freniatria*, 1900, p. 896.—(3) *Rivista Sperimentale di Freniatria*, 1900, p. 723.

FIG. 1.—Horizontal section of anterior part of right frontal lobe, 40 mm. above under surface of lobe. (*a*) Mesial surface. (*b*) Outer surface. (*c*) Softened tissue.

FIG. 2.—Horizontal section of anterior part of right frontal lobe, 25 mm. above under surface of lobe. (*a*) Mesial surface. (*b*) Outer surface. (*c*) Softened tissue. (*d*) Anterior extremity of lenticular nucleus. Weigert-Pal staining.

Occasional Notes.

Warneford Asylum.

The Warneford Asylum has recently been subjected to a considerable amount of unjust censure which yields a good illustration of the prejudices of the public mind in lunacy matters, and the consequent inability of forming just conclusions in relation to them.

The foundation of the censure was a case of homicide and suicide by a patient recently discharged on trial. The coroner, without a word of evidence in regard to the circumstances of the patient's discharge, remarked on the "loose way" in which the patient had been turned out on society. According to one newspaper report he even made, in the absence of all evidence on the point, an invidious comparison between the precautions taken in this and another asylum. We can only conclude that he was as ignorant of one set of precautions as of the other.

The coroner's remark, although obviously founded on no scrap of evidence, was eagerly seized on for very invidious comment by the daily press, in the time-honoured manner on such occasions.

The committee of the asylum, however, forwarded a full statement of the circumstances under which leave of absence was granted in the case in question to the Commissioners

in Lunacy. The Commissioners, after considering what they term the "full and detailed report," write that "it appears to prove that the medical superintendent exercised due care and showed good judgment in the matter, and that the unfortunate incident which occurred did not result from any failure in the exercise of those qualities."

The judgment of the Lunacy Commission, formed after a due consideration of all the circumstances, must outweigh a thousandfold the emotional expression (for it cannot be dignified as a judgment) of the coroner, founded neither on facts nor experience.

If the coroner had obtained evidence from the asylum he would certainly have been saved from falling into such an error, and from committing an injustice to the medical officer, who has now been so fully and amply exonerated.

The lesson inculcated is that in all such cases evidence from the asylum should not only be tendered but pressed on the coroner. The pressure was impossible on this occasion, owing to the absence from England of the superintendent.

Such evidence would gradually educate the public to understand that the discharge of recovered patients is always attended with risk of relapse, and that occasionally, in spite of the greatest care and the exercise of the best and wisest experience, such regrettable incidents must from time to time occur. The public have to be brought to understand that discharges cannot be made without relapses, and that relapses cannot occur without occasional danger.

Lunacy Statistics.

"Statistics may be made to prove anything" is a common assertion, and it might also be asserted that they may be made to prove nothing. Such results, however, can only arise from the tabulation of facts too heterogeneous to be of value, or from the wilful or ignorant misuse of really valuable figures. Statistics of rightly chosen facts, when rightly used, can demonstrate, with reasonable certainty, general laws and averages of the utmost value.

The early years of a new century, like the early days of a

new year, afford a good pretext for considering old habits. Statistics of lunacy, being a very important annual habit with many of our members, seem the first to demand attention. Inquiry may fairly be made whether these have yielded, and are yielding, satisfactory results. Have they given answers to questions of fundamental importance? For example, to the inquiries whether lunacy is increasing, whether the recovery rate is advancing, whether the causes of insanity are changing, whether the type of insanity has altered, and to many others of almost equal value. The response must be, we fear, that our statistics do not yield clear answers on these points.

Lunacy statistics having now been compiled on a large scale during the last half-century this cannot be held to be a satisfactory result, and it suggests that some reconsideration is necessary to ensure that the form of the statistics and the method of dealing with them shall be improved, so that more definite results may be obtained, if it be possible.

The Lunacy Commission, as at present constituted, is so undermanned that its energies are absorbed in the attempt to carry out its routine duties of inspection, etc., and it cannot be expected, whilst so burthened, either to originate new methods or to delve in the vast stores of facts already accumulated. As this condition may continue for some years it seems worthy of the consideration of the Medico-Psychological Association whether our members should not make an effort to initiate some improvement.

The Association is already responsible for the statistical tables which are generally in use in asylums, and it would seem that the analysis of the results of these tables is as worthy of attention as their construction.

Statistical tables should certainly not be disturbed frequently or without good reason, but the existing tables have now been in use long enough to justify a reconsideration. Since they came into operation great progress has been made in every branch of the study of mental disease. Medical officers of asylums have been greatly increased in number, so that statistical efforts are now easily possible which at the time of the issue of the tables would have been a grievous tax on the then insufficient medical staff.

Statistics have reached to the eminence of a science, and if such a reconsideration of lunacy statistics is made, it would be

very desirable, if not absolutely essential, to obtain the assistance of a scientific statistician. Such assistance, if procurable, would possibly help the Association to avoid the accumulation of useless facts, the making of erroneous analyses, and the formulation of indefinite conclusions.

British lunacy statistics, unless continuously watched, and, when necessary, improved, will certainly fall below the standard of efficiency which is constantly rising in other countries. Indeed, critics are not wanting who assert that this is already the case. Vigilance in this matter should be exercised both from scientific motives and from feelings of patriotism.

The National Mental Health and the War.

In the review (in our present number) of the Scottish Lunacy Report, the reviewer gives some very striking statistics in relation to the national mental health in the last three years.

The rate of accumulation has diminished in England, Scotland, and Ireland. The rate of primary admissions has not only shown great arrest but even slight diminution in Scotland. The Irish figures correspond, and in England, if statistics were available, it is almost certain that the same result would be demonstrated. The reviewer also draws attention to the similar results recorded in France in 1870 and in the American War (1861).

It is desirable to specially emphasise these figures, since an eminent alienist has been quoted in the English lay press and in Continental journals as having stated that there had been an enormous increase in insanity in London in 1900, due to the war.

The war, we may conclude therefore, has been a national mental tonic, and once again the malice, hatred, and all uncharitableness which everything British excites in the minds of our Continental friends, and, alas! in some home-bred "men and brethren," would appear to be, as they have often proved before, merely the rubbish of which mares build their nests. In many public libraries the curious reader may still find among the volumes of the original Sydenham Society's translations

Feuchtersleben's treatise on medical psychology. Here he will discover many legends illustrating the craziness of Englishmen. He will learn that that exquisite book illustrator, "Phiz" (Hablot K. Browne), in trying to catch caricature expressions, made such ugly faces at himself in the glass that he committed suicide in despair. The translator, oddly enough (suffering perhaps from "the bias of anti-patriotism"), omits to note that at the date of the translation, let alone of the original, "Phiz" was alive and well, and making a handsome income by his work. Who knows? May be he had given up the glass and taken to water instead, like Narcissus, the last previously recorded instance of suicide through contemplation of one's own beauties. In the same amusing volume may be found an account of how there once was a beam in a corridor in a great general hospital in London (name not specified), but it had to be taken down or built up (may we be pardoned for forgetting which?) because as soon as November set in the unhappy islanders, overwhelmed with fog and spleen, flocked daily from the wards to hang themselves in the corridor!

Organisation of Medico-Psychological Research.

The "American Retrospect" describes the efforts being made in the United States to form an advisory board of scientists representing all specialities interested in or related to psychiatry. The names given promise success in this new departure, which has our heartiest good wishes.

Such an organisation in Great Britain at the present moment is not possible, but consideration might with advantage be given by those concerned to the possibility of organising pathological research.

London and Edinburgh have representative pathological laboratories, and (in the immediate future) Dublin will be similarly equipped, while many smaller ones exist in connection with public asylums. Might not the leaders of the work associate together with a view to increasing and stimulating the more isolated workers in the country asylums?

This would at least be a foundation for that wider organisation which may follow in a more or less distant future.

Roll of Honour for Asylum Workers.

Rolls of honour for those who have fought and fallen for their country are now being established in many places. If such a roll were formed for attendants on the insane, the list might well be headed with the name of Isabella Sime, of Perth District Asylum. This gallant and devoted nurse sacrificed her life in an attempt to save that of her patient.

Such acts of self-sacrifice in the performance of duty, many of which have been noted in this JOURNAL from time to time, ought surely to be recorded in a more accessible form, to the end that the public might have a truer conception of the spirit that animates asylum workers. Their estimate, at present, is too often founded on the reports of the prosecution of the occasional black sheep.

Mind!

To what hand we are indebted for this delightful set of parodies and *jeux d'esprit* we know not, but whoever he is he has our most cordial thanks for an immense amount of amusement. There is not a line from the top of the front cover to the bottom of the back cover that one can afford to skip. It is all clever and inexpressibly funny. Where all is so good, it is invidious to single out articles for special praise, but "The Place of Humour in the Absolute," by F. H. Badly, is an extraordinarily clever parody upon the writings of a well-known psychologist, and the "Critique of Pure Rot," by I. Cant, in no way falls below its title. "Elizabeth's Visits to Philosophers" might have been written by Barry Pain, and higher praise could scarcely be given. The fun is carried into the smallest details, and the answers to correspondents and the advertisements are by no means the least delightful. The advertisement of Moneyism hits off a trans-Atlantic author to a nicety, and too wide a diffusion cannot be given to another advertisement on the same page—"Lee's Patent Anti-fad. Try it! Try it!! Try it!!! For the Church, the Army and Navy, and all the Learned Professions. Prof. X—, F.R.S., etc., writes: 'Since taking ONE BOTTLE I have given up ALL MY MOST CHERISHED CONVICTIONS.'" It would be unfair to our amusing contemporary to regard it as merely facetious. There is a deal of solid wisdom concealed beneath its jokes.

Original Research in Epilepsy.

The Craig Colony Prize on the above subject, particulars of which are printed in "Notes and News," has been awarded in the present year to Professor Carlo Ceni, of Pavia. Mention of his essay on "Serotherapy in Epilepsy" is made in the "Italian Retrospect," and its publication will be awaited with interest.

Epilepsy is so great a factor in our large asylums that it is to be hoped some of the medical officers of those institutions will undertake research in this direction, not only for the sake of science but for the honour of British psychiatry.

Psychology—Normal and Morbid.

We heartily congratulate Dr. Mercier on the publication of his *magnum opus*. We hope that it will be read by every physician engaged in the practice of our specialty, and meanwhile refer our readers to the admirable review of this important work by Dr. Leslie Mackenzie, which will be found in this number of the JOURNAL.

Part II.—Reviews

The Fifty-fifth Report of the Commissioners in Lunacy for England, July 1st, 1901.

THE Report states that the total number of lunatics within the knowledge of the Commission on January 1st, 1901, was 107,944, and this leads us to re-utter the protest as to the practice of taking a censal estimate of the insane annually, therefrom to draw deductions. Is not such an estimate altogether a false basis on which to build arguments? The diminished increase—that of 1333 as compared with that of 1525 last year—is regarded as a "satisfactory condition"! Is it imagined that were this census taken every June, for example, the same differential variations would be obtained? Previous annual reports have proved that the incidence of insanity, so far as was justifiable by deductions from the number of insane reported as such to the Lunacy Office, showed remarkably irregular seasonal variations, and yet a date is selected and a census taken thereon so as to compare it with a similar censal estimate on the same date of another year. It is just as valuable a piece of information as the statistics supplied by the daily press of the tonnage of vessels passing through the Suez Canal on any one day

as compared with the tonnage passing through the same canal on the same day last year. As we have in previous reviews so strongly contended, the only fair estimate of the amount of work the Commissioners have to perform (for that, after all, is the only valuation to be placed on any aggregation of figures dealing with the insane so long as all cases of insanity in the kingdom are not reported officially) is to make a comparison between the totals of the average daily number resident in all asylums, institutions, etc., in the kingdom. In the remarks on this census of the insane the Report states that "besides the patients enumerated there were a number found lunatic by inquisition, who were residing in their own homes or with their committees. The number of these we have been unable to ascertain exactly, but it was about 280." Surely accurate information as to these numbers could be supplied by the officials of the Lord Chancellor's office without great difficulty.

Table IV, that dealing with the admission into all institutions and private care, is the first of the summaries of this Report worthy of serious notice. The variations as to increase and diminution under the various modes of treatment are here set forth as in previous years:

	County and borough asylums.	Registered hospitals.	Metropolitan licensed houses.	Provincial licensed houses.	Naval and military hospitals.	Criminal asylums.	Private single patients.	Idiot establishments.	Totals.
Increase . .	705	29	—	—	95	3	2	—	834
Diminution .	—	—	247	39	—	—	—	1	287

Total increase = 547.

Of the total number of admissions during 1900, viz. 20,067, 16,192, or 80·19 per cent., were first admissions, an increase of 440 first admissions on the number last year. The large diminution in metropolitan licensed houses is noteworthy, but is probably mainly among the pauper classes, for the Report states in another table that the total decrease of private patients in these institutions during the year was but twenty nine. Of the 17,602 admissions into county and borough asylums 577 were private patients, an increase of but eight on the private patient admissions into those asylums in the previous year.

Again we have to plead for an analysis of the "transfers table." May we suggest that the Report should state in a supplementary table (*a*) the reasons for each transfer, (*b*) the results of such transfers, (*c*) the period of time the patient had been in the one institution before being transferred to the other, and (*d*) the nature of each case so transferred? we shall be content with the present classification of mental disease. If other countries can indulge in such analyses, why cannot we? The great value of such a summary in guiding alienist physicians to a due appreciation of the practical utility of transfer as a mode of treatment need not be enlarged upon here.

The table dealing with the re-admissions on fresh reception orders under Section 38 of the Lunacy Act has apparently been omitted,

Next year, unless there is adopted the very wise precaution of issuing a circular notice to all asylum managers warning them that every case admitted prior to the passing of the Lunacy Act will need a statutory report, there will, we fear, at the middle of the year be found a sudden influx of work for the officials at the Lunacy Office which will surprise them. We learn from another set of tables that the total number of re-certifications under this section was apparently 76, which shows a distinct improvement on the number last year, viz. 125.

Recoveries during 1900 numbered 7612, an aggregate increase of but 37 on the number of the previous year, county and borough asylums (135) and naval and military hospitals (44) presenting the largest increases, while metropolitan licensed houses, provincial licensed houses, and registered hospitals all show a diminished recovery aggregate. The recovery rates to admissions fell from 39·26 per cent. in 1899 to 38·37 in 1900, the average for the last decade being 38·83. Another view of the recovery rate, namely, in relation to the average number resident, gives a percentage of 9·27 in 1900 as compared with a ratio of 9·37 in 1899. There can be no doubt that this diminution in the recovery rate is due principally to the accumulation of senile cases in all large institutions, and in a minor degree to the low proportion rate of recoveries among private single patients. The Report notes that "as regards recoveries, it will be observed that the proportion taken in respect of admissions is very constant, while that calculated upon daily average numbers shows a considerable decline, and this results, no doubt, from the great accumulation of chronic and incurable cases." We go further, however, and maintain that, considering the magnitude of the yearly aggregate increase in non-recoverable cases, and the merely fractional diminution in the recovery rate, the inference that the asylums show no improvement in their recoveries is altogether a false one. There should, if this contention were sound, be a far more pronounced decline in the general calculated rate; the mere fact that it remains at nearly the same figures annually is an indication that there is actually a slight progressive improvement. Considerations as to the recovery rates of various institutions, or of institutions *en masse*, so long as they are conducted on these lines, belong rather to the realm of speculative arithmetic, for the relation between the actual number of recoveries per annum on the one hand, and the admission rate or the daily average number resident on the other, is a somewhat distant one. True, they are the only sets of figures available for rapid computation; but the soundest method of all is to follow out the fate of every admission into each institution for successive quinquennial periods, their classification being carried out thus:—Of patients admitted during the quinquennial period there were (*A*) a certain number discharged from the institution (*a*) recovered, (*b*) improved, (*c*) not improved; (*B*) a certain number detained in the institution, these being classed as (*a*) improved, and (*b*) not improved; and (*C*) a certain number of deaths. By this means a recovery rate as well as a death rate of, not on, the admissions quinquennially for each institution would be obtained with results far more reliable than our present uncertain methods, for they would be actual and not approximate ratios.

The deaths during 1900 rose from 8160 to 8394, the increase being mainly in pauper asylums, the percentage proportion of deaths to daily average number resident being raised from 9·87 to 10 per cent. The remarks above made are applicable here, and the discrepant death rates of various modes of care would be considerably modified. On the present basis of calculation, *i. e* the daily average number resident, it would seem that metropolitan licensed houses, with a decennial death rate of 11·74, as compared with the 6·61 and 8·06 percentages of registered hospitals and provincial licensed houses, were occupying an unfavourable position. Any attempt to explain these calculated rates would entail theoretical speculations of but minimal value.

Other inexplicable figures, such as the low average ratio of female deaths in registered hospitals and the high proportion of male deaths in metropolitan houses, would, by the classification advocated above, receive some elucidation.

We append, as usual, a table calculated from the figures supplied by the Report, not as a reliable guide, but merely to serve as a comparative purview of the relation between the death rates of the insane and sane. It is a general numerical proof of our contention that the apparent death rate among the insane tends to approximate to the estimated sane death rate as age advances, especially in females. On comparison of this table with that of the previous years it may be noted that the approximation towards a sane death rate is slightly more marked in the age decades above fifty-five than in years prior to 1899.

Age periods.	Death rate per 1000 reported insane 1899.	Death rate per 1000 whole population (estimated) 1899.	Proportionate death rate insane to sane.
Under 5	M. —	M. 60·4	M. —
	F. —	F. 50·7	F. —
5—9	M. 35·5	M. 3·8	M. 9·3 to 1
	F. 43·1	F. 3·9	F. 11·0 to 1
10—14	M. 46·7	M. 2·2	M. 21·4 to 1
	F. 31·9	F. 2·3	F. 13·8 to 1
15—19	M. 62·1	M. 3·6	M. 17·2 to 1
	F. 58·4	F. 3·3	F. 17·7 to 1
20—24	M. 56·4	M. 5·3	M. 10·6 to 1
	F. 53·3	F. 4·3	F. 12·4 to 1
25—34	M. 72·5	M. 7·1	M. 10·2 to 1
	F. 55·4	F. 6·1	F. 9·0 to 1
35—44	M. 112·4	M. 12·3	M. 9·1 to 1
	F. 61·8	F. 10·0	F. 6·1 to 1
45—54	M. 105·8	M. 20·0	M. 5·2 to 1
	F. 62·0	F. 15·4	F. 4·0 to 1
55—64	M. 120·2	M. 37·2	M. 3·2 to 1
	F. 86·9	F. 29·8	F. 2·9 to 1
65—74	M. 234·9	M. 69·8	M. 3·3 to 1
	F. 159·8	F. 61·5	F. 2·5 to 1
75—84	M. 403·3	M. 152·6	M. 2·6 to 1
	F. 293·8	F. 142·6	F. 2·0 to 1
85 and upwards	M. 593·8	M. 300·3	M. 1·9 to 1
	F. 435·3	F. 272·0	F. 1·6 to 1

Table XIV exhibits no improvement in its nomenclature. A comparison of this with the similar tables of previous years shows that the Report merely classifies the stated causes of death in terms supplied by the medical officers of asylums, whose "causes of death" are sometimes quaint, instead of maintaining a fixed tabular standard on the Registrar-General's basis. We can thus only take the principal causes of death for purposes of comparison. The percentage ratios of each cause to total deaths are here given, together with similar ratios for the five preceding years. The proportion of deaths from general paralysis shows some diminution.

Causes of death.	1895.	1896.	1897.	1898.	1899.	1900.
General paralysis	20·00	20·41	18·97	17·44	17·74	16·08
Phthisis pulmonalis	14·88	13·88	14·57	14·38	14·37	14·18
Senile decay	7·71	8·69	9·31	9·10	9·12	8·99
Pneumonia	7·01	6·36	6·13	6·96	7·15	8·24
Epilepsy	5·16	4·89	4·66	5·23	4·96	5·18
Cardiac valvular disease	4·78	5·73	6·02	6·45	5·76	6·05
Exhaustion from mania and melancholia	3·87	3·62	3·65	3·37	3·66	3·11
Apoplexy	3·16	3·21	3·13	2·90	2·74	2·84
Chronic Bright's disease	2·92	2·56	2·72	2·96	3·12	3·05
Bronchitis	2·89	2·46	2·09	2·58	2·75	2·74
Organic disease of brain	2·60	3·50	3·46	3·25	3·62	3·02
Cancer	2·01	2·56	2·13	2·11	2·12	2·22
Accident	0·40	0·42	0·45	0·47	0·45	0·37
Suicide	0·25	0·14	0·28	0·29	0·27	0·17
Other maladies	22·36	21·57	22·43	22·51	22·17	23·76

The number of *post-mortem* examinations amounted to 6489, or 77·6 per cent. of the total recorded number of deaths, a slight improvement on the percentage of the previous year. From other tables and remarks we find that the number of *post-mortems* in county and borough asylums alone rose from 79·7 to 80·8 per cent.

Table XV, that dealing with occupation ratios to population, maintains its utterly worthless characteristics. It is true the Report does not now give ratio calculations on numerical population estimates of thirty years back—the ratios are apparently all calculated on the actual census enumeration of 1891. The average number of admissions into asylums of, say, tailors and carpenters for the five years 1895—1899 is made comparable with the censal enumeration of 1891. There have therefore been no additions to the ranks of tailors and carpenters during the past ten years!

The percentage proportion of the average admissions for the five years classified as "first attacks" numbered 71·3. It is a pity that all "first attacks" are not classified and analysed annually. The authorities of other countries supply every year a set of tables giving particulars of interest relative to every admission, and the value of such a statement would be far greater than "the ratio per 10,000 of the yearly average of patients admitted during 1895—1899 to the whole population at the time of the census (1891) according to their ages and condition

as to marriage," on which a page of the Report is expended. Those admissions, moreover, which are "not first attacks" equally merit classification, for, as we indicated last year, there must be a precious mine of information in the Commissioners' offices, hitherto unexplored, the thorough investigation of which would undoubtedly bring to light much fresh information relative to the remittent, intermittent, recurrent, relapsing, and circular insanities.

The Report directs attention to the fall in the proportion of the general paralytics, epileptics, and suicidal cases among the yearly average of patients admitted into all institutions. For the quinquennium 1890—1894 the ratio was, for general paralysis, 12·7 per cent. males and 2·8 per cent. females; for epilepsy, 8·2 per cent. of both sexes; and for suicidal cases, 25·4 per cent. of both sexes; while for the quinquennium succeeding (1895—1899) the ratios are, for general paralysis, 12·2 per cent. males and 2·6 per cent. females; for epilepsy, 7·7 per cent. of both sexes; and for suicidal cases 23·6 per cent. of both sexes. Now this is quite an artificial diminution. We are perfectly justified in assuming that with the larger number of incurable admissions into asylums and the ever-growing insane residuum in institutions these figures should show a natural depreciation—an arithmetical diminution due solely to the steady increase of the fractional denominator in each instance; we cannot, as does the Report, arrive at the conclusion that there are fewer general paralytics, epileptics, and suicidal cases actually. It is apparently not appreciated that rational proportions of quinquennial averages are totally different from pure aggregates.

The table dealing with assigned causes of insanity in the cases of all patients admitted (XXIII) continues to be cast in a quinquennial yearly average form. It would be far more useful, even if the obsolete list of "moral" and "physical" causes be retained, to give the causes of the admissions, etc., in each year, carefully differentiating first from other attacks. An average table is almost useless. Reviewers of this Report in contemporary medical and statistical journals lose sight entirely of this fact, and take the trouble to remark on the percentage of cases in which certain causes operated, as if this table were the annual statement of insanity's causation. Here first and second attacks are mixed together, and all one can do is to make the broad and general statement that a nominal percentage proportion of cases probably had as, a main cause (direct or indirect) a certain determined factor—there is no possibility of certainty in our estimate. A comparison of this table, however, with the similar table in the Report for 1896, wherein the quinquennium 1890—1894 is dealt with, shows that the per centum proportion of admissions in the latter due to alcoholism stood at 18·5 for private males and 7·0 for private females, 21·2 for pauper males and 8·2 for pauper females; while in this year's Report the figures are 20·8 for private males, 9·4 for private females, 22·7 for pauper males, and 9·7 for pauper females.

We are pleased that the tabulation of the causes of general paralysis, to which we have so often objected, has been omitted.

Of the patients admitted into all institutions during 1899, 42·8 per cent. suffered from some form of mania, 28·3 per cent. from melancholic types of insanity, 4 per cent. from delusional insanity, 6·4 per cent. from

general paralysis, and 4·9 per cent. from senile dementia. The proportions given in this table are not in accordance with its heading, which runs "Proportion (per cent.) to the total number admitted during the year"—this would give the ratio of private males with maniacal affections as 4·1 per cent.; it should read "Proportion (per cent.) to the total number in each class and for each sex admitted during the year."

The number of voluntary boarders remaining in registered hospitals on January 1st, 1901, was 84, in metropolitan licensed houses 14, and in provincial licensed houses 42. Of the number admitted during 1900, viz., 295, 27·4 per cent. had to be certified.

Table XIII, Appendix B, is one in which the Commissioners say they "try to show by percentages the degree of attention given in asylums to various matters affecting the treatment and welfare of the insane." There is much in this table to which we might raise objection, merely because its figures are so evidently imperfect. The only fair way of dealing with this table is to obtain information from the respective superintendents as to the percentages of each heading. This, surely, would be better than to cull the figures from the Commissioners' visitation reports, the interim period to which they relate frequently not embracing a whole year.

The admissions into county and borough asylums during 1900 numbered 17,602, of which number 18·6 per cent. had previously been discharged from institutions for the insane. The recoveries numbered 6704, and the deaths 7766. *Post-mortem* examinations were made in 80·8 per cent. of the total number of deaths. The suicides in county and borough asylums are stated in the Report to have numbered fourteen; "in three instances the patients were absent from the asylum on leave or on trial, and in two the act, which subsequently resulted in death, was committed before admission;" but Table IV, Appendix B, states that there were sixteen suicides in county and borough asylums, two of which were after escape, six in which the act was committed before admission, and four in which the act was committed while the patients were absent on leave. These figures, therefore, do not tally. On going through their annotations on asylums, we can find but twelve suicides accounted for by the Commissioners. Of these, five (all males) died by strangulation; two (one of each sex) by precipitation under trains; one (male) by cut throat; one (female) by swallowing broken crockery; one (female) by drowning; one (female) by suffocation; and one (female) by eyulsion of the tongue.

In their remarks on registered hospitals the Commissioners say: "Although the need of further accommodation at low rates of payment for persons above the position of paupers, but of small means, is rather growing than diminishing, its provision still fails to appeal to the public as a desirable form of practical philanthropy." Of course it does when the public given to practical philanthropy read in their Report of the previous year that some of these institutions have hitherto "inadequately discharged the functions of benevolent establishments, and in the application of their—in some instances—very large incomes have shown a comparative disregard of the principles upon which they were founded." How can they possibly expect the charitable to provide additional material for official rebuke? Let these institutions first be

set in due order, and when they all can be reported upon as doing a proper amount of charitable work, then let an appeal be made to the generous for additional accommodation. At present the position of some of these registered hospitals is, to say the least of it, anomalous. They pose as charitable institutions with a minimal inclination to charity. Not a single suicide is on record in these asylums during 1900, a fact which redounds to the credit of their management, while the recovery rate (on admissions), 44·8 per cent., and the death rate (on average number resident), 6·9 per cent., compare, so far as comparisons are warrantable with such calculations, very favourably with other classes of institutions.

There was but one suicide in licensed houses during the year, that of a female (cut throat), and the control of these institutions appears to have merited the commendation of the authorities.

The Commissioners have this year drawn the special attention of local authorities in an economic and minatory article to the need of strict economy in the building, finishing, fitting, and furnishing of asylums, "that all extravagant and therefore unsuitable decoration both inside and out should be carefully avoided;" and they seriously threaten that "an obvious departure from this principle" will cause them to advise the Secretary of State to refuse his approval of all such plans. The standard of "extravagant decoration" will, we fear, be difficult to fix. We cordially agree, however, with the expressed opinion that separate institutions for the chronic insane—demented cases, imbeciles, quiet epileptics, etc.—and for acute cases, or such as need more skilled and constant surveillance, would be an economy in the long run.

Some important points referring to the detention of lunatics in workhouses, the result of the deliberations of the law officers, are furnished, and the Commissioners give special consideration to the occurrence of infectious maladies in asylums, their summary of the deaths in county and borough institutions due to tubercular disease being deeply interesting.

We share in the regret expressed by his colleagues at the death of Mr. W. E. Frere, who for twenty-two years had actively engaged in the duties of a Commissioner, while quite recently we published our obituary of another conscientious worker in the field of lunacy—Mr. J. D. Cleaton.

The Report, as a whole, does not reflect credit on a body of officials who are, without doubt, zealous and earnest in the performance of their routine official duties. That the vast mines of statistical information at the command of the Commission are not worked to a more productive result can be ascribed only to the lack of power, due to undermanning, especially in the medical element.

We can only repeat the oft-reiterated hope that a large addition to the medical strength of the Commission will shortly enable it to grapple with many problems, which the present inadequate staff is unable to attack, in a manner worthy of the twentieth century.

Forty-third Annual Report of the General Board of Commissioners in Lunacy for Scotland (1901).

The well-being of the insane and the economic aspect of pauper lunacy are not by any means matters of such real and paramount interest as the larger social question of the state of the national mental health. Is there, or is there not, in these annual human documents, the Lunacy Blue Books, any evidence of any amendment, however slight, in the prevalence of lunacy? That is the point of real and essential interest.

The recently published Preliminary Census Reports enable one to form an approximately correct estimate of the changes which have been taking place of late years in the amount and the occurrence of the country's lunacy, and, taking a broad and general view of the Reports of the three divisions of the kingdom, one cannot help being struck by the fact that 1900, the year under review, stands out in quite unmistakable fashion from other years.

The following tabular statement gives the proportion of the total official lunatics on January 1st per 100,000 of the estimated population in the middle of the same year in the United Kingdom and each of its three divisions.

Year.	United Kingdom.	England.	Scotland.	Ireland.
1891	305	298	304	346
1898	337	323	331	433
1899	344	330	343	451
1900	347	331	345	466
1901	348	331	345	476

The diminishing character of the increase is everywhere evident. In the whole kingdom the increase for the ten years amounts to 43 per 100,000, while that for 1901 over 1900 is only 1. In England the increase for 1899 over 1898 amounts to 7, and that for 1900 over 1899 is only 1, while in 1901 the proportion has undergone no change. In Scotland very much the same movement is observable, the increases for these same years being respectively 12, 2, 0. In Ireland the tendency, though not so marked, is in the same direction, the increases being 18, 15, 10. Such are the changes which have taken place in the collective mass of the kingdom's lunacy. Is there any evidence of a like change in its occurrence? Taking first admissions as an index of occurring insanity these are the facts which are revealed in the Reports. The proportion of first admissions per 100,000 of the estimated population in the middle of the same year is as follows :

Year.	United Kingdom.	England.	Scotland.	Ireland.
1890	—	—	52·2	51·9
1898	51·7	49·2	61·5	59·1
1899	52·2	49·4	60·5	63·5
1900	52·6	50·2	60·8	61·9

In the United Kingdom the increase in 1899 amounts to ·5, while that for 1900 is only ·4 per 100,000. In Scotland, while the increase

between 1890 and 1900 amounts to 8·6, that for 1900 compared with the preceding year is only ·3, and if the last two years are taken together, there is an actual decrease of ·85 as compared with 1898. In Ireland the ten-years' increase amounts to 10 per 100,000, but the year 1900 shows a decrease of 1·6 when compared with 1899. In England, where returns of first admissions are only available for the past three years, there is the very slightest increase, but judging from the total admissions there is here also evidence of change in the right direction. The rate for these in 1890 was 56·3 per 100,000, and that for 1900 is 61·5, an increase of 5·2, while the rate for the two years 1899–1900 shows a diminution of ·2 when compared with 1898. All round, then, there is quite unmistakable evidence of an improved condition of affairs as regards the nation's mental welfare.

Life is defined as "the continuous adjustment of internal relations to external relations." Something in the nature of an alteration of the external relations must have occurred to bring about this modification of the internal relations so noticeable in the mental life of the nation, and the question is, What? It must have been something which has affected not one division of the kingdom alone, but all three in greater or less degree, for the modification is not confined to any one of the three. The past two years have been years of prosperity, and there has been no outstanding domestic-political event. Since the latter part of 1899 that which has undoubtedly been occupying public thought more almost than anything else has been the war which the Empire has been waging against its common enemies of the Transvaal and the Orange River Colony. This, and this alone, constitutes the one outstanding feature of the past year, and there can be little doubt that it is this, and this alone, that is responsible for the change which is so noticeable in these reports of the nation's mind.

This same influence of war upon the prevalence of insanity was noticed in the American War of 1861 and in France in 1870, but no opportunity for its illustration has transpired in Britain until the present occasion. The present outbreak of hostilities is seemingly proving beneficial to the British race, exerting as it does a tonic and bracing effect upon the mental constitution, an effect which shows itself in the improved returns of the lunacy of the country. And, further, it is not only in this direction that the good effect shows itself. It has been shown by Durckheim that one of the effects of war is a diminution in the number of suicides, and this is found to be true of England on the present occasion. The outbreak of hostilities occurred on October 11th, 1899, and its effect was such as to colour the returns for the whole of that year. The number of suicides was 70 less than that for the preceding year, a reduction of 2·4 per cent. The known attempts to commit suicide in December of 1899 show also a falling off of 2·5 per cent., as compared with the same month of 1898. In the same way there is a falling off in the number of all serious offences known to be committed in that same month amounting to 3·4 per cent. compared with the preceding year. In Ireland there was a decrease of 8·5 per cent. in serious crimes in 1899, and of 7·9 in suicides in 1900, but in Scotland there was an increase of crime so great as to make 1899 a record year, though we doubt that this will be found to apply to the

last month of the year, and here also suicide decreased to the extent of 6·4 per cent.

It might almost be said that the same effect is noticeable even in such a comparatively small matter as the occurrence of general paralysis of the insane. In England the percentage proportion to admissions, which in the two quinquenniads ending 1898 and 1899 was respectively 7·9 and 7·6, fell in the year 1899 to 6·4. In Scotland, while the total deaths in establishments increased 29 per cent. in 1900, the deaths from general paralysis decreased 30 per cent., and in Ireland the general paralytics, who constituted 1·19 per cent. of the admissions of 1898, decreased in the two years 1899–1900 to 1·10.

Such, in general terms, have been some of the results of the growth of the spirit of patriotism and militancy which have been such striking features in the country since war was declared. Whatever interpretation is attached to these facts it is just as well that they should be noticed, and it would be a good thing if our Continental friends were made cognizant of them, for very garbled statements on this, as on other matters, are not unknown, even in scientific Continental periodicals, one of these in all gravity publishing an extract from a well-known lay journal to the effect that the number of the insane in London had increased in 1900 from 16,353 to 21,369, and that Dr. Claye Shaw attributed this increase to the influence of the Transvaal War!

Whatever the explanation of the improved condition of affairs, Scotland is to be congratulated no less than the other two divisions of the kingdom. This effect of the war is unlikely, however, to prove other than temporary, but if it is productive of even a temporary steadying of the mental and moral character of the nation it will not have been in vain.

It must not be forgotten that while the country as a whole shows this general improvement of its mental health it does not by any means apply to all parts of it. In some there is a very manifest improvement, while in others the condition of affairs goes on steadily from bad to worse. Taking the Preliminary Census Returns as a basis, the counties of Scotland arrange themselves into three groups: (1) those in which the population is diminishing; (2) those in which there is an increase, but under the average; and (3) those in which the increase is above the average. In the first group, which comprises 14 counties, having 13 per cent. of the population, the intercensal decrease amounts to 4·14 per cent.; in the second, with a percentage of the population amounting to 21 and comprising 10 counties, the increase is 3·5; in the third, comprising 9 counties, with 66 per cent. of the population, the increase amounts to 37 per cent., the increase for the whole country being 11·1. What changes have taken place in these three groups as regards pauper lunacy in the past ten years? Calculated on the census populations the increase of pauper lunacy for the whole country amounts to 37 per 100,000; in the first group it amounts to 68, in the second to 38, in the third to 35. What significance is to be attached to these figures? Not for the first time has it been pointed out that the position of the poorer and insaner counties, with but few exceptions, grows increasingly grave, and that the richer and increasingly populous

counties profit at the expense of their less well-to-do neighbours. It is a sad prospect that faces the poorer districts, and it promises to be an increasingly hard problem to deal with, that of their pauper lunacy and its financial burden. The tide of emigration still sets strongly towards the large industrial centres, with consequences increasingly disastrous to the depleted districts, and the remedy is hard to seek.

Allusion has already been made to the subject of general paralysis. In the interesting section of this Report dealing with deaths from this cause the diminution of the disease in the year 1900 is brought out very unmistakably, the deaths from this cause being 9·2 per 1000 patients resident as compared with 11·6, the average of the five preceding years; and it may be anticipated with some confidence that the year 1901 will present characteristics in this respect not dissimilar to those of the year reported upon. In dealing with a disease such as this it is necessary to keep in mind the important part that age plays in its genesis. There can be little doubt that the removal of so many men necessitated by the South African campaign has had not a little to do with the decrease of this affection, which is noticeable in all three divisions of the kingdom; and one at least of the reasons for its greater prevalence in urban communities is to be found in the fact that there is a much greater proportion of both men and women of what one might call the general paralysis age in these than there is in the purely rural districts. Unless this age factor is taken into account fallacious conclusions may be drawn. It sounds uncommonly like rank heresy to say, as the Commissioners do, that "the greater prevalence of the disease among the male sex does not necessarily prove a greater inherent liability of that sex to the disease, but merely points to the fact that the male sex is much more exposed to the injurious social influences which cause it." To say so does not serve to clear up the mystery of the origin of this affection, but merely puts the explanation in another form. It is tantamount to saying that there is an inherent liability of the male sex to expose itself, or to be exposed, to the injurious influences which are productive of the disease, which is just the same thing in different words. There is no getting away from the fact that there is an undoubted proneness, whatever the explanation, on the part of the insanity of the male sex during the reproductive period of life to assume this particular form, which contrasts strikingly with the comparative absence of such a tendency in the female sex, at least that section of it which is reproductive. From the language used one would infer that the general paralytic is merely the passive and pitiable victim of the injurious influences exerted upon him by the society of which he is an individual, and that his own conduct has no art or part in the production of the disease. That may be so in the case of those females who develop the affection; that it is so, equally and likewise, in the case of males is matter for doubt. Society does not compel any of its individual male members to be exposed, or to expose himself, to either of the two conditions which are recognised as agencies in the production of the disease. There is the further difficulty, too, that not all who commit excesses, sexual or alcoholic, or who contract syphilis, become victims of this disease, which argues that there is some additional and necessary individual factor,

i. e., the inherent liability. As a French observer puts it, *paralyticus nascitur, non fit.*

The returns of the year under review reveal the same general tendency towards diminution in the numbers of the insane poor who are accommodated in private dwellings which has prevailed during the past ten years. In 1890 the percentage so provided for amounted to 24; in 1900 this had fallen to 20·6, and the decrease applies to all parts of the country, with the exception of only five counties, in two of which the proportion remains the same, while in the other three there are increases of no great amount. The advantages of the system are, as usual, set forth strongly by the Commissioners, but apparently without avail.

The reports upon individual asylums afford gratifying evidence of a prevailing spirit of progressiveness in the treatment of the patients, and consideration for the staff. The increasing recognition of the arduous and responsible nature of the duties of the attendants especially is a point which ought to meet with approval of the heartiest sort. In the past ten years, while the average number of patients in district asylums has increased 100 per cent., the increase in the staff amounts to over 133 per cent., giving 1 to 6½ patients instead of 1 to 7½. In the same period the total net maintenance expenses have increased 110 per cent. The increase under the heading of salaries and wages amounts to 120 per cent., and is entirely accounted for by the additions to the wages of attendants and servants, for the increase in the total expenses under that heading amounts to no less than 200 per cent., that for officers and artisans being only 76 per cent. The changes in the dietary tables, too, indicate increasing additions to the solid comforts of life, and a comparative luxuriousness which ought to be a sort of consolation and compensation to those unfortunate enough to be denied the delights and blessings of the private dwelling life.

One would fain have hoped that these additions to the staff and dietary, and the increased remuneration of the attendants, would have helped to influence for good the recovery and death rates in asylums; but such, so far, is not the case, for neither of these show any sign of change in the direction of improvement, but rather the reverse. There is no improvement even in the number of suicides which take place in asylums, a matter in which Scotland compares unfavourably. The deaths from this cause in English county and borough asylums in the quinquenniad 1891–95 give a rate per 10,000 resident of 2·03, and in 1896–1900 of 2·02; in Ireland the corresponding rates are 3·08 and 1·87, but in Scottish establishments the rates are 5·06 and 6·06. The greater prevalence of these regrettable deaths in Scottish institutions is, in all probability, to be explained largely by the greater amount of liberty allowed to the patients, and not to be attributed to negligence on the part of those who have the care of the inmates, and would seem to call for still further addition to the staff. The self-sacrifice of the brave nurse, Isabella Sime, of the Perth District Asylum, in her heroic endeavour to save her charge from suicide by drowning in the flooded river, which is recorded in this Report, is only one more of the already not few illustrations of praiseworthy devotion to duty, the extremely trying and onerous nature of which the public do not sufficiently realise.

We have only dealt in the most general terms with what seem to us

to be the outstanding features of this Report, compared with those of previous years. There is evidence in plenty to satisfy the most exacting Scottish public that the safety and well-being of its insane poor are jealously safe-guarded, and that at the same time due regard is had to the economic aspect of the ever-increasing burden of its pauper lunacy. It is without exception the most encouraging and most promising Report that we have seen. To be able to record an improvement in the nation's mental health, however slight, is a matter of the greatest import, and one could only sincerely wish that this might turn out to be other than merely temporary.

Fiftieth Report of the Inspectors of Lunatics (Ireland) for the year ending December 31st, 1900.

For two successive years the inspectors have been able to record a substantial diminution in the rate of increase of the insane under care in Ireland. The total increase, computed on the numbers on register on December 31st, in 1900, was 306, a figure which is not only considerably under that of the previous year (559), but is 186 less than the average for the past ten years, which was 492. It is, moreover, the smallest total increase since the year 1893. Last year, in commenting on the Report, we ventured to express a hope that the high water mark in the increase of lunacy had been reached in 1898, when the annual increment had risen to 714. Can we regard the fact that there has been a very material reduction in the increment for two years in succession as an indication that the tide is really on the ebb? A somewhat lengthened experience in the fallacies of lunacy statistics suggests caution in the making of forecasts, and for some years, at least, it is wisest to act on the time-honoured maxim—never prophesy until you know.

That a reduction in the rate of increase, however, did take place two years ago, which has repeated itself in the past year, is at least a matter for congratulation. The yearly crop of insanity cannot go on increasing indefinitely. Such a prospect is too appalling, and is not in the nature of things. "Survival of the fittest" is not yet an exploded doctrine. Sooner or later a limit must be reached; sooner, if the general public—the "man in the street"—begins at last to learn, and having learned, to act upon the principles of mental and moral hygiene; and, on the physical side, to adopt much the same methods as are employed—and with these latter he must be to a large extent familiar—in the raising of healthy stock. As regards the former, there is far too much ignorance for an age which deems itself so enlightened in other respects. But "how shall they hear without a preacher?" This is not a pointless question to submit to the Lunacy Office. When an invasion of plague or cholera is believed to be imminent plain directions are issued by recognised authorities, and disseminated amongst the public, indicating the best means of prevention, precautions to be used, things to be avoided, and so forth. By this means unreasoning panic is allayed,

and the public are encouraged to act sensibly, and to adopt rational measures to meet and overcome the threatening peril. Insanity is no occasional visitant like plague or cholera, it is always with us. Its lineaments are but too familiar; and perhaps on account of this very familiarity we have come to tolerate it easily, although, not so much on humane grounds as on account of the huge expenditure which it involves, the ever increasing mass of insanity in these countries is fast becoming an intolerable incubus. Now, in the presence of this vast brooding evil, which causes so much misery, and costs this small island annually over half a million sterling, an expenditure which has about doubled itself in the course of the last ten years, and which still keeps mounting higher and higher—in the face of this deplorable state of things any and every means should be tried, exhaustively tried, which, even if it had not the effect of immediately checking, would, at least, tend to check the growing evil. The enlightenment of the public on the subject of insanity generally is one such means, and, in proper hands, might be made a powerful means. But how little of this enlightenment is even attempted! Apart from scientific contributions, which are only addressed to expert hearers, the reports of medical superintendents are almost the only literature on the subject. These are read by comparatively few, of whom probably most are only, or chiefly, interested in the financial aspect of the question. There remains, then, the 'Annual Report of the Inspectors of Lunatics.' But to that the public, up to this, have looked in vain for guidance. No note of warning, no word of counsel accompanies the dry chronicle of events in the world of lunacy, which is only characterised by a dreary monotony repelling in itself; and if a long-suffering public were to read any of these Blue Books from cover to cover they would not find a single hint or suggestion as to what they themselves might do to check or counteract this scourge of the human race. The oracle is dumb. Should this be so? Is it right? Why should not those who are in a position to speak with authority use that opportunity to the best advantage? Why should they not set out plainly and clearly, so that he that runs may read, the main facts bearing on the subject of insanity, which have a vital and practical interest for the public? Why confine themselves to the bald enumeration of figures, the number of admissions, discharges, and deaths of patients sent in on warrant or ordinary certificate, the amount of land attached to each asylum, with the profits derived therefrom, etc. These are, no doubt, necessary returns to have printed and kept on record, but as an aid to the public in the way of enlightenment on the subject of insanity, or assisting to put a stop to its advancement, they are absolutely barren and profitless. The inspectors' office is the central bureau of lunacy matters. Common sense would suggest that one chief part of its business should be to diffuse knowledge on that subject with which it is supposed to be specially familiar. Were it to fulfil this mission, so far from lowering its dignity (there might be a lurking hesitation on this score in the official mind), it would undoubtedly largely enhance its value in the eyes of the public, and it might develop into a really useful department of State. An analogous case is that of tuberculosis, which is another terrible scourge in this country. A notice has lately been issued,

which is now being posted up broadcast over the country, giving in simple terms a few of the most important facts about this disease, and plain directions for the prevention of its spreading. Might not something of this sort be done also in the case of insanity? By keeping the salient facts of the disease constantly before the eyes of the people it is not unlikely that an impression would be gradually made on the mind of the public which would eventually lead to practical results.

What the public are asking, asking with more insistence each year as the tale of insanity, like the ever-growing snowball, relentlessly continues to increase its already huge dimensions, is, What is the cause? and next, What is the cure? These are the two great, the two vital questions, as far as the public are concerned. What enlightenment is to be gleaned from the pages of the Blue Book? As regards cure, in the broad sense of a remedy or antidote for the increase of insanity, we find not one word. As regards causation, this pregnant sentence satisfies the official conscience:—"Table XIV gives the probable causes of insanity amongst those admitted in 1900." On referring to this table —the same old, antiquated, useless schedule of causes—what the wiser are we? Do we not rather feel bewilderment? Are we to believe that "fright and nervous shock," and nothing else, drove fifty-two persons out of their senses, that a "previous attack" was the cause of subsequent mental aberration in 278 cases? Does anyone in his sober, senses believe that "puberty" drove nine young persons to frenzy or despair? Puberty is a natural developmental period in the life of everyone; a period, no doubt, when a certain small proportion of brains, *if constitutionally unstable*, are liable to break down. But is it not a misapplication of terms to call puberty the *cause* of insanity in any single instance? The list of physical causes on an ætiological plan of this sort does not go back far enough; the first heading should be "Birth." A man cannot become insane unless he is born, and from that point of view birth is undoubtedly one cause—one prime cause—of insanity. We have commented in previous years on the fact that insanity is rarely, if ever, the product of a single cause; and a table of this kind is not only utterly useless, but a positive imposition, wholly discreditable to the authority which sanctions it. The fact is, and we make the statement deliberately, that if a clean sweep were made of all the causes enumerated in this table, and the simple proposition substituted for that imposing array, there are two causes of insanity—heredity and drink, while far from asserting that this statement is absolutely correct, we do maintain that it would convey a far truer and more accurate presentation of fact than the table supplies. Heredity is stated to have been the cause in only 810 cases out of a total of 3546. Is this credible? Is it even an approach to accuracy? We repeat, as long as only one cause is permitted to be given, omitting all contributory causes—which are often equally potent factors with the single one assigned—this table would be better omitted altogether. *Delenda est.* Let it be either amended or expunged.

A table on page 15 of the Report gives the proportion per 100,000 of estimated population of lunatics under care from the year 1880 to 1899. But why not give the actual instead of the estimated population for the

census years? If we take the three census years 1881, 1891, and 1901, we get the following figures:

Year.	Population.	No. of lunatics.	Proportion per 100,000 population.	Ratio of increase.
1881	5,174,836	12,982	251	—
1891	4,704,750	16,251	345	37·4
1901	4,456,545	21,169	475	37·6

In other words, in 1881, one out of 398 persons was a recognised lunatic; in 1891, one in every 290; and in 1901, one in every 210. The insane in private dwellings and those wandering at large are not included. If these numbered, say, 1000 in the whole of Ireland, the proportion of insane would be one in 200. It is hardly likely to rise higher than this. The ratio of increase during each of the last two decades was practically the same, viz. 37½ per cent. If this rate were to continue, to follow up a no doubt somewhat fanciful idea, though one not altogether devoid of interest, computation shows that in 170 years from this, the population of Ireland would consist of exactly an equal number of sane and insane.

In 1880, the proportion per cent. of total numbers under care was:— In district asylums, 67; in workhouses, 27; in private asylums, 6. In 1901, these ratios had altered to 77, 18, and 5 respectively. That is to say, in twenty years the proportion of insane in district asylums had increased by 10 per cent.; that in workhouses had decreased 9, and in private asylums and other institutions by 1 per cent. The obvious deduction from these figures has been frequently adverted to, and is corroborated by the fact that the number of admissions from workhouses into district asylums has, during the past decade, increased from 12·66 to 20·47 per cent. of the total admissions.

The total admissions for 1900 exceeded those of 1899 by only three, as compared with an increase of eighty in the previous year. There was a decrease of three in the case of district asylums, where there was a decrease of eighty-five in first admissions, and an increase of eighty-two in the re-admissions. In 1899, on the other hand, the fresh cases increased by 180, while the re-admissions decreased by 100. The truly baffling nature of lunacy statistics could hardly be more strikingly shown.

The following table, compiled from that on page 17 of the Report, gives the respective increments for five-year periods from 1881 to 1900:

5-year periods.	Average first admissions.	Increase per cent.	Average re-admissions.	Increase per cent.	Total admissions.	Increase per cent.
1881–5	2163	—	524	—	2687	—
1886–90	2270	4·9	625	19·2	2896	7·7
1891–5	2426	6·8	743	18·8	3168	9·3
1896–1900	2683	10·5	752	1·2	3435	8·4

The sudden drop in the ratio of re-admissions during the last quinquennium is difficult to account for.

Of a total of 3546 admissions, 2415, or over two thirds, were sent in on magistrates' warrant. Further comment on this system of criminalising the insane, which is the practice of Ireland alone of all civilised nations, would only be waste of time. The Lunacy Department seems to have settled down into a condition of perfect contentment as regards this indefensible procedure: *j'y suis, j'y reste.*

The recoveries show a percentage of 36·3 on the admissions, and the deaths one of 7·9 on the daily average. For some years past some useful tables have been making their appearance in the body of the inspectors' reports giving statistics for a series of years. We welcome their advent as a really valuable innovation, for which we have been pressing with more or less persistence, and which we hope to see extended still further as time goes on. For instance, a table showing the recovery rate, and another showing the death rate for, say, the last twenty years, would be of distinct value. Such tables appear regularly in the English Blue Book. They go back to 1873, and give not only the percentage for each year, but the averages for each period of five years. Why should we not have the same for Ireland? Over 27 per cent. of the deaths were due to consumption, and 3 per cent. to general paralysis. An extra column in the table on page 20, giving the percentages of mortality from these diseases for a succession of years, would be a useful addition. Two deaths occurred from suicide, two from homicide, and three from misadventure, all these latter being the result of scalding in baths. Such accidents might be avoided by having baths fitted with patent taps, controlled by a key which turns on the cold water before any hot can flow. With these there is no possibility of the patient being scalded.

The highest death rate, 15·2, was in Limerick Asylum; the lowest, 4·7, in Letterkenny. The high mortality in the former does not appear to have been due to zymotic disease, as phthisis (31·8), heart disease (14·0), and general debility (24·0) account collectively for 82 per cent. of the deaths. The sanitary condition of Ballinasloe is stated to be very unsatisfactory, "as cases of zymotic disease occurred in every month of the year." This appeared to the inspectors to be due to overcrowding, and a dilapidated condition of one ward on the ground floor. It would be satisfactory to know if this asylum is provided with a proper drainage system, and whether its water supply is above

suspicion. There was a good deal of dysentery in Cork, Downpatrick, and Richmond, but on the whole the Irish asylums show a very fair record as regards zymotic disease.

Post-mortem examinations were held in 327 cases, as against 311 in the previous year. This increase is evidently regarded favourably by the inspectors, but if we take the number of deaths in each year into account, we find that in 27·4 of those of 1899 *post-mortems* were made, and in only 25·6 of the fatal cases in 1900, so that the record can hardly be considered satisfactory.

In connection with this subject, the inspectors "are glad to notice that the Irish asylum authorities have originated a proposal to establish a central institution for the study of mental pathology, and to enable the local committee to contribute towards the maintenance of such an institution." "Asylum authorities" is a rather vague expression, which usually is taken to mean the asylum committees, who, as a matter of fact, have taken no action whatever in the matter. The first move towards this important object emanated from the Irish Division of our own Association, who appointed a committee for the furtherance of it, which, having obtained the support of the Colleges of Physicians and Surgeons and some of the medical societies of Dublin, memorialised the Chief Secretary, and subsequently sent a deputation to wait upon him, with the result that the application by asylum committees of funds for the purpose has become legalised, and it is to be hoped that all the committees may be induced to join in the movement, and so materially aid the progressive and enlightened study of insanity in this country on similar lines to those which are being followed in the case of the London asylums, and other groups of asylums in England and Scotland.

The average annual net cost per patient for maintenance was £25 13*s.* 6*d.*, which is £2 3*s.* 10*d.* higher than in the previous year. This the inspectors attribute to increased cost of necessaries. In the tables given on pages 30 and 33 of the Report, the daily averages for 1899—1900 and 1900—1901 are given as 15,785 and 16,283, whereas in Table II of the General Statistics (Appendix) the figures for 1899 and 1900 are 15,682 and 16,114 respectively. Which is correct? and if both are so, how are the former figures arrived at?

The condition of the workhouse lunatic is still anything but satisfactory, and in many instances deplorable. Guardians do not seem to trouble themselves much about this saddest class of the insane. They are, we fear, never likely to be better off until they are transferred from under the control of the bodies under whose charge they are at present and placed either in district asylums or in institutions where at least some adequate provision will be made for their proper treatment and comfort. Although under the 76th section of the Local Government (Ireland) Act power is given to county councils to provide for the chronic and harmless insane by utilising a workhouse or other suitable building as an auxiliary asylum, in one case alone, that of Youghal, has any attempt been made to carry out this object. As the old style of workhouse is, as a rule, ill-fitted for the accommodation of insane patients without more or less costly alterations, the inspectors are of opinion that it would be preferable to establish special buildings as

annexes to the existing district asylums of a simple and inexpensive style for the insane now located in workhouses. With this opinion we are inclined to concur.

During the twenty years from 1880 to 1900 the number of patients in private asylums has increased by 87, but the increment has been confined altogether to male patients, who have increased by 89, whereas the number of females has decreased by 2. The average number of annual admissions has advanced from 157 in the first decade to 184 in the last, a rise of 17 per cent. The condition of the private asylums generally which were reported on by the inspectors appears to be, on the whole, satisfactory, and does not call for any special comment.

Psychology: Normal and Morbid. By CHARLES A. MERCIER, M.B., M.R.C.P., F.R.C.S., Lecturer on Insanity at the Westminster Hospital Medical School, and at the London School of Medicine for Women, etc. London: Swan Sonnenschein and Co., 1901. p. xvi, 518. Price 15s.

Some eleven years ago I had the privilege of reviewing for *Mind* (No. lx, October, 1890) Dr. Mercier's *Sanity and Insanity*. His point of view and his method had been more or less familiar to the psychological world before then. I still recall vivid impressions of the novelty of system involved in his "Classification of Feelings" contributions, afterwards embodied in his *Nervous System and the Mind*. In that work, Dr. Mercier modestly professed to "do into science" the leading results of Spencerian and Jacksonian speculation. He carried out his aim with much thoroughness and lucidity. He was, it is true, somewhat dogmatically familiar with cerebral molecules and their marvellous evolutions and repositions in the dance of mind, and he has been twitted—not, I think, quite legitimately—with assigning to those intimate mechanisms more than a conceptual value for the particular science he was at the time handling. The neuron and its ramifications and interconnections and new "amœbisations" (if I may coin a word for the occasion) had not, in those days, passed into the "psychologies." The term "molecules," with their decomposition and recomposition, served the purpose of scientific "scaffolding" to let the builder proceed. But even the neuron, though not there in name, was there in reality, and one of the most striking points of Dr. Mercier's book was the speculative use he made of new passages in the "ground substance" as the physical correlatives of fresh acquisitions in consciousness. After all, the functions of the neuron are the functions of nerve-cell and fibre writ large, and the "ground substance" forms still the matrix where that infinitely delicate jelly-fish, the neuron, ventures forth its tentacles under stress of stimulus. These matters I mention mainly to secure an "orientation" for Dr. Mercier's new book, *Psychology, Normal and Morbid*. The two former works were also *Psychology, Normal and Morbid*. In them, Dr. Mercier, following the Spencerian analysis, reduced the

fundamental process of thought to the establishing of relations between feelings, or, may I say? sensations. Comparison is the fundamental feature of thinking. From the most rudimentary feeling to the highest involutions of thinking the process is continuous, and the special work of an analytic psychology is to decompose into those fundamental forms the apparently stable compounds that constitute experience. The value of this analysis, as set forth by Dr. Mercier, was that it made possible a continuity beyond the normal to the abnormal. As the method tackled each grade of fasciculated relations, the continuity of growth and integration became obvious; the system set forth revealed possibilities of lapse and defect, and the defects were the basis of the insanities. These, however, arose out of a fundamental relation not yet referred to—the relation between the organism and the environment. The failure to adjust certain internal (may I say psycho-physical?) complexes of relations to certain complexes of external relations was the basis of insane conduct and of insanity generally. The same conception was worked out in detail in the *Sanity and Insanity*, and that is why I said of it, "he has laid down, as it were, the institutes of insanity."

The fundamental thought of these two works has been continuously active in Dr. Mercier's mind, and the result is the new volume before me. Although this is, in every way, a complete book, carrying on its face all that is needed for the study of its contents, it yet should be read as the sequel of the other two. Chronologically, they come first; logically, this is first. Let the reader, however, work first by chronology; he will thereby sooner reach to the science *sub specie aeternitatis*. This book contains, in a system, the presuppositions of the other two, and as presuppositions are the last to be discovered, in the order of learning—hence all this bother about "first principles"—the learner should begin with the more concrete and apparently simpler expositions. He will then find himself less at sea among those algebraical symbols of relation that form a leading feature of the first half of the new volume.

What, now, are the general characteristics of the new volume—*Psychology, Normal and Morbid*. "A system of philosophy," wrote James Frederick Ferrier, in the *Institutes of Metaphysic*, "is bound by two main requisitions—it ought to be true, and it ought to be reasoned." For positive science, truth has not quite the same "content" as for philosophy, and I do not press that category on Dr. Mercier's book. But "reasoned" it is from beginning to end—from postulate to application. And this means a great deal. Hegel used to complain that certain opponents—Schelling, for instance,—shot their "Absolute" out of a pistol, while his must be generated out of the "labour of the notion." The same is true of much popular psychology. Some of it is nothing but the survivals of broken systems, pensioners drawing pay for work they can no longer perform. It is true those fragments from the middle ages have all the air of intelligence, of system, of logical efficiency, but their claims always demand renewed scrutiny, and one of the chief virtues of a book like this is that it attacks the old notions afresh, and makes an effort to reason things from their true postulates. I emphasise this because I anticipate a possible objection

from the practical standpoint—that the book is too abstract, at least in the earlier part. Abstract, as compared with the ordinary text-books, it certainly is, but abstract for a purpose, and the reader will do well to work straight ahead. He will, as a consequence, find his appreciation of the concrete much more intimate. And let it be premised further, the book is not easy reading, it demands thinking at every sentence. I cannot help feeling, however, that in not dividing the subdivisions into chapters, sections, and subsections in approximately logical subordination, Dr. Mercier has lost in simplicity what he has gained in continuity. He has made the mechanical fatigue of reading greater, and I see no advantage to balance this. The chaptering of a book logically is, no doubt, always a compromise, but it is an unquestionable economy of attention, and notwithstanding the apology of the preface I regret that Dr. Mercier did not divide, subdivide, subordinate, and number a good deal more than he has done.

To come to the contents. In an introduction of six pages, Dr. Mercier sketches the leading concepts of the book. The dawn of consciousness in the midst of material objects, the development of intelligence, the inchoate, then the complete, distinction of self and not self, the correlation of consciousness with a nervous system, the grading of this system, the concomitance of consciousness with the activity of the highest grade of nervous organisation, the subdivision into subject-consciousness, which accompanies the activities regulating the internal bodily organism (the visceral nerve circulation of the *Sanity and Insanity*), and object-consciousness, which accompanies the adjustment of the self to the objective world, the fundamental functions of the nervous system, the reception of motion (the physical correlate of sensation), the modification of motion (the physical correlate of thought), the emission of motion (the physical correlate of will), the absolute interrelation of all three, the interaction of organism and environment, —the favourable interactions being the correlates of pleasure, the unfavourable of pain; the teleological nature of an organism—strife towards an end being the correlate of desire, hindrance of strife the correlate of aversion; memory, experience,—these are the stages in the synthesis of the organisation named Mind.

"Thus, then, we triangulate the country that we have to explore in detail. Moved by the desire to attain ends, and by aversion to the obstacles which obviate attainment, man acts in the circumstances in which he finds himself. The interaction between self and circumstances is experience. Such experience as is an advance towards his aim is pleasurable, such experience as baffles or hinders his advance is painful. Every experience leaves in his organisation a change of disposition, which is memory. The elements in every experience are reception, emission, and redistribution of motion, which have their conscious correlatives in sensation, will, and thought" (p. 6).

Dr. Mercier then proceeds with the analytical account of sensation, giving only the general characteristics, mentioning the evolutional significance of the highly specialised senses, and leaving to the special text-books the detailed analysis of sensations. His object is to show at what point defect, error and disorder of sensation may supervene. From this he passes to thought. "The process of regulating conduct

to circumstances is called intelligence" (p. 20). This term does not seem to me quite happy; it is so intimately associated with the purely mental aspect of nervous action that its application to the process of adjustment, as such, without reference to the mental accompaniment, is somewhat unusual. This, however, Dr. Mercier recognises on page 27, where he passes from the more or less stable adjustments—properly named mechanisms—to the formation of entirely new adjustments, whose mental accompaniment is thinking. This is a very clear section. The issue of it is—thought is essentially the establishment of a relation of likeness or unlikeness among mental states. Numerous illustrations, symbolic and concrete, are given to drive this generalisation home. The first establishment of an adjustment is more difficult than the second; the nerve-tissue retains the effect of the process, and gradually new organisations become permanent or relatively permanent. The analysis, then, clearly must follow the sequence—What is the relation? How is it established? How does it cohere after being established? How is it related to other thoughts? We are thus introduced to the Forms of Thought (p. 40). The reader must now keep his wits about him. Abstraction (p. 44), generalisation (p. 47), and classification (p. 48) are now explained. For teaching purposes I should myself prefer to begin with classification, but the sequence is immaterial. As Bain has it, the individual is a "conflux of generalities." The three functions, abstraction, or concentration on the point of likeness between individuals; generalisation, or the combining of individuals into concepts based on the likeness; and classification, or the arranging of individuals in view of their likeness and unlikeness, are all aspects of the same mental fact. They are set forth here with excellent effect. They are subsumed under a single term—synkrisis, which means comparison. Following on this are illustrations of the corresponding errors, including errors of judgment, errors of perception, and hallucinations, in so far as synkritical (to expand Dr. Mercier's term).

Under the heading Axiomatic Reasoning, we have a discussion of the syllogism as a form of thought. When, at the first glance among the pages, I caught sight of the bow-shaped lines of print that Dr. Mercier uses to exhibit the fundamental relations of the three terms of the syllogism I felt impelled to say with Cyrano, *Que diable allait-il faire en cette galère?* And now that I have gone over the ground in detail I am not sure that my impulse has wholly spent itself. Dr. Mercier is, I think, quite within his right, even from his own standpoint, in placing such great emphasis on the syllogism. He does not need to apologise for dealing in detail with what Aristotle found not beneath him. He need not scruple to ask of his readers something more than the invincible ignorance of the "average ass," who regards logic as scholastic jargon. But he has, I think, made rather too much of Mill's effort to fill the old bottles with the new wine. Mill's effort has helped to weld induction and deduction (including the fundamentals of the syllogism) into a single system; but, as Bain pointed out (*Mind*, III, 137, Old Series), the syllogism properly deals with consistency, not with material induction. The same view was later expounded by Minto, who showed by a very simple reference to

the history of Aristotle's invention that the syllogism has to do with consistency of granted propositions expressed in words. Mill raised a wholly different question when he asked—How is the proposition containing the major term proved or established? Dr. Mercier's criticism here is acute; but—again notwithstanding his preface—I think the whole discussion is essentially logical, and only incidentally psychological. I should like to see this section recast, condensed, and mostly relegated to an appendix. . His schemata could be made clearer if the ordinary schemata of the syllogism were placed immediately side by side. At this point, too, the symbols become rather numerous for ready comprehension. Altogether, in spite of "my old wounds burning" at the criticism of Mill, I cannot feel that this section is other than superfluous or on the wrong tack. Nor do the illustrations of syllogistic fallacy seem to me to forward in any great degree the book's main purpose, which is to prepare the reader for the errors prominent in the syllogising of the insane. Much the same is true of the discussions on immediate and mediate inference; but the discussion is stimulating, the illustrations, as illustrations, are analysed with much point, and the dialectical gymnastic necessary to the study of them is not a bad propædeutic for the subtleties of the later sections. Proportion forbids me to argue the points, or to test them by the later criticism of Mr. Bradley or Mr. Bosanquet.

From the "forms of thought," Dr. Mercier passes to analyse a sequence of states that as a whole may, with moderate appropriateness, be designated epistemology, or theory of knowledge. Perhaps I should rather say that the categories in question—certainty, uniformity in experience, likelihood, probability, expectation, truth, credibility—are, psychologically modes of belief, and, logically, criteria of knowledge. Dr. Mercier now enters on an extremely valuable series of analyses. The practical alienist will do well to follow the analysis of each category in detail, for at a subsequent stage each is used to illuminate certain features of *insane* belief. Here, more than in the discussions of the syllogism, the purpose of the book as a "prolegomena to any future psychiatry"—to parody Kant's phrase—becomes obvious. To go into full detail would be to write another volume. It is enough to say that well-worn doctrines are stated with vigour and lucidity from the new standpoint. The feature of certainty is the resistance the state offers to the dissociation of its elements (relations). This indissolubility of relations is the subject-counterpart of uniformity in experience (p. 159). There are various grades of uniformity. Hence the graded states—likelihood (p. 166), probability (p. 170), expectation (p. 190), truth (p. 197), credibility (p. 210). Under probability we get a very pertinent discussion on the value of quantitative statements as a factor in establishing beliefs. Dr. Mercier admits a certain value, but he very properly discounts the speculative mathematician's applications of quantities to matters that quantity can little affect (pp. 175 *et seq.*). Under credibility we have a detailed discussion of the evidential factors in belief. In all these categories one thing is kept clearly forward, namely, that they are the formulæ of experience. The test of belief is practice—the reference to experience, the reference to reality. Before, however, Dr. Mercier proceeds to

the application of his categories to the analysis of the errors of belief and delusion, he touches on originality (p. 238) and apperception (p. 244). Originality offers an opportunity for suggesting that genius is an example of "high originality in discerning likeness" (p. 244), and that talent is an example of "high originality in the discrimination of difference" (*ibid.*). Of course, neither difference nor likeness is to be considered apart. The one always implies the other. A feeble punster is for ever seeing likenesses, but the point of the good puns is in the synthesis of likeness in differences. His criticism of apperception (p. 274) is not quite convincing. The "*quasi*-independent entities" of the "thorough-going apperceptionist" (p. 247) are, after all, only *quasi*, not absolute; and if Dr. Mercier is to use "parasitic nervous mechanisms," as he does to excellent purpose, I cannot see that his position is much more tenable than that of the apperceptionist. I quite agree that the notion has been run to death, as association was a generation ago, and redintegration two generations ago, when Hamilton dominated the terminology. But the term apperception is an excellent one for certain features of the flowing mind, and emphasises the fact that the least coherent phantasy is yet a system —whether similarity or contiguity predominate being for the moment disregarded.

And now we come to one of the most important expositions in the volume—errors of belief (p. 248). There are four forms of belief—experiential, evidential, authoritative, delusional. The first three are normal, the fourth is morbid. What is the differentia of the fourth—delusion? Dr. Mercier's argument here deserves, and will receive, careful attention. To begin with, a delusional belief is indestructible, even when contradicted by experience, testimony, or authority. The delusion may have its beginning in a perfectly normal process—the forming of an hypothesis to account for a sensation or other mental state (pp. 262–3). But the relation formed in delusion becomes indissoluble out of proportion to experience. And here the categories referred to apply. Our thoughts are continually "changing pickets" from inconceivability to credibility, from credibility to fact, from fact to truth, and back again variously at the instigation of objective experience. This is normal. In the morbid state, however, concepts "change pickets" in the mind without this reference to experience. This transference constitutes delusion. But on what cue does the transference occur if not at the instigation of experience? This is the very nerve of the theory of delusion. A final answer Dr. Mercier does not give. His provisional answer is this:—"Experience is not the sole source of our beliefs" (p. 271), the "categories of belief" develop "with the general development of mind" (p. 272), hence persistence of infantile readiness of belief or the production of such readiness by degeneration; the physical basis is a dissociation of nervous centres—the formation of a "parasitic mechanism" (p. 273). His provisional hypothesis of the formation of this mechanism is that the branches of different neurons get "anchylosed" (p. 273). This theory corresponds in general with Mr. Edmund Parish's in *Hallucinations and Delusions* (English edition). The consequences of this hypothesis and the varieties of delusion due to the transference from category

to category are well expounded. It is an unquestionable gain that the rough division, according to those highly general categories, is of distinct clinical value (pp. 267 *et seq.*), particularly for prognosis. One can readily see, too, that a minute analysis of particular delusions would gain in purport from a consistent following of the method indicated. This volume deals with generalities; but one may hope that it will stimulate some psychological clinician in Britain to imitate the industrious subtlety of the Salpêtrière observers, particularly Dr. Pierre Janet and Dr. Raymond. With Dr. Mercier's earlier classification, based on the association of delusion with emotion, we were made familiar in *Sanity and Insanity*. He reverts to it here. The two classifications can be made to assist each other. This section ends with the following:

"We find, therefore, that while there are wide and valid distinctions, both clinical and systematic, among the various groups of delusion, there is at the same time a link which connects them all together and prevents the distinction from being in any case absolute, and that this feature, which is common to all forms of delusion, is the cloudy swelling of the subject—the exaggeration of the importance of the self in the scheme of the universe" (p. 282).

This completes one great division—thought. We now pass to another great division—volition. We are now on the "outgoing" line. The pages, sixty or so in number, devoted to attention, effort, will, and desire, free-will or choice, form, I think, the best exposition of the whole volume. The argument moves from point to point with a lucidity that reveals every articulation. To those that are familiar with the stadia of the free-will controversy, it will be obvious that all the essential points are caught up in their place. To those that are not familiar, the division forms an admirable introduction. In substance, Dr. Mercier is at one with Spinoza's classical chapter. The expression in terms of modern psychology will enable the reader to appreciate not only Spinoza but also the many others. Pages 237 and 238 show that a sentence may flow on for a page and a half without losing a shade of its clearness. Every element in the analysis is afterwards used to explain the disorders of attention, effort, instinctive determination, and acquired determination. The "parasitic mechanism" is again in evidence, and justifies itself by its capacity to correlate facts.

The very important divisions memory, pleasure, and pain, I must pass over with a word. The study of memory includes a reasoned account of structural memory, dynamic memory, active memory, conscious memory, reminiscence, and faults of memory. The exposition here, as elsewhere, is illustrated with much wealth of detail. The formulæ that were found so effective in the other departments—distribution of motion and establishment of relation and determination—are applied with decisive effect. As with volition, so with memory—to those familiar with the many discussions the division is an admirable summary, with many original elements; to those unfamiliar it is a well-proportioned introduction and interpretation of historical theories. The same may be said of the sections on the various modes of pleasure and pain.

The last division deals with subject-consciousness (p. 488). The

various meanings of self are elaborated. The association of self—the Subjectissimus, a happy term for the innermost self—with the highest nerve-regions, the utter subjectivity of volition (p. 502), the subtle changes that supervene in disorders of this highly complex aggregate of unified sensations, emotions, thoughts, and volitions that constitute personality, are a few of the topics illustrated copiously in this section, which focuses the expositions of the whole book. To illustrate at once the style and the restraint of speculation in this section, I give another quotation:

"We can form some dim and approximate idea that, as a current of motion passes inwards along the nerves and reaches some destination—breaks upon some shore—a sensation arises in the mind, but what physical state or process underlies this 'I myself,' who feel, act, will, and think, I can form not even an approximate concept; much less can I conceive a modification or disorder of such a state or process. That insanity is a disorder of the process of adaptation of the self to its circumstances seems to me as true now as it did when I first put it forward ten years ago, and every phase and factor of insanity, whether disorder of thought, feeling, perception, emotion, volition, or conduct, is expressible in terms of this formula; but the formula is a descriptive definition, not an explanation, and while it correctly indicates of what process insanity is the disorder, it does not help us to a knowledge of the process, or of the way in which it is effected.

"Be this what it may, we have to recognise that in insanity there are not only those disorders of the object-consciousness—those delusions, doubts, obsessions, and so forth which are described in the text-books—not only is there often an alteration in the feeling of well-being—a melancholy or an elation—which is sometimes recognised to belong to the subject, but there is, in addition, a more profound and intimate change in the subject itself; a change in the mode of activity; a change in the capacities or possibilities of acting; a change in the direction of action; a change, in short, of the very self, which renders the insane man a different person from his sane self. This is the meaning of that 'altered disposition,' the 'deterioration of character' which is so often spoken of as a frequent sign of insanity. Of all the pitiful statements that are made by the friends of insane persons none is more pitiful than the frequent explanation, 'Oh, doctor, he used to be so different! You would never believe it was the same man.' The same man he is, but not the same person. Within that same body the personality is changed, and it is a new self that looks out from those familiar eyes. The cursings and revilings that come from those loved lips do not proceed from the old self—the self endeared by kindness, sympathy, and affection,—but from a new self, which has, perhaps, not even its object-consciousness in common with the old. Thus insanity differs by its universality from all other infirmities to which man is subject. It is a disorder neither of the body alone nor of the mind alone, but of both. It is a disorder neither of the subject alone nor of the object-consciousness alone, but of both. It is a disorder not of the affection alone of the subject, not of the sense of well-being alone, but of the degrees and modes of activity as well. It is a universal disorder. In insanity, not only are

mental processes wrongly conducted, not only is the sense of well-being unadjusted to the circumstances, not only are the products of mental activity erroneous, but the bodily processes also are modified, often profoundly modified. We can observe the skin, macerated in its own sweat, desquamating and stinking. We can observe the fingers and toes in one large bleb from chilblains. We can observe the distorted nails, the harsh and staring hair, the pigmentation and the changes of complexion that so often occur in insanity. But we cannot observe the internal changes, the alteration of metabolism, the subtle changes of visceral function, which go along with the changes that we do see. All experience leads us to infer that such changes there are, and that with the *mens insana* is invariably conjoined a *corpus insanum*" (p. 512).

In this short sketch, I have endeavoured to hint at the importance of this distinguished essay in psychology. It ought to become, it will become, the constant companion of the clinical psychologist, who will find at once a guide in reflection and a criterion of observation. It will prove to him, by innumerable hints, that in the manifestations of mind there is nothing common or unclean; that the gross and unthought-out characterisation of the ordinary clinical records are not the only analyses possible to the sympathetic and patient observer; that as a sound therapeutics must always rest on a sound physiology, so a scientific alienism must rest on a scientific psychology. And now for the future. This book sets forth a plan of ideas. There is room for yet another to work out the ideas in concrete studies. The raw material for analysis and descriptive synthesis lies there to hand in appalling quantities. May I express the hope that Dr. Mercier's book will be a stimulus to himself or to others of his dialectical subtlety to go forward, in detail, on the lines of positive study here set forth?

W. LESLIE MACKENZIE.

Science and Mediæval Thought: the Harveian Oration of 1900. By THOS. CLIFFORD ALLBUTT, M.A., M.D., F.R.S., etc., Regius Professor of Physic in the University of Cambridge. London: Clay and Sons, 1901. Crown 8vo, pp. 116.

At every railway station may be seen the semblance of a huge ox apostrophising a tiny cup of beef tea in the words "Alas! my poor brother!" and we can well imagine that with similar emotion the little volume under review might be apostrophised by the mighty tomes of Lewes and of Ueberweg, for it is a history of philosophy within the limits of a pamphlet. It is very far from being a mere concentrate, however. It is crammed and stuffed not only with erudition but with illuminating thought, and there is scarcely a page that does not contain some aphorism which summarises a phase or an era in the history of thought, and by captivating our admiration sticks in the memory.

Professor Allbutt sketches the evolution of mediæval into modern thought. He shows how the greatness of Harvey consisted in his return to the experimental method of Galen, since whose time the gap of

centuries had been filled by the controversies of the schoolmen respecting realism and nominalism and the nature of universals. The author first sets forth the huge overwhelming mass of dogma, of authority, of tradition, custom, and faith, whose weight had so long crushed down upon the seed of natural science and stifled its germination. He shows how the riddle to which the theory of universals was the answer is the eternal riddle of the connection between form and matter, force or energy, or pneuma and matter, soul and body, determinative essence and determinate subsistence, male principle and female element, archæus and body, the potter and the clay of the potter, type and individual, cause and effect, law and nature, becoming and being, thought and extension—the riddle which, throughout all these varied expressions, demands an explanation of the static and dynamic aspects of things—of the incessant formation of variable and transitory individuals in the eternal ocean of existence. The answer of mediævalism, in spite of isolated protests of great thinkers such as Erigena, Roscellinus, Roger Bacon, and Amaury, crystallised slowly into a rigid realism, and of all the obstacles to the progress of knowledge this was the most formidable. Looking back now we see that Harvey might well have adopted the phrase of Gambetta, with slight modification—"*Le Realisme—voilà l'ennemi!*" "Still," says Professor Allbutt, "it stretches its withered hand over us, in the nursery, in the school, and in the great arguments of life. We profess Aristotle, and we talk Plato."

Having set forth the history of the gradual solidification and fossilisation of opinion under the petrifying influence of realism, the author next describes the origin and course of the stream of scepticism by which the impregnable rock of dogma was undermined, excavated, and at last crumbled away, leaving, however, many a huge block in mid-stream to testify to its former dimensions. "Scepticism arises when beliefs are put into formal propositions. Then, as experience and comparison enlarge, we detect scepticism in three forms or degrees, namely, doubt of a particular creed; doubt of all unverified propositions; and doubt of the validity of reason itself, whether in respect of the supernatural only or of all argument." Even in the darkest ages some glimmer of light still shone in the heavens; not even then did the indomitable spirit of man lie under tyranny in silence. "Even in ages of most prevalent faith some current of doubt has flowed under the surface." During all these ages the heated and often furious controversies of the schools at least kept the lamp of reason burning; they kept men in practice in the use of the weapons and tools of argument, and, in encouraging dialectic, they so far encouraged the exercise of reason, of thought; they kept alive the possibility of scepticism even while they trampled out every sceptic spark that was temporarily enkindled. It was soon found that "the issues of all schemes of thought led, indeed, as inevitably to natural science as all ways to Rome," and the Church stuck at no means of repression, however bloody and cruel. But the attack upon dogma was made not only from within, but from without; was not only open, but insidious. "The faith, the chivalry, and the learning of the Saracens led men to feel that without the Church all might not be utter darkness." A new fount of learning sprang out in Spain, whither, from Antioch and Persia, from Alexandria and Bagdad,

Greeks, Persians, Arabs, Syrians, and Jews carried the erudition of the East to renew the learning of the West. The study of Rhazes, Avicenna, and Averroes proved once more that wisdom was no monopoly of the Church. This revival was but temporary, it is true, and was followed by that thicker darkness which precedes the dawn. "With the fall of Constantinople [in 1453], the stream of learning, driven eastward in the first period of the Middle Ages, set westward again; . . . the political and commercial ambition of Venice, the Holland of Italy, of which state Padua was the learned quarter, and the influx of liberal thinkers from other nations, kept her aloof from the fury of the Catholic reaction of the sixteenth century which ruined Paris." And it was at Padua that Harvey learnt whatever of medicine the science of that day could teach.

The three great adversaries of natural science in the Middle Ages are identified by Professor Allbutt as faith, realism, and that pride of the human mind which led men to look upon physical nature as base and degraded, and to concentrate their efforts upon speculations on the infinite and the absolute. In a passage of rare insight and fine inspiration Professor Allbutt elucidates the true character of what is called materialism. "Analysis is a disintegrating function; the departure of the scientific inquirer is rather from below upwards; it is not only his bias, but also his deliberate method to decline to use the discipline and the methods of higher categories until he is satisfied that those of the lower are inadequate. A certain natural process may not be attributed to those of chemistry until those of physics are proved to be inadequate; to another process biological conceptions and methods are denied until those of physics first, and then of chemistry have been tried and found wanting; psychological conceptions are denied to another until in their turns the physical, the chemical, and the physiological are exhausted, and so on; and within each category the same economy prevails. Now this scientific economy, perhaps first formulated or effectively used by William Ockham in the phrase *entia non sunt multiplicanda*—known as Ockham's razor—is what is nowadays called 'materialism.'"

With all his enthusiasm for natural science and his triumph at each step of its victory over the fearful odds by which it was opposed, Professor Allbutt is not without admiration and sympathy for even these adversaries at whose defeat he rejoices. He recognises the service done in their time and to their time by the scholastic philosophies, and in this ample recognition he displays the just and equal balance of his mind.

Of a book so full, not only of erudition but of profound and stimulating thought, it is difficult to speak in any terms but terms of praise; but, as already said, the book is a concentrate; and all food, whether physical or mental, that is highly concentrated is difficult of digestion. While every sentence is clear, and many are epigrammatic, the general argument is often difficult to follow. The author is apt to presume on the part of his readers a knowledge of the general history of the subject and a familiarity with names and dates which will not always be justified. He carries us backward and forward from century to century—from Spinoza to Erigena, from Augustine to Aquinas, from

Albertus Magnus to Roger Bacon, from Alcuin to Abelard, back again to Galen and on again to Occam, with transitions so rapid that they become rather bewildering. For this appearance of disjointedness—for it is an appearance only—his limitation of time was, of course, in large degree responsible; but we cannot help regretting that Professor Allbutt should not have carried his admiration of revolt against custom and tradition and authority, beyond eulogy into practice, and have printed the oration, not as it actually was delivered, as custom requires, but as it would have been delivered if he had had time to say all that he had to say.

CHAS. MERCIER.

The Correlation of Mental and Physical Tests. By CLARK WISSLER, A.M. (Monograph supplement to *Psychological Review.*) New York: Macmillan Co., 1901. Octavo, pp. 62. Price 2*s*.

The method of tests has become well established in psychology, and it has been generally assumed that they furnish an approximate index to related aptitudes and capacities of the individual, that a test for quickness in one respect will indicate a tendency to quickness in other respects, and so with accuracy, memory, etc. A number of investigators, with a bias in favour of this assumption, have hastily concluded in favour of a connection—or correlation—between aptitudes that seemed, or even that did not seem, obviously to suggest such a connection. Usually, however, their conclusions have not been reached by any sound scientific method. Now Mr. Wissler (with the aid of Professor J. McKeen Cattell, of Columbia University, to whom are due both the conception of the problem and the data made use of) comes forward to inquire more carefully into the validity of this assumption, making use of Pearson's mathematical formulæ. He seeks to test the tests and to define their significance.

The data experimented with consist of the accumulation of routine tests made on freshmen at Columbia College and on young women at Barnard College. These tests include size of head, strength of hand, fatigue, eyesight, hearing, reaction time, rate of perception (by marking the A's among a number of capital letters), rate and accuracy of movement, auditory, visual, and logical memory, etc.

It was found, as might be expected, that there was distinct correlation of stature and weight, short men tending to be light, and tall men heavy. But when we turn to the mental tests for quickness and accuracy correlation ceases to be distinct, and is, for the most part, absent altogether. Thus, an individual with a quick reaction time is no more likely to be quick in marking out the A's than one with a slow reaction time. A test involving the time required for naming colours was found to show more correlation with other mental tests than any other test in the series, but yet too little to be of much significance. On the whole the rank of the individual in the whole series of time tests seemed to be subject to chance. In regard to tests of accuracy, again, the tests for accuracy of movement (striking dots) and for perception of weight correlated neither with each other, nor with the

tests for estimating size. Nor were any correlations found between these tests and the accuracy of estimating time intervals, or of following a given rhythm. And when speed tests generally were compared with accuracy tests no undoubted correlation could be demonstrated. When we turn to memory tests there is no evidence of much correlation. Moreover, when the mental tests for quickness and for memory are compared with the results of class standing, little or no correlation can be traced. In class standing itself there was some correlation, especially between Latin and Greek, Latin and German, German and rhetoric. There was no correlation between class standing and strength of hand. Some correlation appeared between length of head and vital capacity, and between stature and vital capacity, and between these and strength of hand. There was also a rather striking connection between long heads and good memories, though the author thinks this may be accidental. Weak eyesight, as might be expected, tends to be inaccurate, but the reverse is not true. Most of those reporting auditory hallucinations were classed as above normal in hearing ability. The influence of age in mental tests is small.

These results are of very considerable importance. If, as the author remarks, we accept the conclusions of the research as final, "an individual must be regarded as the algebraic sum of a vast array of small abilities of almost equal probability, the resulting combination conforming to the laws of chance." Cases of all-round quickness, dexterity, etc., certainly occur, but the number of such cases would be governed by accident. In classifying by "temperament," also, we should have to be careful to avoid any assumptions as to the definite abilities involved by our "temperaments." Mr. Wissler's study cannot be accepted as quite final, but it is an important piece of pioneering work which cannot fail to lead to more elaborate investigations along the same lines. The search for a test that really correlates in a high degree will probably be stimulated, but in the meanwhile, though tests still remain valuable, we must not too hastily assume that they mean anything more than on the surface they profess to mean.

HAVELOCK ELLIS.

Studies in Human and Comparative Pathology. By WOODS HUTCHINSON, A.M., M.D. Edited by Dr. EDWARD BLAKE. London: Glaisher, 1901. Pp. 340. Price 12*s.* 6*d. net.*

This fascinating volume is a contribution of the first importance to the young science of comparative pathology, a science in which Mr. Bland-Sutton has been, in England, an energetic pioneer. It is, moreover, marked not only by its wide knowledge and scientific insight, but also by the singularly vivid and charming style in which it is written, though it cannot be added that the style is marked by classical accuracy. This slight defect is, however, probably due to the lamentable fact that the author, who is professor of comparative pathology and embryology in the University of Buffalo, has, in consequence of a complete physical breakdown, been forced to seek the shores of the

Pacific, issuing his book in a less complete form than he intended, and leaving its revision to the friendly hands of Dr. Blake.

As it stands the work consists of twelve chapters. The first discusses the cell; the author believes that the pathology of the future will insist even more than at present on the independence, vitality, and "personality" of the cell, and also works out his conception of the practical identity of excretion and secretion, the part played by the cells of the intestinal epithelium, for instance, being probably as much excretory from their standpoint as secretory from that of the rest of the organism, so that we really live upon our own waste products. No less than four chapters are devoted to the lungs, thorax, and their diseases, more especially tuberculosis; some of these diseases are regarded as reversionary, and the marked susceptibility of the lungs to disease is attributed to their recent appearance in phylogenetic development. Two chapters are devoted to tumours and two to the alimentary canal, one to the heart and another to what the author terms the "skin-heart." Prof. Hutchinson regards the blood-system of the skin as a subordinate heart, with more than mere mechanical functions; he suggestively works out this conception, not merely by appealing to the phenomena found among the lower vertebrates, but by reference to the remarkable effects of stimulation of the skin, as in the Nauheim system of treatment; while the dicrotic wave of the pulse is explained in a similar manner, the predicrotic oscillation being regarded as a merely mechanical recoil of the elastic tissue, and the dicrotic wave proper as an active contraction of the muscular coat.

The remaining chapter deals with the skin, more especially in its sympathy with the kidneys, and constitutes a very interesting illustration of the author's methods. The author considers that the skin is an organ to which justice has not yet been done; we do not realise all that is meant in the fact that the skin gives origin by its infoldings to the brain and nervous system, and to the alimentary canal with its appendages; a recognition of "the dignity and importance of the skin as an organ" is, the author believes, a most important contribution by evolutionary pathology to a knowledge of its diseases. Whenever we come in contact with disorders of the skin we are brought back to its hereditary relations and ancestral tendencies. He compares and contrasts the epiderm of plants with that of animals, and remarks that the power of the animal to invaginate its skin—to divert its metabolic surface-sheet towards the interior—is probably the key-note of all animal superiority, preventing death at the centre. We only have one structure in the body which grows tree-fashion—the crystalline lens; "cataract is the legitimate result of a plant-tissue in an animal body." Eczema and acne are chosen to illustrate in detail the ancestral characteristics of the skin, the former as a form of the great "exudation reflex" of living matter, the easiest response of the skin to undue pressure of the environment, and the latter as a disease of sebaceous glands which have lost by evolution their primary function of hair-follicles. Reference also is made to the facts which show that sympathy between the skin and the nervous system still exists.

To some readers it may perhaps appear that Prof. Hutchinson over-estimates "the value of an intelligent use of the imagination in

pursuing scientific problems," but at the same time he is well aware that the science of comparative pathology is still too young for more than tentative conclusions to be possible in many directions. Enough has probably been said to indicate that his book is full of facts and suggestions that will be found helpful and stimulating to the student in any branch of pathology. HAVELOCK ELLIS.

Beiträge zur Pathogenese und pathologische Anatomie der Epilepsie [*Contributions to the Pathogenesis and Pathological Anatomy of Epilepsy*]. By Dr. L. W. WEBER. Jena: Gustav Fischer, 1901. Octavo, pp. 96, with 2 plates.

This monograph is an interesting and useful contribution to the pathological anatomy of epilepsy. It is based on a study of thirty-five cases, in each of which both the clinical history and the pathological changes found *post mortem* are summarised. The definition of epilepsy given by the author, following Binswanger, Jolly, and others, is as follows:—"It is a chronic disease of the nervous system, which depends on a general affection of the whole brain, but especially of the cortex, and manifests itself in recurring seizures of a definite character, disturbance of consciousness, and persistent changes in the psychical personality." This definition is necessary in order to have a correct basis for the selection of his material. Following Lüth, he divides epilepsy into two forms, the early and late, and gives the pathological changes associated with each. It is unnecessary to go into these in detail, as at the end of his work he states his conclusions regarding the correlation of clinical symptoms with pathological changes in the following terms:

1. Recent changes in the blood-vessels and cells (hæmorrhages, œdema, and proliferation of nuclei) are found in all epileptics who have died during a fit, in status epilepticus, from coma, or with marked mental confusion, and account in part for the irritative and paralytic phenomena observed in these states in the motor, vaso-motor, and respiratory organs.

2. Proliferation of the neuroglia in the form of spider-cells and cellular proliferation in the vessel walls are met with if epileptic seizures have been frequently present before death for a longer or shorter time.

3. A pronounced increase in the neuroglia, especially in the form of regularly arranged fibres, a connective-tissue increase in the vessel walls, and the disappearance of many nervous elements is the anatomical expression of a prolonged epilepsy leading gradually to dementia.

4. An irregular association of all these changes of the paralytic (G.P.) type is found occasionally in cases of rapid, steadily advancing epilepsy, in which a coarser and more acute disease of the cortex is not the cause.

Most investigators will agree with these conclusions. But one cannot help having a feeling of doubt as to whether these changes are the

cause of the clinical symptoms, or are not rather the consequence of the morbid agency which is the *causa causans* of the epilepsy. The author himself hints this, but goes no further. He refers to the toxic theory without any attempt to discuss it.

One important omission is apparent in his work. There is no reason to doubt that Bevan Lewis's description of a state of "developmental arrest" of the nerve-cells is the pathological basis of some cases of epileptic idiocy. The author describes such a state, but is apparently unaware of its significance and distinctive character. In this, as in one or two other places, he shows a want of acquaintance with English work. On the whole, however, the book is good, and well represents the present state of our knowledge of the pathology of epilepsy, so far as the changes in the nervous system are concerned.

JAMES MIDDLEMASS.

Épilepsie: Traitement, Assistance et Médecine légale [*Epilepsy: Treatment, Public Aid, and Jurisprudence*]. By PAUL KOVALESKY, M.D. Paris: Vigot Frères, 1901. Pp. 290, small 8vo. Price 3 f. 50.

In this well-printed book our corresponding member, the Russian physician, Dr. Kovalesky, states his conviction that for the successful treatment of epileptics it is necessary not only to combat convulsions by appropiate medication, but primarily to deal with the whole constitution of the patient. Diet and hygiene, in his opinion, are of greater importance than drug treatment; inasmuch as regeneration of irritable tissues is more effectual than merely calming their excitability by bromides (which, however, he does not dispense with). Dietary should be arranged so that the organism does not absorb that which will tend to sustain the abnormal activity of the nervous elements, while substances favourable to the regeneration of the tissues should form its groundwork. At the same time metabolism should be promoted by healthy exercise. After passing to review the experience of many authorities on the subject of diet Dr. Kovalesky ranges himself on the side of those who condemn the consumption by epileptics of strong meats. Hare is proscribed as specially hurtful, its flesh containing many extractive matters of an exciting character. A vegetarian *régime* with plenty of milk, care being taken that only a moderate quantity be given at a time, no alcohol, no coffee, and no tobacco seems to our author the best. He rightly insists on the importance of occupation of a suitable character both for children and adult patients. Drug treatment is discussed at some length, but we notice little that is original beyond the fact that Dr. Kovalesky commences his course by a combination of tincture of strophanthus with bromide of sodium, and he prefers the latter to the potash salt. The surgical treatment of epilepsy is described, without, however, much in the way of commendation. Nearly one hundred pages are given to a descriptive account of the various establishments for epileptics in Europe and America, and the author laments that in the whole Russian Empire, in which he estimates (on the bases cited by Shuttleworth and others) that there must exist at least

200,000 epileptics, there is only special accommodation for 200! We heartily join with him in hoping that the day is not far distant when his idea of a convent-colony for Russian epileptics may be realised, provided that scientific and not merely ecclesiastical notions predominate in its management.

In the concluding chapter the difficult subject of psychical epilepsy is treated at some length from the medico-legal point of view as well as the clinical. Kovalesky believes, with Legrand du Saulle, that between the lucid epileptic who is responsible for crime, and the insane epileptic who is irresponsible, there is a third class with diminished power of moral resistance, but yet susceptible of being influenced by modified punishment.

Le Traitement pratique de l'Épilepsie [*Practical Treatment of Epilepsy*]. By Professor GILLES DE LA TOURETTE. Paris: B. Baillière et Fils, 1901. Small 8vo, pp. 95. Price 1 f. 50.

In this little manual, one of the series designated *Les Actualités médicales*, Professor Gilles de la Tourette sets forth the grounds of his belief in the treatment of epilepsy by the bromides—more particularly bromide of potassium—never intermitted and long continued. He prefers mixed bromides in commencing doses of 1 gramme, combined with benzoate of soda ($\frac{1}{10}$ gramme); but the sufficing dose in each case is a matter of individual experiment, ranging from 2, 3, or 4 grammes daily to 10 or 12, or even 14. According to the author the state of the pupil is a valuable criterion as to the sufficiency of the dose, which should be pushed until the pupillary action is slow, though not abolished, and the pupils remain permanently dilated. This last seems to be the chief point of originality in the brochure, which, however, contains a good *résumé* of the accepted treatment of epilepsy.

Psychologie de l'Idiot et de l'Imbécile [*Psychology of the Idiot and Imbecile*]. By Dr. PAUL SOLLIER. Second edition, revised. Paris: Félix Alcan, 1901. Octavo, pp. 236, 12 plates. Price 5 f.

This is a new edition of Dr. Sollier's work which embodies his study of the psychology of idiots and imbeciles made when associated with Dr. Bourneville at Bicêtre. In the opening chapters the definitions and classifications suggested by various writers on the subject of idiocy—more especially those of the French school—are weighed in the balance and found wanting, and Dr. Sollier proceeds to give reasons why a more practical classification can be based upon the degree in which the power of attention is imperfectly developed in a particular individual. Thus he divides all serious cases of original mental defect (not including those of backwardness and mere feeble-mindedness) into three groups, viz. those of—

1. *Absolute idiocy*, in which power of attention is completely *absent* and *impossible*.

2. *Simple idiocy*, in which there is *feebleness* and *difficulty* of attention.
3. *Imbecility*, in which there is *instability* of attention.

The author is careful to explain that in speaking of attention he refers to spontaneous attention rather than to voluntary attention, so that he differs from the doctrine of Séguin that idiocy is, in fact, a "lesion of the will." Incidentally he refers with approval to Ferrier's suggestion that intelligence is proportional to the development of attention, and is proportional also to the development of the frontal lobe. But the point he makes with regard to the distinction between idiocy and imbecility is "that all idiots really present cerebral lesions, whilst imbeciles do not manifest them." Sollier, indeed, would have us designate as idiots all cases in which intellectual defect is associated with physical abnormality or pathological lesion, reserving the designation of imbecility for those cases of mental weakness not presenting such pathological features, but sufficiently marked to render the subjects of them unfit to fill their appropriate social *rôles*. In these days when the tendency (in this country and America, at any rate) is to substitute euphemisms such as "feeble-minded" for the harsher sounding "idiot," it is well to be reminded that the latter term has a distinct connotation, though we should personally hesitate to apply it to mild cases of mental defect, simply because of the association of certain paralytic symptoms, for example.

Our author, however, elaborates the distinction between idiots and imbeciles so as to class the former as *extra-social*, the latter as *anti-social*. The instability, that is, the intermittent character of the faculty of attention in the imbecile, renders him unreliable in work, even for which he has ability; and his extreme suggestibility renders him an easy prey to moral contagion. In consequence Sollier is inclined to regard imbeciles as useless and dangerous beings, who need to be placed where they can do no harm to society, and to be made to work so far as practicable; while idiots require to be assisted on the same basis as all other chronically infirm people.

For those who wish to study the mental phenomena of idiocy and imbecility from the purely psychological aspect we can strongly recommend this analysis of Dr. Paul Sollier, who is evidently an ardent follower of Ribot. The book is hardly what one would call practical from the point of view of the administration of an institution for idiots and imbeciles, but it is very suggestive as to modes of noting abnormalities of mental action in these patients. Twelve plates are attached to illustrate characteristic peculiarities in writing and drawing by various grades of defective pupils.

G. E. SHUTTLEWORTH.

Studii Clinici ed Anatomo-patologici sull' Idiozia [*Clinical and Pathological Studies upon Idiocy*]. Pel Dottor G. B. PELLIZZI. Torino: Fratelli Bocca Editori, 1901. Pp. 275. Six plates.

This is a reprint of a series of articles recently published in the *Annali di Freniatria* (1899—1901). The work is divided into three parts,

dealing respectively with (1) idiocy associated with tuberous sclerosis; (2) the classification of the various forms of idiocy; and (3) idiocy and epilepsy.

In the first part the whole subject of the cerebral tuberous sclerosis of Bourneville (the "hypertrophic nodular gliosis" of Sailer) is most exhaustively gone into. The cases previously fully recorded in literature (twenty-two in number) are first reviewed in considerable detail, and then three cases examined *post mortem* by the author are very fully described. There follows a minute analysis, based upon these twenty-five cases, of the facts that have been ascertained regarding the disease. Its ætiology, symptomatology, commencement, course, and termination, differential diagnosis, associated physical anomalies, pathological anatomy, anatomical differential diagnosis, pathogenesis, and its course and symptoms in relation to its pathological anatomy and pathogenesis are in turn considered. The author maintains that cases of tuberous sclerosis form a variety of idiocy which has special clinical and pathological characters. He regards a neuro-psychopathic heredity as the only factor that has indubitable importance in its ætiology. The clinical picture is constituted chiefly by idiocy accompanied by epilepsy. Among the many commonly associated physical anomalies, perhaps the most remarkable are multiple "renal tumours," which have been found in one third of the cases. They have generally been regarded as true neoplasms, but the author maintains that they are really developmental anomalies derived from germs of the suprarenal capsules. The hypertrophic areas at the surface of the brain have an appearance so characteristic that they cannot be confounded with any other lesion. Microscopically they consist essentially of a more or less dense neuroglia feltwork, generally accompanied by a considerable number of nerve-cells, which show various abnormalities of form and arrangement. As regards pathogenesis, the author differs from previous writers, and advances a view which certainly seems to be very strongly supported by his own anatomical observations. He holds that the disease essentially consists in a disturbance of the histogenesis of the cerebral cortex, dependent upon an insufficient endowment of its nervous elements with evolutive energy, in consequence of which they are unable to attain those conditions of form and arrangement that they normally have in the adult. The fault is primarily in the nerve-cells; the neuroglia changes are merely secondary. The morbid process does not interfere with the formation of the primary and secondary sulci, and therefore it must arise only after the eighth month of fœtal life, by which time these sulci are formed. It tends specially to occur in those situations in which sulci of the third order are normally most abundant.

The author's suggested classification of idiocy is of much interest, and certainly deserving of the most careful consideration. He criticises the classifications given by Bourneville, Ireland, Shuttleworth, Fletcher Beach, and Hammarberg, and sets them aside as unsatisfactory. His own division is primarily based upon a recognition of the fact that such defects of cerebral functional power must essentially depend upon one or other of two fundamentally different abnormalities of cerebral organisation, namely (1) those due to causes inherent in the brain (endogenous), consisting in alterations, anomalies, or arrests of develop-

ment of the brain; and (2) those due to causes operating from without (exogenous), such as traumatism and pathological processes that directly or indirectly injure the brain. The primary divisions of his classification are therefore as follows:—(1) Idiocy dependent upon simple defects of development of the brain, or idiocy from endogenous causes; (2) idiocy dependent upon pathological processes affecting the brain or its envelopes, or upon traumatism or idiocy from exogenous causes; (3) mixed forms of idiocy. He makes numerous groups and sub-groups, and explains the foundation for them at some length. In view of the present uncertainty regarding the pathology of many varieties of idiocy it is only to be expected that the author should lay himself open to much criticism in the course of this tabulation. It is to be said, however, that he himself fully recognises that his classification is in many of its details only provisional, and one that is certain to require modification as knowledge advances.

One can hardly read this work without being much impressed by its thoroughness, originality, and scientific spirit. It throws much new and important light, not only upon the form of idiocy with which it specially deals, but also upon the pathology of idiocy in general. It is probably the most important contribution to this subject that has yet been made.

W. FORD ROBERTSON.

L'Hystérie et son Traitement. Par le Dr. PAUL SOLLIER. Paris: Félix Alcan, éditeur, 1901. Pp. 294. Price 4 f.

Having in *Genèse et Nature de l'Hystérie* expounded his views on the nature of hysteria—a localised (more or less generalised) numbness or sleep of the brain—Sollier in the present book details his plan of treatment. Embodying as it does the results of the twelve years' experience (in treatment) of a competent practitioner living in daily contact with his patients, it is an important contribution to the literature of the subject.

In the first part of the book, dealing with the nature of hysteria, he points out that there is no agreement among those who adopt the psychological theory of hysteria as to the real psychological characteristic of the disease, that a fair proportion of hysterical manifestations are not susceptible of a purely psychological interpretation, etc., so that one is led to adopt the physiological theory of the disease which he has elaborated at length in his first work. According to this theory hysterical patients are in a condition of "vigilambulism," whom one must awaken to cure them, the awakening bringing about the disappearance of their disordered sensibility. This torpor or numbness of the brain may be more or less generalised, various centres being affected. Sollier claims to have defined visceral centres in the cortex presiding over respiration, the heart, the stomach, the bladder, etc., torpor of which produces corresponding affections of those various organs. Hysterical attacks, according to this view, are due to the more or less complete loss at first, and to a more or less complete return afterwards, of sensibility. Moreover, by the help of his method of treatment, called the awakening of sensibility, he believes that he has shown that

the brain acts not only upon the functions of relation, but upon the functions of nutrition, and that the various apparatus, the various organs of the body, are there represented in various centres, which may be put into action by the will of the subject during hypnosis. Anæsthesia is the objective sign which reveals this pathological cerebral torpor, and a second and most important consequence of it is diminution or suppression of *normal* sleep.

In the second part are considered certain general indications regarding the treatment of hysteria, such as the qualifications required from the medical attendant, the importance of excluding family interference, etc. Drugs in the treatment of hysteria are divided into two classes, the useless and the noxious. Surgical interference Sollier considers is always noxious, and often dangerous (*i. e.* in the case of utero-ovarian disorders). Much useful information is given on the question of isolation, its advantages, the conditions under which it should be carried out, etc. A specialist in the treatment of hysteria who lives in the same house as the patient (where insane patients are *not* kept) is the ideal attendant.

Awakening the various functions is accomplished by suitable feeding, physical agents (light, air, etc.), etc.; restoration of sensation by mechanotherapy (forced passive movements which produce pain, respiratory exercises, "visceral gymnastics," etc.). When improvement occurs, we are told that not only do we get typical sensations and motor reactions in various parts and organs corresponding to the sensory excitations produced, but they are accompanied by psychological phenomena, modifications of the memory, a retrograde reappearance of various lost impressions, which extend back to the time of onset of the disease, and, *pari passu* with this, a regression of the personality. Massage is to be rejected in the treatment of hysteria, and douches are only of use in mild cases. As regards psychological treatment, the attention especially must be trained. On the subject of hypnotism and suggestion, which have been so much vaunted in the treatment of hysteria, Sollier has much to say. Hypnotic suggestion, he believes, develops hysteria instead of combating it, and direct suggestion enfeebles the will and judgment of the patient, disorders her personality, reduces her to the state of an automaton, and thus exposes her to all kinds of dangers and to definite incurability. *Indirect* suggestion is often useful in awakening associations of ideas, reflection, the attention, and judgment. Hypnotism should never be used in mild cases, but it may be justifiable in dealing with obstinate hysterical manifestations after other measures have failed. In profound cases of vigilambulism it is quite legitimate.

He insists on the importance of thoroughly waking the patient after each séance, and of obtaining the consent of the patient before beginning hypnotism; a third person should be present, or quite close at hand, during its performance.

The various measures referred to above (isolation, mechanotherapy, etc.) may succeed, and do succeed in average cases, in reconstituting completely the personality of the patient, when the patient can then be said to be cured. During this process recollections which had vanished reappear. But in many cases, and all inveterate ones, the method of *cerebral awakening* ("*réveil cérébral*,") is required; this may

be a simple injunction to the patient to "wake up" without prior hypnotism, or after hypnotism, *i. e. simple awakening*, or it may be the more complex method, which the author calls "awakening by partial restorations of sensation." The patient here is fairly deeply hypnotised, and her attention being drawn in succession to various parts of the body, she is told to "feel, feel more, feel still more, go on, etc. . . . " Apparently definite subjective sensations accompany the return of the part affected to its normal condition, which the author considers are the unmistakable signs of recovery, and occur invariably and in the same order in different patients. Moreover, pain in certain spots, with characteristic return of sensation, accompanies the awakening of the various cerebral centres themselves when they recover after hysterical affection. "No shadow of suggestion occurs." Dr. Comar, of the Villa Montsouris, Paris, apparently confirms all this, having adopted Sollier's method, and found it answer. Months of this treatment, four, eight, ten in bad cases, are necessary.

The third part of the work is devoted to the special treatment of hysteria—attacks, disorders of sleep, fixed ideas, tremors, spasm, etc., *i. e.* to the treatment of its many and varied isolated manifestations.

In presence of these remarkable observations, all that one can say is that only subsequent experience can enlighten us as to the real value and efficacy of the treatment recommended. H. J. M.

Les grands Symptômes neurasthéniques (Pathogénie et Traitement). Dr. MAURICE DE FLEURY. Paris: Félix Alcan, éditeur, 1901, pp. 412. Price 7 f. 50.

This is an attempt to explain the leading symptoms of neurasthenia, or "nervous exhaustion"—a term which the author would prefer to adopt,—define its pathogeny, and suggest a rational treatment, which the author has found by experience to be reliable. The importance of eliminating such conditions as early tuberculosis, alcoholism, Bright's disease, cancer of the stomach, etc., before diagnosing primary neurasthenia is dwelt upon; and at the outset he insists on the distinction which exists between hysteria and neurasthenia. The first chapter deals with fatigue, which de Fleury considers the predominant, even essential, symptom of the disease. The Arab who first wrote this proverb: "It is better to be sitting than standing, better to be lying than sitting, better to be dead than lying," must have been neurasthenic. The sensation of fatigue, he believes, is not subjective—it is not, like that which accompanies hysteria, modified by suggestion—although the results of observations with the dynamometer and ergograph are not very convincing; but great stress is laid upon the fact that with atony of the voluntary muscles one finds evidence of atony of involuntary muscles, revealed by unmistakable objective signs—thus pointing to the former being objective too. The second chapter deals with the circulatory apparatus in neurasthenics. By the use of sphygmographs, the apparatus of Hallion and Comte for determining the peripheral pulse,

hæmocytometers, etc., careful examination of patients suffering from neurasthenia may be made; and that their vitality and nutrition are impaired is shown by a lowering of blood-pressure due to weak cardiac action, a lowering of dynamometric force, an increase in extent of the touch areas, a diminution in the activity of reduction of the oxy-hæmoglobin, a reduction in the percentage of hæmoglobin in the blood, and apparent rarefaction of the red globules, while the co-efficient of nitrogenous output is below normal. Many of the author's patients were subjected a certain number of times to this series of investigations, which should be carried out at a fixed time of the day (in relation to meals, etc.). As regards blood-pressure especially, the author establishes two groups or varieties: neurasthenics with hypotension, and neurasthenics with hypertension; these cases require different treatment, and the latter group are mostly secondary to some other condition. To attempt to treat cases of neurasthenia without determining the blood-pressure, the condition of the heart-muscle, the activity of reduction, etc., is to court failure. Numerous charts are given showing how blood-pressure, dynamometric force, the activity of reduction, etc., approximate to the average with improvement in the patient.

Chapter IV deals with disorders of sleep. Insomnia is very often a phenomenon of simple cerebral mechanics to be successfully combated by purely dynamic measures, and de Fleury generally condemns drugs in its treatment. In some cases of neurasthenia, especially secondary cases, with high blood-pressure, etc., insomnia is due to toxæmia, and "lavage" of the blood procures sleep; but in a large number this assumption of intoxication as a cause of sleeplessness is, or appeared to be, erroneous: just as a careful study of these cases convinces us that the modern view of sleep as an intoxication of the nervous centres, *i. e.* the chemical theory of sleep, will not satisfy all instances, and one has to fall back on a mechanical explanation. The practical determination of the blood-pressure here again is of great practical utility, for quite a different treatment is required in cases of neurasthenia with low tension to that referred to above (*i. e.* for high tension cases). In many cases, with the use of simple physical methods, sleep can be insured; but it is advisable at the same time, by psychological treatment, to bring about the habit of sleep.

As the stomach is, perhaps, in neurasthenia, the first muscle which loses its tone through insufficiency of nervous influx, digestive disorders occupy an important place in the symptomatology of the disease, and of these the author treats in Chapter V. In correcting them, reliance should almost entirely be placed on suitable dieting, concerning which wise directions are here given.

As regards the help to be obtained from the examination of the urine he speaks with caution; the results are far from uniform. An excess of earthy phosphates in comparison with alkaline phosphates is almost constantly found in the urine, and an excess of uric acid and chlorides.

Chapters VIII, IX, and X deal with the mental condition in neurasthenia. While it is often allied to hysteria, de Fleury draws attention to important differences between the two diseases. Neurasthenic phenomena are not influenced by suggestion, and in the treatment of the associated conditions different measures are called for. The author

concludes that the nervous phenomena of Beard's disease (neurasthenia) are primary; and while dyspepsia keeps them up or aggravates them, it does not originate them. Nevertheless the mental state of the neurasthenic does not, as in hysteria, create symptoms. The symptoms of neurasthenia are not engendered by the fixed idea. There is much truth in the definition of neurasthenia as a state of irritable enfeeblement, and the emotional outbursts so common in the disease can be shown to be accompanied by certain physiological phenomena and to bring about an intellectual state of depression, *i. e.* the idea is secondary to the emotion; the reverse is the case in hysteria. Moreover, the apparently spontaneous improvements observed in the mental condition of neurasthenics are often seen to be due to the stimulating action on the nervous centres of such external agents as light, heat, the electrical condition of the atmosphere, altitude, etc. The frequently remarkable effects of saline injections which the author has observed are explained in the same way. It is very important in this connection to find out the suitable dose required to bring about satisfactory results.

Pages 264, etc., sum up very well the author's conception of the pathogeny of hysteria and neurasthenia. That he does not look upon neurasthenia, as so many have done, as a purely subjective disorder is evidenced by his reference to its pathological anatomy, which he considers is constituted by the various ptoses of organs with distension *en masse* of the circulatory apparatus—a condition which might be produced in an animal by the experimental suppression of tonus according to the method of Brondgeest (section of the posterior root of mixed nerves). Briefly put, de Fleury's view is that neurasthenia is a disease of the physiological tonus brought about by some cause which acts on the nutrition of the cerebral cell, and the neurasthenic mental state is the reflex in the mind of the low vitality of the organs, of the muscular hypotonus, and glandular hyposecretion; it is cured by tonic medication—especially simple mechanical excitation of one or other of the sensory surfaces of the body. A final chapter on treatment (of which the two most important elements at his command are saline injections and open air with high altitude) closes an interesting, largely original, and suggestive work. H. J. M.

Anleitung beim Studium des Baues der nervösen Centralorgane im gesunden und kranken Zustände [*Introduction to the Study of the Anatomy of the Central Nervous Organs in Health and Disease*]. Von Dr. HEINRICH OBERSTEINER, K.K.O.O., Professor, Vorstand des Neurologischen Institutes an der Universität zu Wien. Fourth edition, pp. 680, figs. 250. Leipzig and Vienna: Franz Deuticke, 1901. Price 17 marks.

Professor Obersteiner's book is so well known to British neurologists, either in the original or through Professor Hill's translations, and its merits are so generally recognised, that the appearance of a new and further enlarged edition cannot fail to be welcome to very many in this

country. Whilst the plan of the first edition is strictly adhered to, each section bears abundant evidence that the author has been at considerable pains to incorporate in the work all that he regards as of material importance in recent observations. The period that has elapsed since the publication of the third edition (1895) has, however, been so extraordinarily productive that his task was certainly a most formidable one. Although there can be few better able to judge than Professor Obersteiner of what facts in the vast storehouse of our knowledge of the modern normal and pathological anatomy of the central nervous system are most deserving of being included in an introduction to the study of the subject, many of his readers who are in a position to criticise must feel strongly that he has at times hardly appreciated the importance of certain recent observations and teaching. To mention only one of many examples that might be given, in the sub-section upon the types of morbid change that affect the nerve-fibres, there is no adequate recognition of the fundamental distinction, so clearly drawn by Vassale, between primary and secondary degeneration. Of the work, taken as a whole, it should suffice to say that the high standard of the previous editions is fully maintained. W. FORD ROBERTSON.

Studii anatomici e sperimentali sulla Fisiopatologia della Glandola pituitaria (*Hypophysis Cerebri*) [*Anatomical and Experimental Studies upon the Physiology and Pathology of the Pituitary Gland*]. Dott. ARNOLDO CASELLI. Reggio nell' Emilia: Tipografia di Stefano Calderini e Figlio, 1900. Pp. 228, 33 figures in text.

Special interest attaches to this book from the fact that its author died while it was being carried through the press. The circumstances are briefly indicated by Professor Tamburini in a sympathetic preface. From an obituary notice in the *Rivista Sperimentale di Freniatria*, we further learn that Dr. Caselli, who had only reached the age of twenty-seven at the time of his death, had devoted two years of almost continuous labour in the Psychiatric Institute of Reggio-Emilia to the researches embodied in this monograph, which he successfully presented as his *tesi di libera docenza* in the University of Rome. Whilst these circumstances will naturally stimulate interest in it, the book is quite capable of standing upon its own intrinsic merits. It is, beyond any question, a work of very high scientific value, even though it leaves still unsolved many important problems regarding the physiology and pathology of the pituitary body. It contains a record of a long series of most brilliant experimental observations, planned, carried out, and interpreted with conspicuous ability. The work of previous observers is fully considered, and often very ably criticised. Successive sections deal with the subjects of the anatomy of the hypophysis, its ontogenesis and phylogenesis, physiology and pathology, functional relations to other organs, morphological alterations in man, organo-therapeutics, and excision in man. The work closes with a statement of the author's general conclusions. Some of the more important of these are as follows:—The anterior lobe has many structural analogies to the

thyroid. The posterior lobe contains no nervous elements, or at most, only rudimentary ones. Complete abolition of the functional activity of the hypophysis (in dogs and cats) causes, in the first instance, slowing of respiration and acceleration of the pulse, then mental depression and disturbance of movement, characterised by arching of the back and spastic gait, without tonic or clonic contractions of the limbs; afterwards progressive cachexia sets in, and the animal dies comatose. The cachexia is due to intoxication, and the mental depression to alterations in the cerebral tissues brought about by this intoxication; the motor disturbances depend upon similar lesions in the spinal cord. Extirpation of the hypophysis gives rise to diabetes, but only through injury to the part of the brain in its proximity. Extirpation of the hypophysis modifies the course of the tetany of parathyroidectomy, causing the motor disturbances to be replaced by paralysis, which is soon followed by coma and death. In dogs deprived of their thyroid gland, extirpation of the hypophysis accelerates the course of the cachexia without altering its fundamental character. The hypophysis appears to be in certain respects analogous to the thyroid, but the one organ cannot fulfil the functions of the other. Structural alterations of the hypophysis which cause increase in its size give rise to disturbances dependent upon injury to the optic nerves and upon raising of the intracranial pressure. Certain morphological alterations, consisting partially in hypertrophy of the organ, give rise to acromegaly. Pituitary extract is applicable as a therapeutic agent in cases of mental disease in which there is depression.

W. FORD ROBERTSON.

Ueber Kunst und Künstler [*On Art and Artists*]. Von D. J. MÖBIUS. Mit 10 Abbildungen. Leipzig, 1901. Crown 8vo, pp. 296. Price 6*s*.

This is an inquiry into the nature and origin of talent or special capacities. In a volume published a year ago Möbius has maintained that the talent for mathematics is inborn, and is not proportional to the other intellectual faculties, and that it is associated with a large development of the upper part of the temples. In the work under review Möbius endeavours to show that Gall's organography has been unduly neglected. He devotes the first part of his essays on music, art, poetry, and mimicry to an exposition of Gall's views upon these particular talents, which he follows by critical remarks of his own. Möbius's advocacy will appear fresh to many readers, for the generation of physiologists who thought that it was worth their while to argue against phrenology has wholly passed away. It is a controversy which we should be loth to revive. As Blumenbach said of Gall's system, it has much that is true, and much that is new; but the true is not new, and the new is not true. We agree with Möbius that Gall made an excellent classification of the mental faculties. It was complete and exhaustive, but when he arranged the whole of his thirty-three faculties under the outer vault of the skull, where they might be felt as "bumps," so that a man's character could be read off by feeling

his head, the question arose in the mind of an anatomist: What function is left for all the other convolutions of the brain on its inner aspects, comprising the median surface of the hemispheres, and all the gyri below the inferior temporal, *i. e.* the whole base of the cerebrum? Apparently the strongest point which this new advocate makes in favour of Gall's theory is in his chapter upon music. He shows that this is an inborn faculty found in many animals, and present with all men, though in very unequal proportions. The power of speech may be lost without the loss of the musical sense or power of expression. Möbius tells that Gall placed the organ of music in the second frontal convolution, and that newer experiments show that this gyrus actually plays a part in the performance of music. In the old phrenological busts in this country the organ of music was placed lower down. Be this as it may, when we look for confirmation of this statement of Möbius's we are treated to some conflicting evidence. Bronislawski, in a *résumé* of a thesis published last year in Bordeaux, gives out that we can with great probability place the musical capacity in the anterior two thirds of the first left temporal gyrus and the anterior half of the second, and the motor centre of song is probably in the second left frontal gyrus, and that of reading music in the left parietal. The evidence for these surprising statements is not given; but Probst is less confident. The localisation of the tone faculty is still in its immature stages. It is no use citing Mann's patient, who lost all power of musical execution after the second right frontal and the contiguous parts had been destroyed and softened by a cyst, for in the same page other observations are cited in which there was aphasia, without amusie, with the same second frontal destroyed. Sometimes the localisation is in the left, sometimes in the right hemisphere. We, ourselves, have come to the conclusion that the musical faculty is exercised by both sides of the brain, but that we need not repeat here.

In the chapter upon poetry he shows upon what slender evidence he is willing to build. Giving an engraving of a bust of Goethe, he observes that by Gall's system the faculty of painting is moderate, mathematical talent very small, musical talent middling, mechanical talent moderate, poetical sense (ideality) very strong, mimicry strong; but then, as Möbius observes, that as Goethe was a very great poet, his organ of poetry should have been much greater than that of other poets, whereas it is not. "In the cast of his head there is only a moderate elevation." In other words, through the phrenological chart Goethe would not be recognised as great amongst other poets.

We think that Dr. Möbius would have done more wisely had he taken what seemed good in Gall's works without attempting to revive the antiquated claims of phrenology.

Möbius has made a careful and extensive study of the genealogies and relationships of men of distinction who appear in the *Biographie Universelle* and other compilations. He has arrived at some generalisations on the characteristics and descents of men of genius of the correctness of which he makes no doubt.

Distinguished men generally have relations who also show ability. In art, music, architecture, and other capacities, with the exception of poetry, the inheritance of talents comes through the father. It may be

here observed that Möbius, far from giving way to the commonplace of taking the woman's side in all questions, mostly does the reverse. In his learned chapter on the zoological and historical aspects he starts the question why women are fonder of finery than men, while in the lower animals the male is generally decked in gayer colours than the female. Our author thinks it likely that in the early stages of human life both men and women alike decorated their bodies, but that the higher intelligence of the men prompted them sooner to give this up, leaving the women still to indulge in the old love of adornment and gay colours. We may observe, however, that in these primitive times, while it was for the interest of the women to look beautiful, it was for the interest of the men to appear strong and terrible. Möbius remarks that the love of the beautiful is heightened by sexual feelings, but it goes far beyond. "All Nature strives after beauty. There is beauty in the crystal shut up in the mine, in the forms of ice, in the aspects of the heavens, and we can perceive this objective beauty because we have a sense for appreciating it."

The book is full of pregnant remarks, which excite thought and invite discussion. The author shows great power of analysis, and a wide culture, combined with a forcible and pleasing style.

WILLIAM W. IRELAND.

Dreams and their Meaning. By H. G. HUTCHINSON. London: Longmans, 1901. Octavo, pp. 320.

Some books, like leaden razors, are made to sell, and this would appear to be the objective of *Dreams and their Meaning*, since no other can be discovered after a careful perusal.

A number of dreams of falling, flying, being unclothed, of being pursued, etc., are given without any attempt at explaining their psychological origin or significance. The only "meaning" attached to dreams is copied from an older authority, to whom Zadkiel and other almanac prophets are indebted for their very similar interpretations.

Dreams, supposed to be illustrative of telepathic and dual personality and of premonition, are quoted from the records of the Psychical Research Society. All that need be said of these is that the evidence would not satisfy anyone with any critical faculty, and that if they are the best examples that can be put on record after years of patient and apparently strongly massed research, they are the strongest evidence that could be adduced against the allegations they are so boldly asserted to prove.

La Puberté. Par A. MARRO. Paris: Schleicher Frères, 1901. Pp. 536, large 8vo. Price 10 f.

Attention was called to this important work when it first appeared in Italian three years ago. In this French translation (well executed by Dr. J. P. Medici, under the direction of Dr. A. Maric) it is brought

within reach of a wide circle of readers. The translation is founded on the second Italian edition, which has been considerably changed and enlarged, some of the chapters arranged in different order, new facts and observations added, as well as a new chapter, dealing more fully with the special environment of women. As it stands, the work is in its own department unrivalled—whatever dispute the reader may have with Professor Marro at special points—as regards its useful summaries of the work of others, the very large body of original facts presented, and the author's subtle and profound observations and suggestions. As Professor Magnan, who writes an introduction to this translation, truly remarks, "this magnificent study of puberty, abounding in curious documents, concerns not only physiologists and alienists, but magistrates and anthropologists, while every doctor will find in it information that will be useful to him." HAVELOCK ELLIS.

Centralblatt für Anthropologie, Ethnologie, und Urgeschichte. VI Jahrgang, 1901. Costenoble, Jena.

This useful and ably-conducted journal has now completed its sixth year under the editorship of Dr. Buschan, who is well known as an indefatigable worker in many fields of anthropology, especially those which touch on medicine and psychiatry. The attention of our readers was called to the *Centralblatt* some years ago (April, 1897), and since then several of the more important original articles that have appeared in it have been summarised here. While every number contains an original article by some leading anthropologist, the chief value of the *Centralblatt* is due to the excellent and concise summaries and reviews, executed by a highly-competent staff, of articles, memoirs, and books coming within the field of anthropology. Many interesting investigations are thus rendered easily available, and due attention is given to work appearing in the less known languages, Russian, Hungarian, Bohemian, etc.

We regret to learn that the publisher of the *Centralblatt* finds that the support given to the journal does not warrant him in continuing its publication. At this juncture, however, Dr. Buschan has come to the rescue with characteristic energy, and from the beginning of the new year proposes to carry on the *Centralblatt* at his own risk. It is to be hoped that he will be encouraged in this determination to continue a review which has a place of its own, and which he has shown himself so well able to conduct. Certain aspects of anthropology have a very intimate bearing on psychology and psychiatry, and the importance of this connection is constantly becoming more widely realised. Anthropology is duly recognised in the epitomes furnished by the *Journal of Mental Science*, but except in a journal specially devoted to the subject, it is obviously impossible to keep fully abreast with the large amount of anthropological work bearing on the brain and nervous system. The *Centralblatt* is published every other month, and the subscription is twelve marks; with postage, thirteen marks, twenty pfennigs. Dr. Buschan's address is 7, Friedrich-Carlstrasse, Stettin.

Part III.—Epitome.

Progress of Psychiatry in 1901.

AMERICA.

By Dr. H. M. Bannister.

The record of American psychiatry for the past year is not an eventful one so far as matters of interest to trans-Atlantic readers are concerned. At the beginning of the year the subject of interest was the New York Pathological Institute and the difficulties that involved its management. For a number of months it has been in a state of suspended activity—not dead but sleeping—and now appears to be about to start again on a fresh career of usefulness. A new organisation has been planned, an advisory board appointed, consisting of recognised authorities in their departments, and including representatives of the related specialties of psychology and general biology, as well as those of pathology, neurology, and psychiatry. The gentlemen who have accepted positions on the board are well known, and their interest in the Institute and its aims undoubted. Their names will carry weight; Professor McKeen Cattell holds the chair of psychology in Columbia University, Professors Ewing and Herter represent the two great medical schools of Bellevue and Cornell, Dr. H. A. Hern, of Albany, a well-known neurologist, Dr. Bumpus, of the American Museum of Natural History, Drs. Pilgrim and Macdonald, representing the State Hospitals, and Dr. Frederick Peterson, *ex officio*, as commissioner of lunacy, complete the board. These gentlemen will exercise a general oversight over the work, and when a new working staff has been appointed, we may look for good work, carried on under more favourable conditions than was formerly the case. It is the intention in their reorganisation not only to carry on original research as in the past, but to utilize the Institute for special instruction of the members of the different asylum staffs in psychiatry and special research work. It will be located in one of the departments of the Manhattan Hospital until such time as a special reception hospital for the insane can be provided.

The appointment of Dr. Peterson as head of the Lunacy Commission appears to be one that is generally endorsed. He has shown his quality in the part he has taken in the origination and oversight of the Craig Colony for Epileptics, an institution that is doing excellent work, both from an humanitarian and a scientific point of view. Dr. Peterson is a scientific physician of acknowledged standing, but it is not, perhaps, so generally known that, like Drs. A. W. Holmes and S. Weir Mitchell, he is also a literary man, whose work in this line, if he continues it, will probably give him an independent reputation apart from that gained in medicine. Thus far it has been apparently only a recreation.

I have to report what seems to be a backward step at the Ohio Epileptic Asylum at Gallipolis. Owing to what seems to be a political wrangle, the merits of which are not clearly apparent to outsiders, Dr.

Ohlmacher, the pathologist of the institution, has been forced out of his position, in which he has done valuable work. I have not yet heard of any one of reputation taking his place, and since his departure the laboratory building, with its valuable collection and equipment, has been destroyed by fire. It is to be feared that it will be some time before we can look for further scientific contributions from that source.

Apropos of political management of asylums, a curious, if not edifying, instance is reported from a southern State. There, where politics are so nearly unanimous as to make one think that there ought to be no differences sufficient to interfere with the asylum *personnel*, the directors in their unwisdom saw fit to make the rule that none except those to the manner born should be employed. All aliens (non-voters?) were therefore warned that they could not much longer hold their positions. They appealed to the Governor of the State, and not receiving satisfaction, they and their sympathisers—apparently all, or nearly all, of the attendant force—struck in a body. This brought matters to a crisis; the Governor himself visited the asylum, and made a personal appeal to them. According to the newspaper reports, the obnoxious regulation was repealed, and everything was again harmonious. This is the first asylum strike on record here, and it is to be hoped there may never be a similar cause for another.

The experts, who examined the assassin Czolgosz as to his mental condition, have made their report and declared him sane. Whether or not he had accomplices may never be known. Dr. E. C. Spitzka, in a published review of his case, seems to think he had, and that the murder of the President may have been plotted by men who used the murderer as their tool. Of course his persistent denial of the participation of anyone with him in the act does not necessarily command credence—it is only what might have been expected if there had been a plot and his courage had not failed. The psychology of the anarchist of the present day is, in some respects, a problem, and it is an unpleasantly large one in connection with a certain proportion of the foreign-born labour element in this country. Czolgosz himself was hardly a native; though born in America, his associations had not been American. It has been said that he was educated in the public schools, but I am informed that such was not the case. It is not hard to define insanity in a legal sense in a way that might easily be made to include the modern anarchists; they are certainly out of harmony with their environment in any decently organized society, and if we credit them with any sort of sincerity, they are the most deluded of individuals. No one is inclined, however, to believe them irresponsible, and the prompt conviction and execution of Czolgosz has certainly had the full endorsement of public opinion.

A year or two ago, there was much talk about insanity in the army, especially in the Philippines, but the facts are apparently not formidable. Indeed, both mental and physical conditions of the American soldier in the tropics appear to be generally good, and the troops in Porto Rico last year made the record for health in the army annals. Much is being said at the present time in regard to the drinking habits of the soldier, and the "canteen" question is a living one. A year or so ago, Congress, at the instance of the temperance workers of this country,

abolished the sale of beer and light wines, which had before been allowed at the military posts. This has stirred up much opposition, and the majority of the army medical corps, as well as of the line officers, appear to be in favour of a change back to the old order, claiming that the canteen, as formerly conducted, was more favourable to temperance and to the better discipline of the army. Without the sale of beer and wines under official oversight, they say that the soldiers resort to disreputable saloons that spring up in the vicinity of the posts; in short, that the liquor-selling in the canteen was a necessary safety-valve for the indulgence of the appetites of the men. A few army officers have, however, expressed themselves strongly in favour of the law as it is, among them the commanding general, General Miles, who, in his report just given out, offers figures to show that discipline has not suffered, and that there are fewer desertions under the present law than there were before. As the law has only been on trial for a year, its repeal by the coming session of Congress would be very far from convincing as to its demerits. The subject is not directly one of psychiatry, but it has its bearings in that direction. As I think I may have said before, the temperance question is a perennial one in this country, and the agitation, though sometimes carried on by extremists, has done much good. It is probable, as General Miles says, that the majority, or, at least, a very strong minority, of the recruits for the U.S. army have not been in the habit of using liquor or fermented drinks to any extent, and there is therefore an impropriety in having them introduced to the habit under Government auspices. It is safe to say that, if the present law is repealed, a very powerful influence will be exerted to re-enact it.

It seems probable that there may soon be erected some sort of substantial memorial to Miss Dorothy Dix, whose name is so familiar in asylum reform and other good works on both sides of the water.

It is worthy of note here that the State of Michigan has made an appropriation for a psychopathic hospital in connection with the medical department of the State University, thus affording an opportunity for the special study of mental disease. It may be that this is only the forerunner of other similar foundations in connection with other centres of medical education, and the experience in Michigan will be watched with interest elsewhere.

Among the deaths of prominent workers in the specialty of psychiatry during the past year two may be particularly mentioned—Mr. John C. Shaw of Brooklyn, and Dr. W. L. Worcester of Danvers, Mass. Dr. Shaw was better known as a neurologist, but he was for some years superintendent of the Flatbush Asylum, and the author of numerous papers, etc., relating to insanity. Dr. Worcester was one of the earnest workers in the pathology of insanity, and his death is a loss to the profession. He was in a sense a martyr to his work, his death having been caused by blood-poisoning from an infected finger. Beside being an accomplished physician and pathological expert, he was, like his brother, Dean C. Worcester, of the Governing Commission of the Philippines, strongly interested in natural history, and, but for his diversion into medicine, would probably have made his mark as a naturalist. He was beginning to do his best work at the time of his death.

BELGIUM.

By Dr. JULES MOREL.

M. Lentz has dealt with the statistical and clinical study of criminal lunatics, a subject hitherto entirely untouched in Belgium. He shows that no serious attention has been paid to these criminal lunatics or insane criminals, who may be classed as insane, abnormal, and vicious. If the limits of these different classes are hard to define, criminological science must nevertheless distinguish them, even artificially. Seeking a criterion to characterise criminal lunatics, properly so called, M. Lentz finds it in their pathogeny, manifest in the two elements cause and effect. But amongst these lunatics occur pretty often offenders who only become insane in the course of their detention. They generally pass unnoticed, and go from the prison to the asylum.

In the twenty-five years 1875–99, 485 criminal lunatics passed through Tournai asylum. M. Lentz has remarked a considerable progression in their numbers, and this progression has no connection with the general increase of insanity. During a period of twenty-two years (1875–96) the proportion of criminal lunatics to the total insane has varied from 1·6 to 10 per thousand, giving an average of 5·5 per thousand.

The growth of insane criminality has been thus distributed :—Offences against morals have increased 60 *per cent.*, vagrancy 55 *per cent.*, rape 54 *per cent.*, threats, etc., 40 *per cent.*, murder 29 *per cent.*, wounding, assaults 15 *per cent.*, arson 3 *per cent.*

The forms of mental disease in the order of their importance in relation to crime are as follows :—Mental debility 20·8 *per cent.*, delirious insanities 15·5 *per cent.*, alcoholic insanities 12·5 *per cent.*, degenerative insanities 11·9 *per cent.*, paretic dementia 11·8 *per cent.*, affective insanities 10·7 *per cent.*, neuropathic insanities 9·2 *per cent.*, acute psychoses 5·6 *per cent.*

Adding together the cases of mental debility, alcoholism, and degenerative insanity, it is found that 45·2 *per cent.*, or nearly half the total, may be regarded as hereditary, and the proportion would be considerably higher—probably over 80 *per cent.*—if full information were obtainable on the point. The lunatics who commit arson, theft, and offences against morals are almost entirely recruited amongst the degenerates. It is impossible to follow the author through his numerous classifications and statistical details.

A very interesting discussion took place in the Royal Academy of Medicine of Belgium regarding the service of mental medicine in the Belgian prisons. The late Minister of Justice, M. Lejeune, in establishing this service, referred to the alienist experts, not only the prisoners who had attracted attention by mental disorder or by the eccentricity of their conduct, but also all recidivists, and all prisoners convicted of offences against morals. M. Lejeune's successor has suppressed the expert examination of the latter categories of offenders. MM. Heger and Lentz vehemently condemned the abolition of this examination, which, beyond all doubt, embraced matters of the highest importance from an anthropological point of view. Dr. Morel not only joined in

the protest of these alienists, but further proved by a series of statistical researches, referring to over 400 recidivists whom he had personally examined, that such examinations were of the utmost scientific value. Dr. Morel was led to intervene in the debate by the fact that he was engaged at the moment in preparing a paper for the Congress of Criminal Anthropology held, this year, at Amsterdam.

In that paper, *La Prophylaxie et le Traitement du criminel Récidiviste*, Dr. Morel, having passed in review previous discussions of this question in the Congresses of Criminal Anthropology, referred to his own earlier works, and particularly to the paper published in the *Journal of Mental Science* in 1894, "On the Need of Founding Special Institutions for Degenerates." Unfortunately, his efforts had not the practical result desired, probably because his project was regarded as Utopian. The figures which he now brought forward were a striking proof that the State does not understand its mission in the prophylaxis and treatment of the criminal. In support of his views Dr. Morel quoted several cases, amongst them one borrowed from Prof. Pelman, of Bonn, who traced the mischief that degeneration and alcoholism can produce in a single family, and the cost thereof to society. A woman named Aida Jurke, born in 1740, and dying in the beginning of the next century, had 834 descendants, of whom 709 could be followed. Of these latter, 106 were bastards, 142 became beggars, 64 were otherwise dependent on public charity, 161 were prostitutes, and 76 were criminals, 7 of them being homicides. In seventy-five years, this single family, according to official calculations, cost in maintenance, prison expenses, etc., a sum of *six million two hundred and fifty thousand francs.*

The second case was borrowed from Dr. Grossman's work, *Wie wird ein Kind zum Verbrecher.* The descendants of five sisters numbered 540 persons, of whom 76 *per cent.* were criminals, and 20 *per cent.* paupers; only 4 *per cent.* were not burdens on society. Another criminal woman had 623 descendants, among whom were 200 criminals, the rest being for the most part idiots, drunkards, paupers, and prostitutes. At the Michigan Industrial Home for Girls an inquiry into the family history of the inmates showed that "insanity was hereditary in about one seventh, one third had criminal parents, and two thirds inebriate parents."

Dr. Morel quotes further the opinion of the leading alienists of Germany (Näcke, Mendel, Langrenter, Sommer, Cramer, Monkemüller) and of Italy (Marro, Penta), and arrives at the confirmation of the views which he put forward in 1894, and which are gaining the adhesion of the principal jurists who are interested in criminal anthropology, and who desire to prevent and cure crime by active measures. Already, in 1896, Prof. von Litzt at the Munich Congress of Psychology proposed to replace the term "*freie Willengsbestimmung*" by "*normale Willengsbestimmung.*" At the Congress of Geneva Prof. von Hamel, of the University of Amsterdam said, "If we wish to defend society with pure consciences let us unceasingly devote all our efforts to reform." The eminent alienist of Paris, Dr. Magnan, speaking of his studies of the degenerate, declares, "Society having its share of responsibility in individual crime, and having only one law, that of self-preservation, is entitled, while protecting the criminal against himself, and protecting

its own interests against the criminal, to use every measure for the prophylaxis of crime."

A glance at Dr. Morel's statistics shows not only that delinquency is most frequent between the ages of eighteen and thirty years, but also that the majority of the criminals examined by him had got little or no primary instruction, that more than half of them were of alcoholic parentage, that more than half were themselves addicted to alcoholic excesses, that more than a third were the children of criminal parents, that a quarter of them had degenerative taint, hereditary or acquired, and, lastly, that amongst the 10 to 22 *per cent.* who were apparently free from hereditary taint, a large number were vitiated by injurious conditions of life (*e. g.*, in reformatories), diseases in childhood, such as typhoid fever, etc.

It follows, therefore, according to Dr. Morel, that the treatment of the degenerate, the future candidates for crime, should begin in their youth. He formulates these conclusions:

1. As a measure of social hygiene, the authorities should supervise backward children and children living in corrupt environments, in order to withdraw them from the control of their parents and remove them to healthy and honest surroundings.

2. In the case of backward or degenerate subjects who, through the irregularity or eccentricity of their conduct, come under the notice of the authorities, an administrative report should be made, and if required, a medico-psychological examination, the result of which should be communicated to the administrative and, if necessary, to the judicial authorities.

3. In case of necessity, in the interests both of society and of the backward and degenerate individuals themselves, they should be sent to a medico-pedagogic institution fulfilling all the conditions which can contribute to the regeneration of those presenting unquestionable signs of degeneracy.

4. Parents whose children, by their conduct or intelligence, inspire fears for the future, should have the right to ask for their committal to a medico-pedagogic institution, or to some special asylum until they have attained an age to be subsequently determined.

5. The motive of retaliation, being inapplicable in the case of the degenerate, should be replaced by the idea of reformation and education. The penal responsibility of degenerates being suppressed, they will be committed to the care of the State for an indefinite period.

It is obvious from Dr. Morel's statistics that the recognition of the right of detaining juvenile criminals until they can be regarded as *seriously* qualified to fill a useful place in society, would in a few years reduce crime to a half or even a quarter of its present amount.

DENMARK.

By Dr. A. Friis.

During the past year there has been a change in the directorship at three of the State Asylums. Dr. Helweg at Oringe died, and Dr. Pontoppidan at Aarhus was appointed to the University of Copen

hagen as Professor of Medical Jurisprudence and Hygiene. At Aarhus, Dr. Pontoppidan was succeeded by Dr. Hallager, Director of the Viborg Asylum; and Dr. Helweg by Dr. Willerup, his former medical assistant.

No steps have been taken, either by building new asylums or enlarging old ones, to meet the demands for more accommodation, and the directors have to refuse patients they ought to admit. It is especially accommodation for incurable patients which is wanted, and admissions are refused by hundreds for asylum treatment of this class of patient, the claims increasing year by year. In a former number of this JOURNAL (1898), I mentioned the appointment of a Commission to inquire into the question of accommodation, and in its report it stated that the only practicable way of dealing with the difficulty was an enlargement of the Viborg Asylum and its adaptation for receiving both recent and chronic cases, its present population being restricted to the latter. With reference to this proposal, a bill was promoted in Parliament, but did not pass. Dr. Pontoppidan, who was not a member of the said Commission, in a paper entitled "Considerations on the Care of Lunatics," amongst other reforms suggests a different way of relieving this pressure. He maintains that the State Asylums, except Viborg, are planned as asylums for recent cases, and therefore ought to continue as such, and not be encumbered with incurable patients. The latter class can be well housed in cheaper institutions —workhouses and agricultural colonies. He advocates the boarding out in private families, and special asylums for epileptics—the whole to be under Government supervision. This paper was published quite recently, and it is sure to have a great influence on the legislation of the future. Dr. Pontoppidan lays stress on the recent cases as claiming greater care and treatment.

This year Parliament has enacted that the maintenance of epileptics at public expense is not to be considered as parish relief, nor is this the case with lunatics and the feeble-minded. This will enable many to be admitted hitherto uncared for.

As regards imbeciles, there has been no change this year. The Keller asylums in Jutland have been finished and are in use.

At the meeting of the Danish Association of Criminalists in Copenhagen (September, 1900), the care of criminal lunatics was discussed. Dr. Pontoppidan read a paper on the subject from the alienist side. He doubted very much, in a little country like Denmark, the need for special asylums, and his views were shared by Director Lange, Middelfart; while Dr. Geill, physician to the Copenhagen prisons, and Director Helweg, Oringe, were of the opinion that special establishments ought to be provided, either connected with a prison or with an asylum. It transpired during the discussion that in all the Danish asylums there were only about one hundred criminal lunatics under treatment.

The year under review has been rich in psychological literature. Dr. Friedenreich has published a text-book on psychiatry; Dr. Pontoppidan has brought out his experiences while medical superintendent; Dr. Tryde has written on *Insanity and Guilt and the Danish Tribunal;* and Dr. Würtzen *Personal Responsibility* (*Psychological and Criminal*).

FRANCE.

By Dr. RENÉ SEMELAIGNE.

A Woman sequestrated.—A few months ago the public papers reported that a sane woman had been sequestrated by her family; some days after they reported that she was a genuine lunatic, but that insanity was the result of her long detention in a closed and dark apartment. The true history is as follows:

The Procureur de la République of the town of P— was advised that a lady, Miss Blanche M—, had been sequestrated for years. The magistrates visited the apartment in which she had been confined, and found that the windows were closed and locked; the smell was so offensive that they had to retire for a time until the air had been renewed. They found the woman quite naked in bed and covered with every kind of vermin; under the bed were sweepings and remains of food, such as crusts, bones, oyster-shells, etc. The patient was transferred to the hospital, and her mother and brother were taken into custody. The mother vehemently protested against the charge, swearing she was greatly attached to her daughter. A few days after she died in prison, and her testament proved that she had been kind to the patient. The brother alone remained to be prosecuted, but it was not possible to charge him with having sequestrated his sister as he did not live at home. He had remained throughout life absolutely under maternal control. The magistrate indicted him for being an accomplice in cruelty and assault, so he had to be tried by the *Tribunal Correctionnel*, and without a jury. The case could not be gone into during the summer because of the vacation, so Mr. M— remained for about five months in prison, awaiting his trial. In the meantime, the newspapers conducted a violent campaign, and raised public opinion against him; the political passion soon interfered, for the family was Conservative. During the trial the prisoner was daily insulted by the crowd, and stones were thrown at the carriage which removed him from the prison to the court of justice. All the evidence proved that he was a degenerate. He was extremely myopic, the sense of smell was very defective, and that of taste absent, so that he was markedly incapable of recognising the food of which he partook. Almost incapable of managing his own affairs throughout life, he never dared oppose his mother, who was as obstinate as her son was deficient of will. Mrs. M— herself was most singular in her habits, and she would never have consented to the admission of her daughter, a perfect lunatic from puberty, to any asylum. The window had been closed because the patient used to walk quite naked through the apartment, and the mother, who had bad health, and never had any ideas of cleanliness, furnished her daughter with oysters and every kind of dish, but allowed her to lie in filthiness. The brother very often entered his sister's room; there he used to sit down and read to her to amuse her. He never saw the dreadful dirtiness of her apartment, and never perceived its fœtid smell. Mr. M— is a degenerate without any will, without sight, taste, or smell, and accordingly he is irresponsible, and ought not to have been charged; but the judges, following public opinion, sentenced him to four months' imprisonment.

The lawyer, the family, and friends induced him to appeal from that sentence, and the case will be called at the *Cour d'Appel* in November.

And as a *moral* of that *immoral* history, the newspapers which generally censure parents and relatives for incarcerating people in madhouses instead of taking care of them at home, have unanimously and correctly declared that such a patient with such surroundings ought to have been sent to an asylum many years ago.

Criminal Assault to secure Morphia.—Some weeks ago a chemist was called up at night. A man came in and presented a prescription for morphia. As the paper seemed to be rather suspicious the chemist refused to dispense it. The man then seized a scalpel from the table and tried to stab the chemist, but the latter rightly ejected him. The police had been advised that several chemists had recently received a visit from a man who always presented a prescription for morphia. The police discovered his domicile, and when they entered the room, they found the man and two women lying on beds pale and nearly unable to move. Mr. N— related how he contracted his sad habit. Some years ago he was suffering from a painful illness, and a doctor induced him to have recourse to morphia. At that time he was a merchant in Brussels, and Mrs. L— and her daughter helped him in his trade. His praises of the drug induced the latter to try it, and they soon became intoxicated. Mr. N— neglected his business, his customers fell away, and he soon came to distress. They all took refuge in Paris, where began a life of misery and want. They were suffering from an ungovernable impulse, *i. e.*, to obtain the desired drug by any means. So Mr. N— visited the shops of many chemists, and lately that of Mr. C—, whom he assaulted for the purpose of securing the refused narcotic. An action for assault and battery is directed against him and Mrs. L—, who is being prosecuted as an accomplice. She is very weak and quite unable to sustain an examination. The condition of her daughter is most serious, and she seems to be at the point of death. Let us hope that the prisoners will be discharged as irresponsible, and that especial care will be taken of them.

Cocainomaniac Father and Idiot Children.—Dr. Marfan reports the case of two children, complete idiots, whose mother enjoyed good health and was without nervous taint, but whose father had always been a sharp and irritable man. Eight years ago, when suffering from a hypertrophic rhinitis, he had recourse to cocaine, and soon became a slave to it. He actually takes three grammes a day. He is very fat, and shows various nervous disorders (hallucinations, vociferations, etc.). There are four children. First, a girl, 13 years old, very intelligent and enjoying good health; second, a girl, æt. 8, whose conception occurred about two months after an operation on the nose, *i. e.*, at a time when cocainomaniac habits were just beginning: she is thin, rather pale, but very intelligent; third, a boy, æt. 6, who was conceived when poisoning had produced its full effect, he is a complete idiot; fourth, a baby, æt. 10 months, who is a microcephalic idiot.

Parricide and Mental Degeneration.—According to Dr. Régis, of Bordeaux, those who perpetrate a parricide are nearly all degenerate people, and such degeneracy is principally the result of hereditary alcoholism. One can easily find amongst them alcoholism, epilepsy,

and delusions of persecution, but such signs are rather accessory, and invariably grow on a ground of primordial degeneration. The cardinal symptoms are want of affection and impulsiveness. Orestes had been a lunatic and a member of the family of Atrides, a race of unfortunates, degenerates, and criminals.

Delusions resulting from Jealousy.—Dr. Victor Parant, a son of the well-known director of the private asylum of Toulouse, made a special study, in his inaugural thesis, of delusions of this type. They may, or may not, be systematised. The delusions without systematisation make their appearance in degenerate states, in neuroses (hysteria, epilepsy, neurasthenia), in alcoholism, cocainomania, mania, melancholia, and organic disorders of the brain. The delusions of jealousy which appear among old people seem to be more common than one might believe according to the published cases, and Dr. Victor Parant gives, as a reason of the fact, that old people, when they are not dangerous, generally remain at home, instead of being sent to an asylum; consequently their delusional tendencies are unknown out of the family. It is an early symptom in senile dementia. The author divides the systematised delusions of jealousy as follows: (*a*) primary; (*b*) secondary; (*c*) idiopathic. The most common variety is as follows:—Adult people present delusional ideas primarily, and not as the result of affective disorder. The ideas are accompanied by sensorial disorders, the prodromata are slight and short, there is a period of irritable depression, and the delusion makes its appearance, and it is generally a fear of conjugal infidelity. At the beginning the patient presents a mere anxiety, afterwards a suspicion, finally the delusion becomes fixed. Hallucinations of hearing are most frequent; hallucinations of sight are uncommon. These cases do not generally commit suicide, but they often kill their conjoint.

Systematised delusions secondary to mania, melancholia, *folie à double forme*, neuroses, and intoxication are well known. The last variety is composed of people affected with a morbid jealousy, and who remain their whole life presenting the type of *persécutés-persécuteurs*. They are hereditary degenerates, with stigmata and abnormalities of morals and of temperament. Their delusions are due to false reasoning. They are considered as lucid and are found outside asylums, although they are the worst of lunatics.

GERMANY.

By Dr. J. BRESLER.

The treatment of the insane without isolation in side rooms has received much attention in Germany (Kalmus, *Zellenlose Behandlung;* Halle, Marhold, *Psychiat. Wochensch.*, No. 49, 1900; Bresler, *ibid.*, No. 10, 1901; Hoppe, *ibid.*, No. 30, 1901). The general conclusion is that such confinement is to be avoided as much as possible, but that it is quite the right treatment in some cases.

At the annual meeting of German alienists held at Berlin, April, 1901, several important subjects were discussed. *The family care of*

the insane was considered. Its adoption in several forms under the supervision of alienists was noted. It could be used with advantage during convalescence, and was perhaps more suitable and offered more chances for recovery in certain cases than treatment within the wards of an asylum. The patients boarded out can be treated from the neighbouring asylum, and cases arising quite locally need not be removed from home. If the patients cannot be under the supervision of the asylum staff they should be visited by inspectors specially trained in lunacy. Finally, its adoption would tend to dissipate some popular notions regarding lunatics.

Heilbronner summarised the pathological changes in the nerve-cell, which have been reported to occur in the various functional psychoses. He concluded that there were none definite for any one mental disorder, indeed it was impossible to distinguish a sane from an insane brain. He dismissed the numerical valuation of nerve-cells in the same way.

An important paper was that of Professor Sommer, of Giessen, on "A Three Dimensional Estimation of Motor Disturbances in Nervous and Mental Diseases." (*a*) An apparatus for the graphic recording of the disturbances of the frontalis muscle; (*b*) an apparatus for the exact measuring of pupil disturbances which can be used with either electric, gas, or petroleum illumination; (*c*) an arrangement for estimating the knee-jerks, clonuses, spasms, tremors, etc. (*vide Psychiat. Wochensch.*, No. 9, 1901).

Drs. Bleuler and Delbrück have published articles discussing the "Relationship between Asylums and Alcoholics." There appears to be no doubt that the physicians and attendants of asylums who treat cases due to excessive indulgence of alcohol should be total abstainers. The anti-alcoholic notion has many partisans in Germany in our branch of medical science.

We are to be much congratulated on the fact that the Government, in May, made *psychiatry a compulsory subject in the medical curriculum.* New rules have been enacted by the Government in Prussia (March 26th, 1901) regarding private asylums, the mode of reception and discharge of patients, the economic administration, the medical service, also as regards attendants, etc. An Act has also been passed forbidding the discharge of a dangerous lunatic until the police, after inquiring into the domestic surroundings of the patient, have given their permission.

HOLLAND.

By Dr. F. M. COWAN.

An important event in the year has been the meeting of an International Congress for Criminal Anthropology at Amsterdam. I leave the various discussions and papers to be dealt with in another part of this JOURNAL. It is generally admitted that an efficient staff of attendants and nurses is indispensable in the treatment and care of the insane. This important point has been the subject of an exhaustive and lengthy report in our JOURNAL. A number of questions were drawn up and

sent to the medical superintendents of several asylums, and the answers received were cast into a very interesting report in which we find a large number of data relating to the training of attendants, their pay, leave of absence, amusements, working hours, board and lodging, etc. The conclusion drawn by the writer of the report is that very great progress has been made; "contrary to what occurred nine years ago, the care for the insane is now everywhere entrusted to a staff well trained for their task, or at least in receipt of thorough training for their onerous duties." I can hardly believe that these words of the writer will be generally accepted. Undoubtedly great progress has been made, but there is still room for much improvement. The maid-of-all-work, who dons the dress of a nurse and is henceforth styled "Sister Sarah," does not at the same time acquire the amount of knowledge and training required in a nurse; you cannot make a silk purse out of a sow's ear, and in a large number of cases the sow's bristles show through the silk envelope.

Dr. Bouman published an interesting paper on insanity in twins æt. 18, who became insane almost at the same time, there being only a few days' difference. They were occupied as servants, their situations being far from each other, and they were not aware of one another's existence. The course of the disease was as strikingly analogous as they were alike in features. They were both discharged as cured at about the same time.

Dr. Coenen, of Amsterdam, has studied the disturbances of cutaneous sensibility in connection with the extent of root-zones. The author gives an exhaustive account of a series of cases of neuritis, the cutaneous sensibility of which was accurately investigated. Space only allows me to give his conclusions. Making allowance for the many difficulties besetting clinical investigation of this kind, he was struck by the conformity between the results obtained by him and those published by Sherrington and Bolk. He considers that Sherrington's work on the root-zones of the monkey can only be reproduced in man by a long series of clinical observations most accurately conducted, and followed by very careful pathological examination after death. He was disappointed by the results he obtained from the study of hyperalgesic zones and by the study of crops of herpes zoster, to which Head attaches so much importance, and which he considers such a valuable adjunct to the study of these phenomena. Coenen thinks that we are yet merely groping in the dark.

Epilepsy, a disease occupying so much attention, still remains an enigma to physicians, and every effort to penetrate into its mysteries deserves mention. Dr. Brouwer, in collaboration with Dr. Muskens, has introduced three forms for recording the number of attacks, and certain symptoms attending each fit. These forms are in use in the asylum at the Hague, and the two physicians are very well pleased with the results obtained.

The first form notes the number of fits, the time of occurrence, whether a regular fit or only a giddiness occurred, the nature of the fit, and the treatment adopted. Form number two is very elaborate. It records (*a*) condition before the attack; (*b*) warnings (aura, etc.); (*c*) onset (sudden or gradual); (*d*) scream; (*e*) colour of face; (*f*) move-

ments of limbs; (*g*) rolling of head and eyeballs; (*h*) course of fit (which limb was first convulsed? how did the attack spread?); (*i*) symptoms to be observed regarding chest and abdomen; (*j*) tongue-bite or not; (*k*) micturition or defæcation; (*l*) pupillary reaction; (*m*) number of respirations and pulsations; (*n*) duration of movements; (*o*) symptoms after the fit (headache, giddiness, sleep, weakness in one or more limbs, etc.); (*p*) sensibility to pain on the skin of the chest and hands; (*q*) are there psychical equivalents, and if so, which? The third form is intended to note the influence of drugs and of treatment in general. The forms were produced at the meeting of the Psychological Association at the Hague, and though several of the members present allowed that much might be learned by their use, others thought that a number of answers to the questions could only be properly given by the physician, and not by the nurses or attendants. At the Hague the latter have apparently proved equal to the task, so the authors claim; but the testing of sensibility to pain is a diagnostic point which, I believe, can hardly be performed by an attendant, and the results must be accepted with very great reserve.

In October, Dr. Ruysch resigned his office of Inspector of Lunatic Asylums. He was succeeded by Dr. Schuurmans Stekhoven. In a country such as ours, where the lunacy law enacts that the magistrate and not the physician is the umpire to decide whether a patient is a lunatic or not, and where a diagnosis formed after a long and accurate examination may be set aside by some visiting justice, a law which does not make it obligatory that the inspectors, or at least one of them, should be medical men, it is highly gratifying that a physician should have been appointed to the vacancy; and more so that he is an alienist.

Although new asylums continue to be built, the call for more room remains undiminished, and hardly is one opened than it is immediately filled. The medical superintendent of the asylum at Ermelo was the first to essay the boarding out of patients in families in the neighbourhood of the asylum. The results obtained were very satisfactory, and the system has now been adopted by Government for lunatics who are kept by the State, and not by the parishes to which they belong. Patients before being boarded out must have been inmates of the asylum for a period of at least three months. Of course there is a system of inspection: the patient is visited daily by an official of the asylum and once a week by the physician, the day of the month and the hour of the day being noted in a book and any remarks added. The system has now been extended. At present the Government and the County Council give an annual grant for every pauper lunatic admitted into an asylum. This grant for the future can be used to assist in defraying the maintenance of patients who are boarded out. Such insane must have been inmates of an asylum for six months, the inspectors must approve of the house selected, and the asylum can board out only one tenth of its inmates, while the necessary accommodation must be reserved for one tenth of those out, should it prove necessary to send them back to the asylum.

It is a pity that this system should not be more extensively applied;

it seems a far better plan than that of enlarging existing asylums, several of which are already far too large. At the present moment the board of governors of the Meerenberg Asylum are contemplating a plan of extension. As it is, Meerenberg contains more than 1300 patients, and it is probable that the extensions will enable 300 more to be received. It is to be, as they style it, a *cité médicale*, but it will only prove of temporary benefit, since, as the population of the province increases, so will the number of lunatics.

ITALY.

By Dr. GIULIO CESARE FERRARI.

Last year, in my epitome of the work accomplished in the fields of psychiatry and neurology, I endeavoured to give a general idea of the geographical distribution of the more important centres of study and work, showing their chief characteristics, their diverse tendencies, and the nature of their publications and journals. I thought that once having accomplished this, I would be enabled, in following years, to deal systematically with the work done, but I feared that in doing so my production would run the risk of being incomplete and not sufficiently precise. I am obliged, therefore, again to follow the plan I adopted last year, but in place of noting mere general tendencies and characteristics, I propose to note the real progress in these branches of science.

I start my review at the north of Italy, and progress to the south.

At Turin, the psychiatrical clinique is presided over by Lombroso, but this year he has been largely engaged in the organisation of the Fifth Congress of Criminal Anthropology, where his teachings first found favour. One of his assistants, now third at the asylum at Turin, which is directed by Marro, Dr. Marco Trèves has done some interesting work—I allude to his interesting investigations regarding the malformations of the nails in cases of periodic insanity, as significant of great metabolic changes, and on the functional stigmata of degeneracy in epileptics; further, he has constructed an apparatus which ensures the constancy of thermic applications at any temperature from 5° C. to 80° C., and maintains this temperature for any desired length of time, or varies it with the greatest readiness when the temperatures are of wider range. These thermic applications, which can be used internally, or better externally, have a great future before them in the treatment of nervous diseases, and in the field of experimental science.

Marro, this year, has been engaged on the second edition of his clinical, anthropological, and social studies on puberty, which are now to be published in French, and which are a veritable mine of interesting facts and original observations. Pellizzi has continued his studies on idiocy, trying to determine an anatomico-clinical basis for his two great classes. By original observation he has studied the pathogenetic conditions of cerebral diseases. Martinotti and Tirelli, with the aid of the microphotograph, have worked on the nerve-cells of the spinal ganglia. In the field of neuropathology there is at Turin, besides Silva and

his pupils, Pescarolo, a clinician of great distinction, who has done excellent work on the resistance of the body to electricity, on the myopathic atrophies, and on the diagnosis of spinal diseases.

Still in the north of Italy, we find the asylum of Voghera directed by Dr. Antonini. During the past year he has been mainly occupied (besides his work on mental degeneracy) in combating the spread of pellagra. To this end he founded the *Rivista Pellagrogica Italiana*, so as to give unity to the study of this disease, and to influence the governing ranks of society in their battle against this plague, which is becoming more terrible, seeing that it is spreading to the mountainous districts which have been hitherto free.

The younger workers, who have during the past year entered the medical staff at the asylum of Milan at Mombello, have given good proof of steady work. We notice, above all, the studies on Parkinson's disease by Pini and Gonzales, and on a case of hysterical œdema of a segmental type. Gonzales has made observations on a case of periodic ichthyosis of a diffuse character occurring in an imbecile. Pini, on the other hand, has published a book on epilepsy, giving a critical *résumé* on the bibliography of this disease, both ancient and modern, and on the different methods of treatment—a most interesting work, and which shortly will be translated into French.

At a little distance from Mombello is the beautiful asylum of Bergamo, directed by Marzocchi, where Dr. A. Mariani applies himself to the study of the prophylaxis of pellagra. He has also constructed an ideal goniometer for the measuring of the facial angle.

At Brescia, Lui is publishing his notes on the technique of asylum management, which are as admirable for their delicacy as for their sound judgment; and with Seppilli, director of the asylum, Pianetta and Lambranzi have published a number of clinical papers in the *Rivista di Patologia Nervosa* of Professor Tanzi (Florence), and in the *Bollettino del Manicomio di Ferrara*.

At Padova, Obici, assistant to Professor Belmondo, who holds the chair of Clinical Psychiatry, has studied the influence of continued mental work and intellectual fatigue on respiration, noting that the respiratory activity is lowest between two and three o'clock. He is now about to publish in the *Bibliothèque internationale de Psychologie expérimentale*, a volume on writing, where he tries to give a psychological basis to graphology. As regards clinical work, he has made numerous observations on isotony, noting the blood-pressure in the insane, dying, seniles, and degenerates.

Coming further south to Gènes, we find the clinique of Professor Morselli. Buccelli has a work on *The Mental State of Choreics*, and Professor Morselli is preparing a volume on *The Mediums*, which is sure to excite great discussion, and also a second edition of his great *Trattate di Semiologia Psichiatria*, to be followed by his important *Lessons on Anthropology*.

Reggio Emilia, with its Institut Psychiatrique, directed by Tamburini, still offers the greatest advantages in wide fields of study. Donaggio, by continuing his work and perfecting his methods, has demonstrated the fact, about which no one will contest his priority, that there exists an anastomosis between the reticula around the cell, and that

in the middle of the cell. The small fibrils composing this reticula represent the path of conduction and transmission of stimuli, and represent the true individuality of the cell, contrary to the opinion of Bethe. Donaggio has also done some interesting work on the syndroma of Little. Ceni has studied the treatment of epilepsy by serotherapy. He has tried the progressive injection of the serum of epileptics, to obtain an immunity or to increase the resistance to the onset of fits. In eight out of ten cases he obtained an improvement in nutrition, and a diminution in the number and in the severity of the fits. He suspended the treatment: in three cases the attacks returned, in three cases the improvement was maintained, and in two cases the cure was complete after the lapse of two years. In two cases the treatment had to be stopped owing to the occurrence of grave symptoms. Ceni believes the good effects to be due to some principle produced by metabolism, which is of a stimulating character and which is found in the blood. He has discovered a new physiological equivalent of the epileptic attack, manifested by hypothermic conditions. With Dr. Pastrovich he has published a study on the pathogenesis of epilepsy, which shows a specific principle of a toxic nature entirely dissimilar to the toxines found in the blood due to organic functionising. They have also studied the adaptation of nerve-cells to hyperactivity in a work which is published in the *Rivista Sperimentale di Freniatria*, the journal of the Institute of Reggio Emilia. Ceni is now studying Pellagra.

Pastrovich has done some neuropathological investigations, comprised in two cases of amyotrophic paralysis, a case of epilepsy following a wound of the prefrontal region, and a rare case of paralysis of the hypoglossal nerve, due to a peripheral neuritis. It is the first case of its sort published where the origin was attributed to alcohol. One cannot speak too highly of both the author and his work. He is now engaged on a translation into Italian of the great treatise of Oppenheim on nervous diseases, whose pupil he has been for a long time.

As to myself, I have studied the genesis of systematised delusions, trying to apply to them the theory of Lange-James on the emotions. I have, in short, supported the primary and principal influence of the emotional state in the development of delusions of persecution in paranoides. In another paper, published in the *Journal of Mental Pathology*, I have studied the physiological conditions associated with periodic insanity. In addition, I have undertaken the translation of *Talks to Teachers on Psychology*, of William James, whose *Principles of Psychology*, translated into Italian, has been a great success.

In my laboratory of psychology in the Institute, Dr. Scappuci has worked on the motor functions in the sane and insane, and on the methods of examining psychologically the insane.

Not far from Reggio is the asylum of Ferrara, directed by Tambroni, where is published a *Bulletin*, which is making its way in the world. He publishes short papers by his own medical assistants, and those of the asylum at Brescia, especially on the technique of asylum management.

At Imola, near to Bologna, Brugia, director of the asylum, is inte-

rested especially in psychopathology, and is about to publish a work on degeneracy, illustrated by photographs. He has made some curious observations on the periodic psychoses which are not yet published.

A centre of first rank, and yearly becoming of more importance, is the clinique at Florence, directed by Tanzi. His lectures and the editorship of the *Traité de Psychiatrie*, which he has filled for some time, and upon which he has imprinted his own remarkable originality, have prevented him from making minor contributions. But Lugaro, without doubt the chief cytologist in Italy, has worked with the assistants at the clinique in the fields of pathological anatomy, experimental pathology, and clinical psychiatry. Their papers appear frequently in the *Rivista di Patologia Sperimentale*—the part dealing with current literature excelling many *Centralblätter*.

Rome is associated with illustrious alienists and promising students. The university course in psychiatry is given by Professor Sciamanna, who is assisted in the clinique by Pardo, Fabrizi, and Guidi. Preference is given to clinical work and neuropathology.

The asylum of Rome is directed by Professor Bonfigli, who in 1898 began to give much thought to mentally defective children. He founded a national league for the protection of this class, which was supported by many people of note in Italy. It is showing good fruit due to the organising spirit of its founder. He was fortunate in the selection of Dr. Montessori, a young lady, and Dr. Montesano, two people of great intelligence and devoted to their work, and with them he opened a school where the masters of elementary schools were able during eight months out of the year to attend the theoretical and practical courses on the methods of educating backward children. The methods were illustrated at an institute where sixty of this class of children were collected. I regret I cannot find space to dilate further on this meritorious work. In the asylum of Rome, besides clinical investigations, there is much work done in the laboratory on pathological anatomy under the direction of Mingazzini and his pupils. De Sanctis continues his work, of which I made mention last year. A distinguished assistant at the same asylum, Dr. Giannelli, who gives a course in psychiatry at the University of Rome, which is free, has done some remarkable work on the cortical centres of respiration, on microgyry, and on bulbar paralysis, due to compression.

Professor Bianchi, Director of the Psychiatrical Clinique, of Naples, has published the first part of his treatise on psychiatry. The main lines of this work seem to aim at establishing an anatomo-physiological basis in psychiatry. He speaks of the functions of the frontal lobes, and of the evolutional regions of the human brain.

Fragnito continues his studies on the evolution of the nerve-cell, inclining more to the multicellular origin. Bellisari reports three cases in which an attack of tachycardia took the place of epileptic fits. Colucci, who is in the front ranks of Italian psychiatry, shows how the ergographic index represents well the state of neuro-psychiatric disequilibrium of the epileptic, and in a practical way demonstrates the re-education of dements. Crisafulli has done some interesting clinical work.

Quite near is Aversa, whose asylum is directed by Prof. Virgilio. He has raised the question of asylums for the criminal insane.

In conclusion, there is at Nocera Inferiore an inter-provincial asylum for almost the whole of southern Italy. Here we find Del Greco, philosopher and psychologist, who has maintained the necessity of a synthetic psychopathology contrary to pure materialism, more especially the advanced experimentalism of official psychiatry. The insanity of women, the moral cure of psychopathic attacks, etc., are receiving attention.

Work of a more practical nature is being done by Angiolella and Tomasini.

As regards Sicily, Mandalari, at Messina, has studied criminality, and de Mondio amyotrophy.

Although perhaps out of place here, I wish to mention the distinction cast on the Italian schools by Lombroso at the Congress of Criminal Anthropology, held in August at Amsterdam. After Holland, the greatest number of representatives came from Italy.

The year has been full of energy, the greatest activity being displayed in the smaller centres of psychiatry. This was shown at the sittings of the eleventh congress of the Società Freniatrica Italiana, held at Ancona in September, of which Prof. Tamburini has been for long the president.

Italian psychiatry congratulates this illustrious professor, who has had a most distinguished career, and who in December celebrated three anniversaries,—that of his professorship, as director of his asylum, and as editor of the *Rivista Sperimentale di Freniatria.*

NORWAY.

By Dr. M. HOLMBOE.

Since my last report (in 1898) to this JOURNAL no important changes have taken place in the care and treatment of the lunatics in this country.

At the end of the year 1900 a general census was taken, and on this occasion the insane and the idiots were specially enumerated. The results of this census have not as yet been elaborated and published, and accordingly cannot be communicated here.

Since 1898 only one new asylum has been opened, viz., the private asylum of Dr. Dedichen at Trosterud, about five kilomètres east of Kristiania. The asylum accommodates 58 patients, exclusively of the prosperous classes, and is therefore arranged to afford greater comfort than our State asylums, which are chiefly arranged for poor patients. Royal authorisation for the asylum was given on September 28th this year.

The Criminal Lunatics Asylum in Trondhjem, mentioned in my last "Retrospect," has been enlarged to about double its size—it can now accommodate 30 patients.

The accommodation in the Norwegian State asylums at the present time is—Gaustad 340, Eg 260, Rotvold 275, the Criminal Lunatics Asylum in Trondhjem 30; and in the municipal and private asylums—Kristiania 120, Oslo 40, Kristiansand 21, Bergen 240, Trondhjem 280, Rosenbergs 175, Moellendal 73, Dr. Dedichen's 58—total being 1714.

The new State Asylum Roenvik, at Bodoe, is completed, and will

presumably be opened in August, 1902. It will accommodate 230 to 250 patients, thus increasing the total accommodation in the asylums of Norway to about 1950. The municipality of Kristiania has recently commenced the construction of a new asylum at Dikemark, in Asker, about thirty kilomètres west of the town. An estate of about 440 hectares was some years ago purchased for this purpose. The general plan will be a "closed" central building surrounded by "open" cottages—the latter to be added by degrees. When completed, the asylum will accommodate 600 patients. At present, however, only the central blocks for male patients and the administration portions are under construction.

The want of accommodation is more deeply felt as years go by, as the difficulties of efficient nursing in private houses are constantly increasing. This was relatively easy in former times, when a good many farmers, for a moderate pay, were willing to receive single lunatics. The farmer nowadays has a higher appreciation of his home life, and hence his unwillingness to receive such patients. Consequently in the more prosperous and densely populated sections of the country it has been necessary to place the lunatics, who cannot be received in the asylums, under the care of persons making a business of boarding a greater number of patients in rooms that are especially arranged for this purpose. These establishments, commonly called "colonies," do not always satisfy the requirements of modern nursing of such patients. It is therefore intended to establish a more thorough inspection of these colonies, and to promulgate more stringent rules regarding the treatment of patients so placed.

The question of erecting public boarding-houses of smaller size for incurable lunatics at the expense of the counties ("Amter") has also been raised, and one county has opened such a home for 25 to 30 patients. It is in connection with a general hospital.

The three boarding-schools for idiotic children mentioned in my last "Retrospect" have now been purchased by the State, and are supported by it. A nursing home for low-class idiots has been erected by private charity, for the enlargement of which a considerable sum of money has recently been collected.

Epitome of Current Literature.

1. Anthropology.

Shortness of the Hallux in Epileptics, Criminals, and Idiots [*Sulla Cortezza dell' Alluce negli Epilettici, nei Criminali, e negli Idioti*]. (*Arch. di Psichiat., vol. xxii, fasc.* 4, 5, 1901.) *Lombroso.*

Developing an observation of Frassetto, which suggested shortness of the hallux as an atavistic stigma in criminals, Lombroso has in-

vestigated the relative lengths of the hallux and the second digit in series of normal and abnormal individuals.

He obtained the following results:

	Hallux < 2nd dig.	Hallux = 2nd dig.
Normal (Calabria and Sicily), males	22 *per cent.*	36 *per cent.*
„ (Piedmont), males	24 „	14 „
„ „ females	36 „	26 „
Epileptics, male (111 cases)	28·9 „	19 „
„ female (159 cases)	29·5 „	26 „
Lunatics (54 cases)	19 „	9 „
Microcephalic idiots (10 cases)	30 „	20 „
Criminals, male (256 cases)	46·5 „	35·4 „
„ female (93 cases)	53·1 „	21 „
Prostitutes (50 cases)	45 „	24·1 „

These figures satisfy the author that shortness of the hallux is a characteristic of "criminals" as compared with "honest people" (*sic*); and as the development of the hallux is more marked in the human adult than in the fœtus and in the anthropoid apes, he regards it as an atavistic stigma. He remarks that this condition is often associated with other atavistic characters, such as the retention of prehensile power in the foot; in his view it is another expression of the imperfect differentiation in form and function of the hand and foot in the criminal.

W. C. SULLIVAN.

Feminine and Atavistic Characters in the Pelvis in Criminals [*Caratteri femminili e atavici nei Bacini dei Criminali*]. (*Arch. di Psichiat., vol. xxii, fasc.* 4, 5, 1901.) *Coscia.*

The authoress has studied the characters of the pelvis in sixteen skeletons of male criminals in Lombroso's museum. In her paper she gives the details of the examination in each case, with tables summarising the results for the whole series. She finds that the pelvis in the criminal tends to approximate to the female type; and, though this type is generally admitted to be morphologically higher than the male type, she argues that the lack of sexual differentiation implied by this resemblance is to be properly regarded as an atavistic character, especially as it is in many cases associated with other peculiarities of a distinctly prehuman kind.

The abnormal characters were found in the following proportions:

1. Large size of pelvic outlet in three cases, or about 18 *per cent.*
2. General thinness of pelvic bones, especially of iliac crest (under 15 mm.), in eight cases, or 50 *per cent.*
3. Diminished depth of symphysis pubis (less than 36 mm.) in six cases, or about 36 *per cent.*
4. Open condition of sacral canal, incomplete in 37 *per cent.*, and complete in one case in which the pelvis was, moreover, of oval shape.

W. C. SULLIVAN.

The Influence of Sex on Anthropological Characters [*Der Einfluss des Geschlechts auf die anthropologischen Charaktere*]. (*Zeit. f. Morphol. und Anthropol., Bd. iii, H.* 3, 1901.) *Pfitzner, W.*

The elaborate and important anthropological investigations made during recent years by Prof. Pfitzner at the Anatomical Institute of

Strasburg are well known. The present study deals with sexual differences in hair and eye colour, and in proportions of body and head, difference in age being always taken into account; and, from the care with which it has been carried out, and the large number of subjects dealt with, the study constitutes a valuable contribution to our knowledge of this subject. As the author himself points out, certain sources of error exist; we are dealing with dead subjects only, in a hospital, so that there has been "selection by death" and "selection by hospital;" but even when we bear these sources of disturbance in mind the results remain very instructive. A few of the points brought out in this lengthy paper may here be mentioned.

The author reaches the conclusion that sexual differences are, on the whole, very slight, being for the most part the result of the difference in size, and he disposes of the contention of those who argue that there are serious defects of proportion in women. Certain differences, however, are clearly brought out; the conclusion of those who have argued that women are darker than men is here definitely confirmed; it is more marked as regards the hair than the eyes; women are darker than men by about 7 *per cent.* as regards the hair, by about 3 *per cent.* as regards the eyes. Certain anomalies occur at the two ends of life, but after twenty men invariably prevail among the light-eyed persons who die, and women among the dark-eyed, while those with mixed eyes are almost fairly divided throughout. Pfitzner finds reason to believe that the hair continues to show a tendency to darken up to the age of forty, but eye colour remains relatively constant.

The two extremes of light-eyed and dark-eyed are found to prevail specially among children dying at an early age, while mixed eyes are found chiefly prevailing among those who die at an advanced age; this would appear to show that mixed eyes indicate a tendency to longevity, though the author is very careful in interpreting his data. He refers to this point, however, in reference to the body and head: as regards general body proportions, he finds little difference in the long-lived as compared with the short-lived, but it is not so as regards the circumference of the head; among the long-lived there is an increased prevalence of large heads. Very small heads, it may be remarked, cease to grow about the age of twenty, but large heads continue to grow up to the age of thirty and even beyond. While circumference of head seems to be thus related to longevity, it is not so as regards height of head; individuals with high heads are not favoured as regards longevity.

As regards the cephalic index, certain sexual differences were found, but they were not considerable; the author does not, indeed, feel convinced that they may not be the result of chance. His belief that they are probably real is due to the fact that they occur very harmoniously: in women, the indices under eighty predominate more than in men; in men, the indices over eighty-five are more numerous than in women. The general result is that there are 3½ *per cent.* more dolichocephals among women, 3½ *per cent.* more brachycephals among men. This conclusion is not in harmony with all previous investigations, but we always have to remember that there may be racial difference in sexual variation; these results must only be taken as reliable for Elssass-

Lothringen. The breadth-height index of the head showed no clearly demonstrable sexual differences, such differences as occurred being less harmoniously arranged than in the case of the cephalic index. The breadth-height index of the face, however (*i. e.*, distance from root of nose to chin expressed in percentages of the malar breadth), showed clear sexual differences; the indices under ninety in women, and the indices over ninety in men, being in decidedly larger proportion, although the general range of the index was the same for both sexes. HAVELOCK ELLIS.

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2. Neurology.

On the Nervous System of a Hemicephale [*Ueber das Nervensystem eines Hemicephalen*]. (*Arch. f. Psychiat., Bd. xxxiv, H.* 3.) *Muralt, L.*

After a retrospect of previous work on anencephalous births, Dr. Muralt proceeds to describe the skull and brain of two of those monstrosities. The first, a male child, born at full time, lived for two days, during which he cried lustily, swallowed, and showed the usual muscular motions and reflexes. His head resembled that of a cat, no forehead, the face prognathous, the nose and lips thick, and the eyes prominent. The head was covered with thick hair, and there was no roof to the cranium. The rudiments of the brain were shut in by a soft membrane. These structures are pictured in a large lithograph sheet, and their description fills seventeen pages of the *Archiv.*

The second case described was a fœtus of the female sex, which measured from the head to nates no more than two inches. The brain and spinal cord were wanting. In place of the cranium, there was a sac filled with fluid extending down the cavity of the vertebral canal. Twenty-seven vertebræ were counted, and eighteen spinal ganglia attached to the nerves, the growth of which appears to have been unaffected. The sympathetic nerves were found unaltered in the neck.

In the first case, the hemicephale, the mucous membrane of the nostrils and the sensory organs of the skin were normal, so that we may infer that their development goes on independently of the nervous centres. The result of Muralt's examination of the basal portions of the brain in this case is far from confirming the view that the deficiency is caused by the destruction of the hemispheres through the pressure of hydrocephalic fluid. A microscopic examination showed that the rudiments of the centres had their own limiting coating of epithelium. The deficiency was owing to a failure of formative power, not to external injuries. This failure was greatest at the head, and less at the extremity of the trunk. Those portions of the optical apparatus which were concerned with actual vision were formed not out of the epithelial layer, but out of a bladder-like process of the anterior cerebral vesicle. In the anencephalous fœtus, the anterior parts of the eye, such as the lens or ciliary bodies, have sometimes been found wanting. In recorded cases, with two exceptions, all the layers of the retina were found save that of ganglionic cells and nerve-fibres. This is difficult to explain. Jacob's rods and cones were found intact. As a rule, in the

anencephalous fœtus, the retina has been found to be well developed; sometimes it is thrown into folds. WILLIAM W. IRELAND.

On the Structure of the Brain in which the Corpus Callosum is wanting, and on Microgyry and Heterotopy of the Grey Matter [*Ueber den Bau des vollständig balkenlosen Grosshirnes sowie über Mikrogyrie und Heterotopie der grauen Substanz von Dr. Moriz Probst*]. (*Bd. xxxiv, H.* 3.) *Probst, M.*

Dr. Probst begins by remarking that he can only find two cases before that described by Rokitansky, in 1858, in which the corpus callosum was deficient, one by Reil in 1812, and one by Ward in 1846. He apparently has overlooked the case mentioned in Solly's book on the brain in 1827, and another by Paget in 1846. If Dr. Probst had lighted upon the excellent paper by Dr. Alexander Bruce, recorded in the *Proceedings* of the Royal Society of Edinburgh, vol. xv, pp. 320—341, he would have been able greatly to add to the sixteen cases which he has mentioned. I have myself seen an instance of complete deficiency of the corpus callosum in the brain of a deaf woman who died in the Stirling District Asylum. There are at least six cases (Probst only knows of two) in which, without any mental deficiency or loss of sensory or motor power being observed during life, the corpus callosum was found to be entirely wanting.

The case of deficiency described by Probst was a female idiot, æt. 12 years. She had scarcely any intelligence, and never spoke or walked; the muscles of the leg were in spastic contraction. The description of the brain occupies thirty-eight pages of the *Archiv* besides three pages explaining four sheets of lithographs. The author has made most careful microscopic examinations of the whole brain, and has taken much trouble to trace various tracts of nerve-fibres. There are many anomalies and defects found in this brain, so that it would be unsafe to base any inferences bearing upon the structure of normal brains from these dissections. It would appear as if the connections of the different parts of the hemispheres in this brain were kept up by what he calls the "Balken-längsbündel," the associatio fronto-occipitalis of Onufrowicz. It occupies the place of the absent corpus callosum, under the gyrus fornicatus and above the fornix. Its fibres, short and long, longitudinal and transverse, were traced to the gyrus fornicatus and the frontal lobes, also to the orbital and median gyri. Its fibres passing backwards go to form the posterior wall of the lateral ventricles, and perhaps to the tapetum. Probst objects that Onufrowicz made no microscopic observations in his case, and throws doubt on his fronto-occipital association bundle. The name heterotopy was given by Virchow to masses of grey matter, of much the same microscopic structure as the cortex, which were found irregularly scattered through the brain substance. In Probst's case, they were found in the convolutions, in the centrum ovale, and in the walls of the lateral ventricles. In the central convolutions these irregular masses were found to go along with slenderness of the gyri. Heterotopy has been found associated with epileptic dementia and microcephaly.

At the end of his paper, Dr. Probst promises a further work giving the results of his experiments upon the association and commissural

fibres of the brain. Though this is an important subject, we advise the author to try and convey his meaning in shorter space. Learned Germans too often possess the property of filling up many pages without making their meaning clear. Papers in the *Archiv* especially seem often to be selected for the same reason as Frederic William's Potsdam Guards, namely, for their length. WILLIAM W. IRELAND.

On the Restoration of the Peripheral Nerves [*Ueber die Regeneration peripherischer Nerven*]. (*Arch. f. Psychiat., Bd. xxxv, H.* 3.) *Bethe.*

At the meeting of German neurologists and alienist physicians in Baden-Baden, June, 1901, Dr. Bethe, of Strasburg, explained that during the last decade a new nerve-cell theory had come into vogue. It was assumed that the so-called neuron was an anatomical, functional, pathological, and developmental entity. But it had been shown by Apáthy that there is a direct and intimate connection between the neurons through the primitive nerve-fibrillæ, and Dr. Bethe himself had demonstrated that in the *carcinas mænas* the nervous system performs its function without any ganglion cells. Thus the cell cannot be a necessary instrument in the process like the pendulum of a clock, or the wheel of a watch. Nissl has shown that the observations of pathologists give no sure support to the neuron theory. Further objections may be taken from the fact that several organs are affected after section of the nerves supplying them. In the case of degeneration of muscles and glands, it may be said that this process may be owing to atrophy from inactivity of their functions; but degeneration of the papillæ circumvallatæ et foliatæ of the tongue in the rabbit has been observed to follow, in from about two to three weeks after section of the glossopharyngeals, although the stimulus has not ceased to be applied to these organs. From this it appears that the pathological process goes further than the boundary of the neuron.

According to the neuron theory, the ganglion cell is the nutritive centre of its adjuncts, and the axis cylinder of the nerve-fibre perishes if separated from the presiding cell and it can only be renewed by outgrowth from it. The first part of this observation is correct. When the continuity of a nerve is destroyed the peripheral end always degenerates; but the second part of the sentence is incorrect. It has been shown by Huber and Büchner that the axis cylinder is not restored from the central end of the nerve, but from the degenerated plasma of the substance of Schwann. By experimenting on young dogs and rabbits Dr. Bethe has found that, when the nerve-stem is cut, the distal end degenerates; but if the process of union be hindered that the peripheral end will in time be fully reproduced in all its parts, although kept separated from the central end, and thus from the original ganglion cells. Dr. Bethe has assured himself that the regenerated nerve-end is also physiologically restored, since it can transmit weak electrical currents to the muscles. Dr. Bethe, after finding the still detached nerve fully restored, made a section of it lower down, when he found that only the most distal part degenerated, *i. e.*, the part separated both from the spinal cord and from the lower extremity was not involved in the degeneration.

Dr. Bethe then goes on to combat the views of His, who holds that the nerves develop peripherally from the grey matter and ganglia of the spinal cord. Dr. Bethe, on the contrary, maintains that the fibres of the nerves originate from cells, and that the process of development and its completion by the appearance of the myelin goes on almost simultaneously along the whole line. WILLIAM W. IRELAND.

The Exact Histological Localisation of the Visual Area of the Human Cerebral Cortex. (*Phil. Trans. B. vol. cxciii, pp.* 165—222, 1900.) *Bolton, T. S.*

The work, which has led to the production of this excellent monograph, has occupied the author for three years. It has finally been brought to a conclusion at Claybury, and is one of the best pieces of work which has yet hailed from that laboratory. Dr. Bolton has bestowed an enormous amount of industry and care upon his work, and it is a difficult task to do justice to it in an epitome.

The author points out that the lamination of the occipital cortex differs from that of the cortex surrounding it by having the granular layer divided into two by a layer of nerve-fibres (line of Gennari). The exact distribution of this "occipital lamination" was accurately mapped out in six normal and pathological brains (three cases were blind). The area occupies *the body of the calcarine fissure*, including anterior and posterior annectants and extending upward to the parallel cuneal sulcus and downwards to the collateral fissure, *the posterior part of the calcarine fissure* extending to the polar sulci surrounding its extremities, and the *inferior lip of the stem of the calcarine fissure* (including the superficial surface and lower lip of the cuneal annectant) nearly to its anterior extremity, just posterior to which the area tails off to a sharp point. The outline of this area is therefore roughly pear-shaped, the stem of the pear being anterior. The area is decreased in extent, but not in distribution, in cases of old-standing optic atrophy; and it is decreased in both extent and distribution in anophthalmos. Similarly the line of Gennari is much thinner than normal in cases of old-standing optic atrophy and of anophthalmos.

The author's conclusions are that the area located and described in the paper is the primary visual region of the cortex cerebri, that the part of this area to which afferent visual impressions primarily pass is the region of the line of Gennari, that the area can probably be described as the cortical projection of the corresponding halves of both retinæ, and that in this projection the part above the calcarine fissure represents the upper corresponding quadrants, and the part below the fissure the lower quadrants of both retinæ. W. H. B. STODDART.

The Croonian Lectures on the Chemical Side of Nervous Activity. (*Lancet and Brit. Med. Journ.*, 1901.) *Halliburton, W. D.*

The first lecture dealt with the general composition of nervous structures. Grey matter contains 80—90 *per cent.* of water, and 50 *per cent.* of the total solids are proteid. In white matter there is less water and less proteid, and in peripheral nerves is least water and least proteid. The most abundant proteid is a nucleo-proteid containing

·5 *per cent.* of phosphorus, but there is little of this in the white matter. The other two proteids are globulins, one of which coagulates at 47° C.

The other important substance in nervous tissue is protagon, which yields on decomposition cerebrin and lecithin. Cerebrin is a glucoside, the sugar constituent being galactose. Lecithin yields on hydrolysis a fatty acid, glycerine, phosphoric acid, and choline (an alkaloid).

The second lecture dealt with the metabolism of nervous tissue. The lecturer pointed out that oxygen was rapidly used up in cerebral activity, and in support quoted Hill's experiment, in which an anæsthetised animal received methylene blue by intra-venous injection, and in which any part of the brain thrown into action by electrical stimulation lost its blue tint owing to the formation of a reduction product. Dr. Waller's experiments, which appear to show that carbonic acid is formed during the activity of a nerve, were next described, and his theory of the nutritional relationship between axis cylinder and medullary sheath discussed. The lecturer described experiments which appear to militate against Dr. Waller's theory.

Passing on to microchemical methods, Nissl granules were referred to. Chemically they are composed of nucleo-proteid. This lecture was concluded with a discussion on the various current theories of sleep.

The last two lectures were devoted to the subject of chemical pathology, especially in reference to hyperpyrexia, general paralysis of the insane, and Wallerian degeneration.

It was pointed out that the cause of death in hyperpyrexia was heat coagulation of cell globulin, since 42° C. (108° F.) was sufficient to cause such coagulation if sufficiently prolonged. With regard to general paralysis, the chief points were the presence of choline and nucleo-proteid in the cerebro-spinal fluid, and of the former after a succession of fits. Choline lowers the blood-pressure when injected into the circulation of animals, but this action is reversed if the animal be previously placed under the influence of atropine. Choline is found in the cerebro-spinal fluid and blood of other diseases in which there is disintegration of nervous tissue in progress.

In nerve degeneration the phosphorised fats are converted into non-phosphorised fats, and these are subsequently absorbed. This fact explains the Marchi and Pal reactions in degenerated nerve-tracts.

W. H. B. STODDART.

A Preliminary Communication with Projection Drawings illustrating the Topography of the Paracœles (Lateral Ventricles) in their Relations to the Surface of the Cerebrum and Cranium. (*New York Med. Journ., Feb.* 2, 1901.) *Spitzka, E. A.*

This is an anatomical study of two heads by the sectional method, special attention being directed to the exact position of the lateral ventricles. The author is one of the New York medical students.

Puncture of a distended lateral ventricle is as a rule not a very difficult matter, but if the ventricle be undistended (as in cases where it is desired to inject antitetanic serum), success in accurately striking it is somewhat problematical. The lateral ventricles are normally little

more than a *potential* space, since, the author tells us, they are only capable of holding 60 c.c. between them.

A study of a larger number of heads is necessary before it can be decided how far this work will help the operating surgeon. One ventricle out of the four examined was greatly displaced, and it must be determined how frequently such variations exist before the author is able to place rules in the hands of the practical surgeon.

The work is carefully and accurately carried out, and we shall look with interest for the final result of this research.

W. H. B. STODDART.

The Croonian Lectures on the Degeneration of the Neuron. (*Brit. Med. Journ.*, 1900.) *Mott, F. W.*

Lecture I.—After a brief historical summary of the growth and conception of the neuron theory, the lecturer prefaces his observations upon degeneration of the neuron with a short account of the minute histology of the nervous system as revealed by modern methods.

After dealing with the significance of the Nissl body and the phenomenon of chromatolysis at some length, the question of correlation of function and myelination is touched upon, and the first lecture ends with a few short remarks upon the anatomical correlation of associated systems of neurons.

Lecture II is devoted to a consideration of the effects of injury to the nerve upon the cells of origin, of hyperpyrexia, of experimental anæmia, of toxic conditions of the blood and lymph, and of the selective action of certain poisons.

The portion relating to hyperpyrexia and the effects produced upon the nerve-cell and a consideration of the chemistry of the subject will be found abstracted from Prof. Halliburton's papers, and needs no further comment here. Much space is given to a description of the minute morbid appearances of the nerve-cells, chromatolysis, vacuolation, etc., as a result of the action of various toxic bodies upon them, and numerous sections were exhibited.

The relative action of various toxic agents for different parts of the nervous system was discussed, as, for exmaple, the predilection of the tetanus toxine for the motor cells of the fifth nerve nucleus, and the inference drawn that the protoplasm of these various neurons might own corresponding small differences in composition. The results of the experiments done in producing artificial anæmia of the brain and spinal cord were reviewed, and sections shown exhibiting the changes produced in the nerve-cells. The practical deduction drawn was that the transitory aphasias, monoplegias, hemiplegias, etc., of syphilitic nervous disease were in all probability due to blocking of vessels in which the time which elapses before anastomotic circulation is established is too short to permit fatal changes to be set up in the cell.

Thus Ehrlich and Briezen, in 1884, showed that if the abdominal aorta were ligatured for from a quarter to three quarters of an hour and then the anæmia were relieved, no permanent paralysis remained, but if the anæmia persisted for over an hour permanent paraplegia of the lower limbs resulted.

Lecture III.—This is concerned particularly with an account of the Marchi method of staining the degenerated fibres and its chemical reaction to the products of degeneration.

Lecture IV.—It related largely to some toxic conditions in relation to degeneration, and commences with a consideration of the relationship of tabes and general paralysis, and goes on to deal with the relation of structure to degeneration and the pathology of primary degeneration of the afferent and efferent systems.

The main points of these latter lectures have already been summarised in the JOURNAL, and need not therefore be repeated.

On the Morbid Anatomy of Pseudo-bulbar Paralysis [*Per l' Anatomia patologica della Paralisi pseudobulbare*]. (*Riv. di Patol., nerv. e ment., fasc.* 9, 1901.) *Guizzatti and Ugolotti.*

The case, a woman æt. 62, alcoholic, presented the following clinical history:—Six years ago she had a right-sided hemiparesis, followed by a second similar attack in two years. Three years ago she had a weakening of the voice ending in aphonia, followed by dysarthria and dysphagia. There were also paresis of the lower facial muscles, especially on the right side, without atrophy, paresis of the tongue and palate. In addition to the right-sided hemiparesis, there was latterly paresis of the left leg.

The *post-mortem* revealed interstitial nephritis and a marked degree of thickening of the arteries. In the nervous system, the cortical cells, the nuclei of origin of the cranial nerves and their roots, the peripheral nerves and muscles were all normal. There were numerous small areas of softening of different dates in the cerebrum in both hemispheres, one affecting the genu of the internal capsule on the left side. In the pons were four small areas. In the cord, a rarefaction of the direct pyramidal tract on left side, and sclerosis of the crossed pyramidal tracts especially on right side. The authors discuss the various lesions that have been noted in this condition in relation to the lesions here found, and conclude that the greater portion of the bulbar symptoms in the case were due to a small softening in the upper part of the pons, mesially and posteriorly. This affected both strands of motor fibres and caused the bilateral symptoms. J. R. GILMOUR.

The Phenomenon of Chromatolysis after Resection of the Pneumogastric Nerve [*Le Phenomène de la Chromatolyse après la Résection du Nerf pneumogastrique*]. (*Nouv. Icon. de la Salp., Nos.* 4, 5, 6, 1900.) *Ladame, C.*

The work is divided into six parts. In the first part, an account is given of the varying results obtained by Nissl's method of staining, concerning the minute anatomy of the nervous cell and its lesions. The numerous modifications of this method were tried, and Ladame places most reliance on the method of Van Gehuchten, which he has altered in certain details; so that, for instance, instead of washing in water after fixation he carries his specimens into 60 *per cent.* alcohol saturated with chloride of sodium; whence, after leaving them in this bath for a while, they are placed in 70 *per cent.* alcohol, also saturated

with chloride of sodium. He uses, moreover, essence of cedar in preference to chloroform as the vehicle of paraffin for embedding, in spite of certain drawbacks. Toluidine blue is used instead of methylene blue for staining the sections, and gives a neat, intense coloration, agreeable to the eye; moreover it is more stable than methylene blue.

In the second part, an account is given of the minute anatomy of the neuron, and especially of the chromatic substance which plays the main part, at all events the visible part, in the phenomenon of chromatolysis.

In the third part, a general account is given of the fundamental factors in chromatolysis with regard to which observers are in general agreement—such as the disaggregation and dissolution of the chromatic masses, the turgescence of the cellular body, the displacement of the nucleus, etc. As chromatolysis differs in nerve-cells according to the initial lesion of the nerve, is different in motor neurons as compared with sensory neurons, as it varies in animals, etc., the author insists on the importance of specifying exactly the varying conditions under which experiments and observations are made.

In the fourth part, Ladame gives an account of his own personal experiments and observations. Two rabbits, two dogs, and two cats were the animals used. A detailed analysis and discussion of each case are given, with description of the sections and numerous figures, list of apparatus, etc.

The animals were killed with chloroform after an interval varying from 7 to 195 days after the operation (resection of the pneumogastric nerve in the neck). In order to test carefully the question of turgescence of the cells undergoing chromatolysis—generally mentioned by observers—lists of the measurements of the cells obtained by means of one of Nachet's micrometers are given *in extenso*.

The first experiment was upon a rabbit killed on the 7th day; the second on a dog killed on the 22nd day; the third on a young cat killed on the 118th day; the fourth on an adult dog killed on the 122nd day; the fifth on an adult cat killed on the 147th day; and, finally, the sixth on an adult rabbit killed on the 195th day.

The fifth part of the paper deals with the interpretation of the phenomena observed, and at the end there is a brief *résumé* of the main conclusions which the author deduces from his experiments. The following are original facts and opinions:—Chromatolysis is characterised by the disaggregation and dissolution of the chromatic masses and the migration of the nucleus. Turgescence is not in any way a regular phenomenon in chromatolysis. In the dog on the 122nd day, and in the cat on the 147th day, after the resection of the vagus, the pathological dorsal nucleus of the tenth pair shows no diminution in the number of its elements. The dog on the 22nd and 122nd day presents chromatolysis in the ganglion corresponding to the sound nerve, as well as in that corresponding to the resected vagus. Vacuolisation is one of the forms of the process of cellular degeneration.

H. J. Macevoy.

3. Physiological Psychology.

The Development of Memory in Children [*Experimentelle Untersuchungen über die Gedachtnissentwickelung bei Schülkindern*]. (*Zeits. f. Psych., Bd. xxvii, H.* 1 *and* 2, 1901.) *Lobsien, Marx.*

These experiments were made on 238 boys and 224 girls, between the ages of 9 and 14, in the schools at Kiel. Eight different kinds of memory were investigated, involving in each group a test of the ability to remember in exact order nine sensory impressions (nine objects exhibited in succession, nine figures repeated, nine names of visual objects repeated, nine names of states of feeling, nine difficult unknown words, etc.). Among the boys the average order of excellence reached was as follows (in decreasing values): real things, figures, words referring to touch, visual words, words representing sounds, actual sounds, words referring to feelings, difficult words. In every group (except that of objects exhibited) there was a regular improvement with age. In regard to objects seen, sounds heard, and representations of feeling, there was a marked improvement in memory about the thirteenth year. The memory for figures, and for sound-words, touch-words, and feeling-words, showed most rapid development at an earlier age (ten to eleven years). There was no tendency to a simultaneous development in all the groups; mental energy seemed to be concentrated on one group at a time.

Girls, on the whole, showed somewhat similar development to boys, but tended to be superior. The chief period of development for girls was about the twelfth year. The average of total improvement in memory was somewhat higher for girls than for boys. Between the ages of nine and ten the relative increase of memory is greater in boys (as 6 to 5), but at all other ages the girls are superior to the boys. The girls are notably superior to the boys as regards figures, sounds, and visual words.

The author elaborates his results in great detail; as many as 67 tables and curves are presented. HAVELOCK ELLIS.

Studies of Memory in the Normal, Neurasthenic and Insane [*Studien über die Merkfähigkeit der Normalen, Nervenschwachen und Geisteskranken*]. (*Monats. f. Psych. und Neur., Bd. ix*, 44, 1901.) *Ranschburg, P.*

The author has devised a method by which the memories of individuals may be compared to one another or to a perfect standard. His method tests the memory for words, persons, colours, orientation, names, and numbers.

In testing word-memory, he repeats to the subject fifteen pairs of words—five involving an association of ideas, as house, door; mouse, trap; steam, kettle; five arranged on the principle of co- and sub-ordination as—hand, finger; fish, water; day, week; God, Heaven; and five having some similarity of sound as—dog, dock; wand, wander; pick, picture, etc. He then repeats one word of each

couple, and gets the subject to name the other word. Marks are awarded according to the subject's success.

The subject is then shown, out of an album containing fifty bust portraits of equal size, the portraits of four men, four women, and two children. He is then given the album to look through and required to pick out the portraits which he has already seen.

As a test for colour, the subject is shown five portraits pasted on differently coloured mounts, and is required to name the colours when shown duplicate portraits on white mounts.

The test for orientation is as follows:—The author has a sheet of white paper mapped out into $21 \times 33 = 693$ squares. About 150 of these squares are blacked in without any definite arrangement. Five of these black squares are then pointed out to the subject, who is subsequently required to recognise them.

Memory for names is tested by telling the subject the names of certain persons in the portrait album, and asking him to name them again after an interval.

Memory for numbers is tested by such associations as 15, George Street, September 17th, eight pence, etc.

By such methods Ranschburg tested various classes of people, 700 marks being full; schoolboys obtained 360; uneducated classes 327, highly-educated classes 462, neurasthenics 317, and general paralytics 97. W. H. B. STODDART.

Obsessions of Scruple [*La Maladie du Scrupule ou l'Aboulie délirante*]. (*Revue Philosophique, April and May*, 1901.) *Janet, Pierre.*

Dr. Janet is unrivalled in the delicate and elaborate psychological analysis of hysterical and neurasthenic mental states on the borderland of insanity. In the present paper he presents a well documented study of classes of obsession (which would by some be classed under *folie du doute*), marked by an excess of scrupulosity, more especially an excessively scrupulous body-consciousness or modesty, obsessions of crime and sacrilege, and hypochondriacal tendencies. Under this head he introduces an interesting discussion of hysterical anorexia. True hysterical anorexia, he states, is rare, and should not be diagnosed unless there is more or less complete suppression of hunger, and also an exaggerated tendency to physical exercise—both these symptoms resting on anæsthetic conditions. He then narrates the case of a young girl, Nadia, whose symptoms had been falsely diagnosed as those of hysterical anorexia, but were really what Janet would call an obsession of scruple. She refused to eat, but remained hungry, sometimes very hungry, so that she would sometimes devour greedily everything she could put her hands on, especially in private. But eating always causes horrible remorse. There is no suppression of hunger, nor is there any tendency to exaggerated movement; she takes exercise, but with an effort. Regarded superficially, the idea that animates her is the fear of becoming fat, like her mother. But that idea is not isolated, but really connected with a whole system of complex ideas. It is not a mere matter of coquetry; she looks on being fat as something almost

immoral, something so shameful that it would prevent her from showing herself in public. She will not eat in the presence of others, nor can she even bear that others should hear her eating; she feels about eating (as she herself admits) as others feel about urinating. Nor is her feeling of shame confined to eating; from an early age she has been ashamed of her face, her hands, her legs, her feet, and regards them as ugly and badly made. But deeper, perhaps, than any other idea, is the desire to remain a little child, and be loved as a child. Such a case Janet regards as typical of this class of obsessions, very interesting from a clinical point of view, since they give rise to all sorts of symptoms—anorexia, chorea, writers' cramp, incontinence of urine, impotence, etc. Altogether they constitute a great neurosis, analogous in many respects to hysteria, but not to be confounded with it, the distinction being important both as regards prognosis and treatment. While such cases might be regarded as victims of a phobia, Janet thinks it better to regard them as primarily the victims of scruple—emphasising their troubles of will, and the ideas which they form of these troubles—and he regards the phobia as secondary. Janet considers John Bunyan as a fine type of obsession of scruple. He believes that suggestibility plays a very small part in such cases; they are endogenous, as he expresses it, rather than exogenous, and their obsessions are an index of the things that are most sacred to them.

Janet has met with as many as eighty-five cases which he would include in the group of *scrupuleux*, more usually women than men, and generally among the educated class. It will be seen, however, that the group has many affinities with other groups, and Janet proposes to devote a volume to its more exact study. The *scrupuleux* do not really believe in their own ideas, and are ashamed of them, can only with great difficulty be brought to speak of them clearly, and they must, Janet believes, be distinguished, on the one hand, from the victims of systematised delusions, and, on the other hand, from the hysterical, whose more simple ideas have a different mechanism.

HAVELOCK ELLIS.

Vertigo [*Le Vertige: Étude physio-pathologique de la Fonction d'Orientation et d'Équilibre*]. (*Revue Philosophique, March and April*, 1901.) *Grasset.*

Attention may be drawn to this elaborate and systematic study by Professor Grasset, who is also publishing (in the *Bibliothèque Scientifique Internationale*) a volume entitled *Maladies de l'Orientation et d'Équilibre.* The author, who shows a wide knowledge of the work on this subject done in other countries, considers it important to remember that vertigo is constituted of two sensations: (*a*) a sensation of displacement of the body in relation to surrounding objects; (*b*) a sensation of loss of equilibrium. He defines it ("synthetically and schematically") as a "subjective psychic phenomenon constituted by the transmission to the cerebral centre of a double sensation: a false sensation coming from the apparatus of orientation, and a sensation of the inadequacy of the polygon (by which he means the *ensemble* of the automatic centre of orientation and equilibrium) to ensure equilibrium."

Physiological vertigos are taken into consideration, though the study is chiefly devoted to the pathological varieties, and the symptoms are classed as anæsthetical, hyperæsthetical, and paræsthetical. A full schematic table of the objective and subjective symptoms is presented.

HAVELOCK ELLIS.

Cross-education. (*Studies from the Yale Psych. Lab.*, 1900.) *Davis, Walter G.*

In continuing his investigations into this subject, Davis has confirmed his earlier result as to the marked influence of exercise on one side of the body in increasing power on the unexercised side, while bringing out many new results in matters of detail. The experiments were made with the dynamometer and the ergograph. The influence of the factors of length of hand, length of fore-arm, previous muscular development, and temperament are taken into account, and the sexual differences also noted. As regards temperament, Davis finds it most convenient, from this point of view, to recognise three temperaments: the nervous, the motor, and the phlegmatic. The influence of this factor of type is found to be very important. Persons of the nervous type tend to be quick in muscular and mental reaction, short as regards height, and light in weight. Persons of the phlegmatic temperament are found to be slow in muscular and mental reaction, tall as regards height, and heavy in weight. Persons of the motor type are in all respects medium. There are, of course, many cases of mixed type. On the whole, however, they require different degrees of exercise to produce the full effects of cross-education, the phlegmatic, as a rule, considerably more than the motor. Exercise that is too slight, or too severe and fatiguing for the individual, will fail to produce proper development. "If the work is just right in intensity and amount the anabolism provoked is greater than the katabolism, and there is development of the part used. An almost endless variation of conditions would be necessary to make the adjustment of exercise suitable to all individuals. Exercise must be prescribed *per order* just as a dress must be fitted to the individual." Davis emphasises the conclusion to which his experiments point: that the mental factor is of much more importance than the muscular factor. Cross-education is mainly a matter of nervous centres and nervous channels. These researches are of considerable interest, both theoretical and practical.

It may be remarked as bearing on this question of cross-education, that since Davis's experiments were published, Féré (in the last volume of the *Année Psychologique*) has pointed out that with the ergograph alternation of work with right and left hands produces reciprocal stimulation of the homologous cerebral centres. This fact also, as Féré remarks, furnishes a physiological basis to Fourier's doctrine of the value of variety in work.

HAVELOCK ELLIS.

Correlation between Mental and Motor Ability. (*Amer. Journ. Psychol., vol. xii, No. 2*, 1901.) *Bagley, W. C.*

These experiments were carried out on school children at Madison at the suggestion of Professor Jastrow, with the object of testing the

results of Porter at St. Louis. Porter found a marked tendency to a direct relation between weight and mental precocity; weight, he then argued, stood for motor ability, and hence a child increases in mental efficiency directly as he increases in motor ability. These conclusions have been seriously criticised.

Bagley instituted a direct comparison between motor ability (as tested in five respects indicating motor strength, speed, accuracy, and steadiness) and mental ability (as judged by class standing and the teacher's independent estimate); a decidedly inverse relation was found between class standing aud dynamometer records. So also as regards class standing and steadiness of voluntary movement, and as regards class standing and accuracy of voluntary movement. The relationship of motor rapidity and one or two other motor characters to class standing was either less clear or indifferent. Nor, when the age factor was eliminated, was it possible to find much direct relation between weight and motor ability. The numbers were not sufficiently large to be absolutely conclusive, and, moreover, the method for ascertaining correlation was a somewhat special one, devised by Jastrow. So far as they go, however, the results are markedly opposed to Porter's. With whatever individual exceptions, they show that the pupils who are best developed physically, who are strongest and have most motor control, are generally deficient in mental ability. There seems to be little direct relation between mental ability as represented by reaction times and mental ability as represented by class standing. HAVELOCK ELLIS.

Taste Sensations in the Larynx [*Ueber Geschmacksempfindungen im Kehlkopf*]. (*Zeits. f. Psychol., Bd. xxvii, H. 1 and 2*, 1901.) *Kiesow, F., and Hahn, R.*

Verson, in 1868, discovered in the epiglottis nerve-endings, which he regarded as essentially resembling those which Schwalbe and Lovén had then recently discovered in the tongue of man and other mammals, and regarded as the primary organs of taste. Michelson, in 1891, brought forward experimental evidence to show that they really were capable of conveying sensations of taste. In the present paper Kiesow and Hahn, after setting forth the present state of the question, describe their own experiments, carried out at the Physiological Institute of Turin. They tested the inner surface of the epiglottis, as well as the interior of the larynx, with reference to reaction to the ordinary taste stimuli—sweet, bitter, acid, salt. Only three subjects were available for complete investigation, one of these being Kiesow himself. Schroetter's laryngeal sound was used in applying the test solutions, and various precautions were adopted in order to eliminate the obvious sources of error, while all doubtful trials were left out of account. In all three subjects the majority of experiments revealed the existence of sensibility on the laryngeal surface of the epiglottis to all four orders of test substances, although the sensations were of less intensity than when the same stimuli were applied to the tongue. All the subjects declared that they had never experienced taste sensations at such a depth, and were able to indicate on the external surface of the neck the spot at which the sensations were localised. Sweet and bitter

sensations were always easily recognised. Kiesow, however, was unable to identify acid stimuli, which he felt as salt, possibly because the end organs for acid in his case were lacking, and their place taken by those reacting to salt. The experiments within the larynx, made on Kiesow alone, also revealed the presence of taste sensations.

The authors do not discuss at length the object of this gustatory sensibility of the larynx. They regard this question as unsolved, though they consider that such sensibility is a survival of phylogenetic development, maintained because standing in some relation to the reflex mechanism. HAVELOCK ELLIS.

The Development of Voluntary Control. (*Psychol. Rev., Sept.*, 1901.) *Bair, J. H.*

How it is that we obtain voluntary muscular control is a problem of great interest and importance, for it helps to explain the origin and nature of the will. Bair has investigated the conditions and processes by which such control is gained in the case of a particular muscle. He selected the *retrahens aurem* because of its complete isolation from other muscles, the inability of most people to contract it, the comparative ease with which control can be learnt, and the definite movements attending contraction; moreover, this muscle is adequately supplied with motor and sensory nerves, and there is every reason to suppose that control over it is acquired in the same way as over any other muscle. Of the fourteen subjects on whom the experiments were made only two could move their ears at the beginning of the investigation, and then only by vigorously raising the brows.

Two Marey tambours were employed throughout the experiments, connected by a rubber tube so that the lever of one tambour would respond to the movement of the other, and the receiving tambour was attached to the ear, a difficult part of the experiment. An induction coil of constant current was also employed to give the subject the idea of the movement by means of artificial contraction of the muscle.

The experiments were made in a uniform manner, and fairly uniform results were obtained in all cases, as is shown by the series of curves presented in the paper. Each curve consists of four parts: (1) the current was applied; (2) then together with the current the subject tried to add his voluntary effort; (3) then he attempted to inhibit the action of the current; (4) finally he tried to move the ear voluntarily, without the help of the current. Although the idea of the movement was again and again given by the contracting current the movement could not be reproduced when the current was withdrawn, so that the author cannot agree with those psychologists (Stout, Baldwin, etc.) who think that the idea of movement is sufficient to enable us to reproduce it; "however much may be said in favour of man's superior mental qualities, 'free ideas,' etc., he is nevertheless conditioned by the same laws as the animal, and cannot learn a movement apart from its chance function in a motor impulse." Voluntary movement of the *retrahens* only begins to show itself when the subject bites the jaws together or vigorously raises the brows; in this way the second part of the curve came to be notably increased and the third decreased, and the fourth

stage began slowly to appear. Thus the ear was first reached by innervating a group of muscles (also supplied by facial nerve) over which we already possess control; it was reached by making it one in the group, so that learning to contract a new muscle is a matter of association with a group of muscles already in good working order. Until a movement is effected there is no sense of innervation. It was also noted that learning to make a voluntary movement is largely a matter of learning to relax. This is first learnt by withdrawing attention from the movement just effected—a voluntary attempt to relax will merely tighten the tension. When good control over the muscle was obtained by making it one of a group, it gradually became possible to move it without any other muscular movement. The author concludes that the idea of a movement is not sufficient to produce that movement; that we get control of a muscle in a group and can then single it out and gain independent control; and that the more closely attention can be directed to a movement, and the more nearly the part of the movement desired not to be made can for the moment be forgotten, the more likely is the desired movement to be accomplished. The rapidity with which the whole process is accomplished is entirely proportional to the ability to concentrate attention.

HAVELOCK ELLIS.

Contribution to the Study of the Psycho-physiology of the Emotions in Connection with a Case of Ereuthophobia [*Contribution à l'Étude de la Psycho-physiologie des Émotions à propos d'un Cas d'Éreutho-phobie*]. (*Rev. de Psychiat., No.* 7, 1900.) *Vaschide and Marchand.*

In the various cases of ereuthophobia (or morbid blushing) recorded, it appears to be clear that the emotional element is preponderant; but one point has been neglected, that is, the investigation of vaso-motor reflexes. The study of the case here recorded throws some light on this aspect of the question, especially as the patient, being intelligent, ably seconded the authors in the determination of certain points of their experiments.

M—, a shoemaker, was aged 36 years on admission at Villejuif Asylum. In his previous history one notes that he had syphilis at the age of seventeen; at the age of twenty-one he became a soldier in Africa, had malaria later in Tonquin, where he stayed three years. While there, he first suffered from the obsession of blushing; this idea led to a change in his character so marked that it caused his mother to send him soon after to the asylum at Vaucluse, at the age of twenty-eight; the obsession was not divulged by the patient, so that "the doctors there were ignorant of his principal complaint." He married when he left the asylum, two years later. His certificate on admission to Villejuif, in 1899, stated that he was suffering from chronic alcoholism, with a subacute exacerbation, multiple hallucinations, ideas of persecution, transitory excitement, trembling of hands, and cramp in the limbs. Among other signs on admission were noted exaggeration of knee-jerks and marked exaggeration of vaso-motor reflex. A few months after his admission, the symptoms of alcoholism

had mostly disappeared; the patient was sleeping better; the trembling of the hands persisted; the ideas of persecution were still present, but less defined.

It was only four months after arriving at Villejuif that he made his physician a confidant of his fixed idea—he had always concealed it, even from his mother and his wife. Since his first attack, at the age of twenty-two years, the obsession is always provoked by the arrival of a stranger. Pallor seemed generally to precede the blushing; the blushing was not always present, only when the attacks were severe. The patient was conscious of his change of character after the onset of the morbid blushing; he became very timid, depressed. He often has dreams in which he imagines that he meets a stranger, and under these conditions he feels the same phenomena as in the waking state. The obsession never leaves him. To conceal it, he gets into the shade, or turns his back to people, or pretends to look elsewhere. But an infallible means of avoiding blushing, he has discovered, is to drink alcohol, especially absinthe.

The authors' experiments with the patient were undertaken with a view to determine the relations of succession between the physiological phenomena and the emotional disorder. The neuro-vascular reactions were studied and registered by the graphic method. The thoracic respiration, the circulation in the radial pulse, and that in the capillaries of the hand were taken simultaneously or in succession. The blood-pressure was determined by Potain's apparatus.

The experiments consisted in introducing in the room at a certain given moment one or more strangers, and registering the effect in the various tracings. The authors tabulate the results obtained. A *pseudo* or so-called "absinthic" condition (a psychical illusion) was induced in the subject by giving him a draught containing paregoric elixir, and then a comparison was established with his normal condition. The general conclusion to which the authors are led is that the obsession of the fear of blushing (*quâ* emotion) is cerebral in origin. The ideation of the subject provokes an association which, in its turn, suggests an emotion of expectation, of anxiety or anguish, and the neuro-vascular phenomena are in no way the source of these emotional intellectual changes. The changes of ideas and of associations of ideas bring about, and then only a few moments after, important respiratory, radial, or capillary modifications. That the initial phenomenon is a cerebral phenomenon, and not of neuro-vascular nature, is shown by the fortifying influence of the absinthe, which acts not in virtue of its alcohol, but as a suggestive stimulant. Without discussing the theory of the emotions, they believe that the theory of James-Lange has yet to prove, and especially to explain, the mechanism of the neuro-vascular modifications as initial phenomena. The authors' experiments prove that the cerebral phenomena are the initial genesis of the somatic changes, and that on account of the momentary or spontaneous ideation, the respiration becomes more or less lowered, as the pulse becomes more or less accelerated. H. J. MACEVOY.

Projection of Dreams into the Waking State [*Projection du Rêve dans l'État de Veille*]. (*Rev. de Psychiat., No.* 2, 1901.) *Vaschide et Meunier.*

The notes of a case—an epileptic female suffering from complicated delusional insanity—are given to show the preponderating influence of dreams upon the mental life. E. V—, now æt. 45 years, was brought up as a child under unsatisfactory conditions (family quarrels, unkind mother, etc.). She was married at the age of twenty-six, and took to gambling. She had her first epileptic fit when thirty-one, after a violent emotional shock (witnessing the paternal house on fire); it was followed by disordered mind for forty-eight hours. Subsequently fits recurred for a time every six months, always followed by short periods of mental disorder; then they became more frequent. When thirty-seven, after an attack, she developed hypochondriacal ideas and delusions of persecution with auditory and sensory hallucinations, on account of which she was sent to an asylum.

She now presents hypochondriacal ideas of negation after dreams or delusional crises. On awakening, or after the crises are over, she remains convinced of the reality of these ideas, although she gradually dismisses them or forgets them. After vivid dreams, she wakes up convinced of their reality, so that in time they gradually assume the character of obsessions and direct her conduct by provoking impulsions. These appear during the post-epileptic state with the characteristics observed in the "psychical equivalents" of epileptic attacks—sudden pallor of the face, irresistibility, amnesia. After an interval of time, it becomes practically impossible for the patient to say whether certain ideas or hallucinations originated in a dream or in hallucinations during the waking state.

The dream, then, has for her the vividness of an hallucination, the hallucination the indecision or vagueness of a dream. The history of this case sets clearly the problem of the influence of dreams on the waking state, and especially illustrates the pathological part played by dreams. The authors believe that the psychical substratum in the mind—subconscious as regards our personality—is often revealed in dreams; and that the life in the dreaming state—the subconscious modified by the physiological rest of the night—has a far more considerable influence on the waking state than the latter has on the former (the dreamy state). It is, perhaps, in the psychological analysis of insomnia or in the study of sleep that we shall discover the intimate mechanism of a large number of psychopathies. A noteworthy observation in this case of E. V— is that she presents another perfect psychological automatism; her movements are admirably co-ordinated, her gestures well defined; a state of consciousness, a strict logic presides over the satisfaction of her desires,—in a word, the human machine "functions" without any appreciable defect, better, perhaps, than in a completely normal individual. Are we to attribute the perfection of this automatism to the predominance of the dream over her real life? Other important issues are raised in this interesting study, which constitutes a plea for the careful observation and analysis of dreams.

H. J. MACEVOY.

Materialistic Psychiatry [*Materialistische Psychiatrie*]. (*Monats. f. Psych. und Neur., Bd. ix, H.* 1, 1901.) *Juliusburger, Otto.*

Dr. Weygandt, in an article entitled "Psychology and Cerebral Anatomy in Special Relation to Modern Phrenology," which appeared in *Die Deutsche Medizinische Wochenschrift*, made the statement that the only true basis for the study of psychiatry is the acceptance of the doctrine of psycho-physical parallelism, and quotes Wundt's definition of this parallelism in support. Dr. Juliusburger feels it his duty to pen a somewhat indignant and scornful reply, and points out, in the first place, that whereas in 1863 Wundt, in his lectures, treated human and animal psychology from a monistic point of view, it is only in later years (1892) that he took up his dualistic standpoint of a psycho-physical parallelism, according to which, although with every psychical act there is a co-existent physical phenomenon, nevertheless these two manifestations are entirely independent of each other and have no causal relationship. Dr. Weygandt agrees with Ebbinghaus that mind and brain are not separable entities—the one a product of the other—but they are an actual combination, varying only according to the point of view from which we regard their manifestations; when viewed from within, these phenomena are psychical, when from without, physical.

Dr. Juliusburger confesses himself totally unable to understand this theory, and agrees with Ziehen that it is little more than playing with words.

The theory of localisation is now on such a firm basis that one is compelled to apply it to every psychical phenomenon, and the fact that many errors occur in attempts at minute localisation does not in any way detract from the truth of the principle.

Dr. Weygandt repudiated the theory of the junction of Meynert's association fibres, apparently on the ground of insufficient proof. From this Dr. Juliusburger assumes, though on what grounds this is not clear, that Weygandt denies the theory of association altogether and adduces examples of manifestations in the insane which, to him, are only to be explained by an association theory.

The reply concludes with a small dissertation on the neuron and a long quotation from Herbert Spencer on the transformation and conservation of energy, neither of which appears to be relevant to Weygandt's original article.

The whole tone of Dr. Juliusburger's contribution rather gives the impression that there is a considerable substratum of *argumentum ad hominem*, and it is worthy of notice that the journal which printed Dr. Weygandt's article declined to accept Dr. Juliusburger's reply for publication. W. H. B. STODDART.

The Evolution of Psychology [*L'Évolution de la Psychologie*]. (*Rev. de Psychiat., No.* 9, 1900.) *Toulouse, Ed.*

The author is interested in determining in what direction the spread of our knowledge of psychology tends; what results seem desirable and probable in the struggle going on in the various fields of energy which are thrashing out its problems. For centuries introspection was

practically the only means of study employed by philosophers; then came the experimental method. In this connection Toulouse emphasises the importance in our measurements of having physically and chemically defined standards. It is not only necessary to have a number to express our toil measurement, it must be a number determined by precise conditions. The difficulties under which various workers labour are pointed out, especially that of obtaining average subjects for experiments.

In asylums for the insane we have a vast and rich field of experience, where subjects are numerous and realise true natural experiments, so that the psychiater is, in truth, the best armed in this struggle of experimental psychology.

Toulouse concludes that the orientation of psychology, determined by the actual experimental tendencies, must be towards psychiatry as obtains in Germany. H. J. MACEVOY.

The Influence of Alcohol on Handwriting [*Ueber die Beeinflussung der Schrift durch den Alkohol*]. (*Psychologische Arbeiten, Bd. iii, H.* 4, 1901.) *Mayer, Martin.*

Previous investigations have shown—in harmony, indeed, with daily experience—that alcohol renders more difficult the perception of sensory impressions and the associated mental activity, while, on the other hand, it makes voluntary operations easier. At the same time, in apparent apposition with the latter result, alcohol has little or no influence in increasing work done with the dynamometer or ergograph. In order to follow out the workings of alcohol in a field where its finer influence could be precisely traced and measured, Mayer has investigated its effects on handwriting in accordance with the exact methods of Diehl. In one series of experiments the dose of absolute alcohol taken was 30 grammes, in another series 60 grammes. The results are recorded in full detail in this paper. It was found that alcohol has a slowing influence on writing movements; in small doses the pauses are shortened and the pressure increased; in large doses the pauses tend more to be increased, while the pressure is decreased; there is no recognisable influence on the way of writing. These results are recorded in detail with the precision that the instrumental study of handwriting now renders possible. Incidentally, Mayer introduces an interesting discussion of the resemblance of alcoholic intoxication to mania, which has often been pointed out. In both there is diminished attention, a flood of ideas with tendency to sound associations, an inclination to arrogance, and increased facility in obeying impulses. As soon, however, as we begin to inquire into the details of psychomotor activity (as may be done by reference to Gross's study of the precise characteristics of the handwriting in mania) profound differences may be traced. Common to both states is the shortening of the pauses, the release of movement becoming easier. In mania, however, there is greater excitability, the shortening becoming more marked in the course of writing, while in intoxication the pauses soon tend to be increased. Movement itself is in both conditions slowed, but in mania with very great rapidity. In mania, also, the writing is from the first

large, and tends to become larger as writing is continued, while in intoxication there is no change in this respect. Pressure, again, is much more increased in mania, and rises as writing is continued. The finer variations do not disappear as they do in intoxication, but are still more marked than normally, and changes in pressure occur with undue swiftness. On the whole the phenomena of intoxication, as evidenced by the handwriting, present a picture of increased excitability succeeded by paralysis, while in mania no symptoms of paralysis appear at any stage in the writing process, but, instead, an increasing excitability overcoming a preliminary tendency to inhibition of movement. HAVELOCK ELLIS.

On the Duration of the Psychic Action of Alcohol [*Ueber die Dauer der psychischen Alkoholwirkung*]. (*Psychologische Arbeiten, herausgeg. von Kraepelin, Bd. iv, H.* 1, 1901.) *Rüdin.*

This paper is a further contribution to the experimental study of the action of alcohol on mental function, which has already been the object of several valuable researches by the Heidelberg school.

The author's chief aim was to determine how long a single dose of alcohol continues to influence simple psychic processes. The same question was investigated by Fürer (*vide* communication to Congress for Prevention of Alcoholic Excess, Basle, 1896), who found that the effect of alcohol administered over-night lasted throughout the following day. As Fürer's experiments, however, were all made on a single individual, and with very large doses of the drug, control researches appeared desirable.

The experiments recorded in the present paper were made on three persons for a period of eight days, and on a fourth for a period of eleven days. The subjects were selected with due regard to similarity of age, education, habitual abstinence from alcohol, etc., and the conditions of the experiments were arranged on the usual lines. The alcohol was given in the form of wine, the dose being equivalent to 90—100 grammes of absolute alcohol. It was administered half an hour before the evening worktime of the fourth day, and in the longer investigation a second dose was given to the subject on the evening of the eighth day.

The experiments referred to addition of figures, learning by heart, reaction time, and rapidity of association. The results under the last head were analysed in the light of Aschaffenberg's classification of associations.

The results of the experiments are given in full detail, and are judiciously discussed. The author summarises them in the following conclusions:

1. The action of a large dose of alcohol on four different individuals showed marked differences in its direction, intensity, and duration.

2. In general, its effect was to decrease the amount of work in addition and in learning by heart, to cause a shortening of reaction time with increased tendency to errors (Fehlreactionen), and finally to accelerate associations resting chiefly on speech images. In one of the

individuals examined this quickening of motor associations was the only apparent effect produced by the alcohol.

3. The action of the drug was perceptible as a rule for twelve to twenty-four hours, sometimes, apparently, for as long as forty-eight hours. Of the different effects the shortening of reaction time was the earliest to disappear, being replaced by a lengthening with persistence of "Fehlreactionen."

4. The susceptibility to alcohol is not dependent on want of habit; it may be very slight after prolonged abstinence.

The conclusions as to the nature of the alcoholic influence are in accord with those of most other observers, and appear fully warranted by the facts, as shown in the detailed account of the experiments.

The inferences regarding the duration of this influence—the special object of the inquiry—are perhaps more open to criticism. The supposed effect during the day after the administration of the alcohol is not shown, as is the case with the immediate effect of the drug, by an absolute decrease in the amount of work done; it is apparent only in a failure to reach the increased rate of work which would be expected under normal conditions as a result of practice. This rate of work is estimated by comparing the amount done on the day before the alcohol with that on the third day after its administration, the result being controlled by reference to the average range of variation from other causes calculated on the figures for the entire period of the experiment. The risk of fallacy in this method when applied to such short periods is obviously great, and even if its substantial accuracy be admitted, the effects which it is supposed to demonstrate in these experiments are very slight and very inconstant. Further proof, therefore, is needed before the author's view on this point can be finally accepted, especially as it is in contradiction with the results of at least one observer (Partridge). The question is of considerable interest, for, as the author points out, such a persistent action of alcohol would be an important element in establishing the chronic intoxication.

The experiments showing the influence of alcohol on the different forms of association are particularly interesting and suggestive. The paper is altogether a very notable contribution to the scientific study of alcohol.

W. C. SULLIVAN.

The Action of Hunger on Psychic Processes [*Ueber die Beeinflussung geistiger Leistungen durch Hungern*]. (*Psychologische Arbeiten, herausgeg. von Kraepelin, Bd. iv, H.* 1, 1901.) *Weygandt.*

In this paper the author records the results of a series of elaborate experiments showing the condition of mental function during prolonged abstinence from food. The experiments were made on six individuals; the period of fasting generally ranged between 12 and 36 hours; in one instance it was extended to 48, and in another to 72 hours. In some of the experiments water was withheld as well as food. The psycho-physical tests employed were those current in Kraepelin's laboratory, a few modifications of detail being introduced in some of them. One new method—Griesbach's examination of the range of tactile sensibility—was also tried, but was found very unsatisfactory.

The results of each test are given in full detail, with an exhaustive discussion of their interpretation. A short review of the references to the question in general and scientific literature is added.

The author terminates his remarkably able paper by the following conclusions:

1. The psychic process undergoes a distinct change in conditions of abstinence.

2. The action is a sharply defined one, in that certain functions are more affected, others less, and others not at all.

3. Perception is not influenced by hunger.

4. The association of ideas is modified, the inner associations decrease, associations by speech-images increase, sound associations appear, association time is not changed.

5. Addition is considerably retarded.

6. Memory work in learning by heart is distinctly retarded; the change affects only the retention, not the speech process.

7. There is a slight slowing of reaction time; mistake reactions ("Fehlreactionen") are occasionally increased.

8. The effect of practice is not perceptibly impaired during the hunger phase.

9. Susceptibility to mental fatigue is not essentially different from the normal.

10. Inattention and, still more, emotional irritability, are slightly increased during hunger.

11. Abstinence from water as well as from food seems to affect the process of association more than abstinence from food alone; otherwise no differences appear between the two conditions.

12. The psychic changes in the phase of hunger disappear gradually, and not suddenly, after its cessation; they are still perceptible forty-eight hours after a period of abstinence lasting two days.

13. The action of hunger resembles the selective action of several chemical agents, and certain mental disorders which accompany anomalies of metabolism; it most nearly approaches, without, however, exactly producing, the psychic changes after bodily exertion.

14. In nocturnal exhaustion experiments, the symptoms of mental and physical fatigue seem to be associated with those due to hunger.

15. The psychic symptoms of the so-called exhaustion psychoses do not correspond to the changes which are produced by simple abstinence from food.

W. C. SULLIVAN.

The Neurosis of the End of the Century [*Il Nervosismo di questa Fine di Secolo*]. (*Conferenza* 1899. *Nel Circolo Filologico di Napoli-Estratto da Flegrea.*) *Bianchi, L.*

This address was delivered at the conference of the Philological Club at Naples, in 1899. The author points out that the neuroses are as old as man. He passes in review the different phases of these neuroses through which races have come as knowledge advanced. In the early ages as the result of a belief in a vindictive God, the neuroses assumed

a melancholic form with religious ideas. The neuroses of the Greeks and Romans were coloured by the realism of the period. There followed an era in which all power was given to Satan, and in consequence an ascetic mysticism resulted, with the foundation of many religious orders, which spread all over Europe. Epidemics of hysterical and demoniacal possession were common. A new era dawned with greater liberty of thought and action. The author then gave statistics pointing to the great advances made in language and education, in our knowledge of the human body, and the laws governing it. From these have followed the neuroses of the present time—the weariness of life, the diffidence, the excitability, the unrest that needs always new and more powerful stimuli, the intolerance of restriction and of discipline that denotes a great hypertrophy of egoism which, in its most marked development, gives us the anarchist epidemic.

This will be checked by a knowledge of the facts and laws of Nature. Larger concessions to labour and to agriculture and more liberty for evolution may cause anarchism to disappear, but the neuroses will continue varied and eternal as life itself. J. R. GILMOUR.

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4. Ætiology of Insanity.

On the Ætiology and Morbid Anatomy of Recurrent Insanity [*Zur Aetiologie und pathologischen Anatomie des periodischen Irreseins*]. (*Monats. f. Psych. und Neur., Bd. viii, H.* 5, 1900.) *Pilcz, A.*

Heredity is the most important factor in the causation of recurrent insanity, and Dr. Pilcz quotes many distinguished authors in support of this view. Kraepelin puts the proportion of cases of recurrent insanity with hereditary taint at 80 *per cent.*, while Morel regarded *folie circulaire* as a manifestation of hereditary taint.

Second in importance as an ætiological factor Dr. Pilcz places acquired disposition. By this he means traumatism and organic brain disease. The writer insists at some length on the latter. He points out that recurrent insanity does not, as a rule, tend to dementia. Twenty-five cases are here noted, of which eight showed no positive change *post mortem*, while the remaining seventeen showed anatomical changes. In all the seventeen dementia had set in, while in all the other eight there was no sign of weak-mindedness. It may therefore be assumed that in any given case of recurrent insanity where there is intellectual impairment, there is one or more focal cerebral lesion. There is nothing characteristic in the position or nature of these lesions, except that in all there is secondary glia proliferation.

No explanation is forthcoming of our inability to find cerebral changes in those cases where there is no impairment of intellect, and Dr. Pilcz suggests that research should be directed to anomalies of convolution, developmental abnormalities, etc.—conditions which are teratological rather than pathological, and which would point to faulty development of the nervous system, giving rise to stigmata of degeneration in the brain.

The author, in conclusion, draws attention to the ætiological and symptomatic similarities between recurrent insanities, and Samt and Krafft-Ebing have described an "epileptic circular insanity."

W. H. B. STODDART.

Alcoholism as a Cause of General Paralysis [*L'Alcoolismo come Causa della Paralisi generale*]. (*Ann. di Nevrol., Anno xix, fasc. 2.*) *Seppili.*

The author, studying the ætiology in 102 cases (78 males and 24 females) of general paralysis admitted under his care to the Brescia asylum between 1894 and 1900, found 16 cases (13 males and 3 females) in which alcoholism appeared to him to be the sole cause of the disease. He gives in this paper a very brief *résumé* of the clinical history of these cases, and of the macroscopic brain lesions noted in ten of them. He finds that alcohol is capable of generating a true general paralysis, and that cases of alcoholic origin do not differ in any respect from cases of other causation. In six of his cases the disease was of the exalted type, in one of the hypochondriacal, and in nine of the simple demented type. The cases ran a progressive course without remission, terminating fatally in from two to three years. The distinctive characters which some authors assign to alcoholic general paralysis or *pseudo*-general paralysis—generalised tremor, slightness of speech trouble, frequency of remission, etc.—were not noted. Hallucinations and the delirium of conjugal infidelity, also said to be specially common in such cases, were only found in one instance.

From a foot-note it appears that syphilis was traced only in twenty cases of the whole series, and in five of these the history was doubtful.

As the author's results are in marked contradiction with those of most other observers, it is to be regretted that he has not given some details of the evidence from which he inferred the causation of the disease in his cases.

W. C. SULLIVAN.

The Ætiology of Progressive Paralysis in the German Tirol. (*Allgem. Zeits. f. Psych., Bd. lviii, H. 2 and 3, 1901.*) *Eisath, G.*

From the beginning of the year 1889 to the end of 1899, 128 cases of progressive paralysis came under observation in the German Tirol; out of this number there were 104 men and 24 women. The amount of insane patients during these eleven years came to 5·4 *per cent.*; out-patients as well as in-patients were included in this calculation. The age at which the disease made its appearance varied between thirty and sixty-four.

The syphilitic nature of the disease was carefully considered, and the cases were divided into three groups:

1. Syphilis certain in 27 *per cent.*
2. Syphilis uncertain in 34 *per cent.*
3. Syphilis absent in 39 *per cent.*

Other observers, such as Rieger and Sprengeler, have obtained higher percentages in their syphilitic cases, 41·5—43·4 *per cent.* The author explains the low percentage in his syphilitic cases by saying that he only included under the heading No. 1 those patients who presented actual signs of the disease when they were examined.

Many observers, he adds, would include under "syphilis certain" cases having a history of several miscarriages, childless marriages, suspicious fundus changes in the eye, and a history of some venereal disease; he, on the other hand, would class these under No. 2. Another cause which would help to explain the low percentage would be the fact that peasants in the country are very often not aware that they have had syphilis. A third cause of the low percentage is due to the fact that during the first few years after 1889 less notice was taken of syphilis as being a cause of progressive paralysis; the effect of this would be to increase the number of doubtful cases and diminish the number of certain ones. If Berkeley-Hill's rule were a law, that is, if two thirds of the doubtful cases were classed among the certain ones, then the number of paralytics due to syphilis would rise to 47·9 *per cent.* In all other cases of insanity syphilis is regarded as a cause in only 1·3 *per cent.* Statistics in the Tirol show that paralytic dementia follows the spread of syphilis. It appears that the country population are free from paralysis, and that the germ of the disease is brought from the towns. The author states that in his cases the period of time elapsing between the primary sore and the onset of progressive paralysis varied from seven to twenty years.

Traumatism was regarded as a cause in eleven cases.

Alcoholism was an ætiological factor in 36·5 *per cent.* of the cases.

Lead was not regarded as a cause. Two cases followed the infectious diseases malaria and typhoid, but in both the length of time was too great between the infectious disease and the onset of paralysis to regard the one as the cause of the other.

Mental overstrain was a cause in five cases.

Heredity played a part in 33 *per cent.*

The particular occupation seems to have a great influence on the disease; thus, amongst country peasants the amount of paralysis was ·07 *per mille*; artisan class, ·39; business and trade in towns, 1·38; military and workers in the open air, ·7.

The risk of getting progressive paralysis is 142 times greater in towns than in the country; thus during eleven years the figures showed for the country ·07 *per mille*, whilst amongst the town population it was 1 *per cent.*

Dr. Eisath finds that as far as the German Tirol is concerned (and this must be regarded as chiefly a country population) sexual excesses form the chief cause of the disease, syphilis and alcohol being included as ætiological factors. R. CARTER.

The Bodily and Mental Individuality of the Woman and her Insanities [*L'Individualità somato-psichica della Donna e le sue Frenopathie*]. (*Il Manicomio, Anno xvii, Nos.* 1, 2.) *Del Greco.*

This thoughtful paper treats of the different characters of nervous diseases manifested in women from those in man. It groups the mental alienations of women into six classes, distinguished by temperament, and profound alterations of constitution brought about by disease. In the mental derangements of the female, observes the professor, there is a more pervading change in the whole temperament, not only

mental perversions, but a multiplicity of organic sensations which act upon the entire personality, inducing states of exaltation and depression, emotions of joy and grief, of fear and anger. These complex changes sometimes culminate in the feeling of altered personality. The structural differences between the male and female render the latter less able to react upon external nature. Her frame is adapted to maternity, conception, gestation, labour, lactation; then the renewal of the periods induces profound changes in her organism. These functions affect even the disposition of the bones and ligaments, the increase and diminution of the unstriped muscular fibres, the activity of the sympathetic ganglia, the vascularisation of organs, and the augmented cellular secretion and enlargement of the glands. The totality of changes, so diverse and profound, subject the feminine constitution to grave fluctuations, which alter its relations to the outer world and affect the psychical manifestations.

It has been observed that in the transmission of hereditary disease from the male parent, troubles of nutrition such as gout and diabetes, are resolved in the daughters into nervous and mental affections. The woman is stronger than the man in nutritive powers, which react more easily, and are the great provision of latent energy indispensable to the function of maternity. On the other hand, the woman has less power of action and co-ordination in the psychical and nervous functions; she has less cerebral and neuro-muscular energy. In her, the psycho-organic reflexes predominate, and the inhibitions of cerebral life are weaker. Thus, in the woman, the pathological heredity attacks the place of least resistance. The greater disposition of women to insanity has been affirmed by Esquirol and commented upon by Marro in his elaborate studies on the subject.*

Marro has observed that after the menopause the mental alienation of women turns in a new direction. In the young and robust woman insanity often takes the form of mania with perverted sensations. After the menopause she is no longer subject to profound nutritive oscillations; but there occurs the danger of defective excretions of the products of physiological changes, and she becomes liable to fall a prey to persistent ideas of a sad complexion. She broods over past loves, the decay of beauty, and the lost power of pleasing.

Hysteria, with its heightened suggestibility, is the exaggeration of the emotional element so powerful in the feminine constitution.

As a mother the woman shows her noblest qualities. On the stage, she surpasses male actors owing to her lively reproductive imagination and quick emotional susceptibilities, while, in all the occupations which demand original intellectual power, she falls behind the man.

The female criminal sometimes shows an utter perversion of the moral nature so that she may even become a heartless and cruel mother. Her perfidy is deeper than that of men, and she is skilful in tempting men to acts of violence; if she cannot arm the hand of the assassin, she will use poison with a more relentless cunning than that of the male criminal.

WILLIAM W. IRELAND.

* The work cited is A. Marro, "La pazzia nelle donne," "La donna e la degenerazione considerata dal punto di vista sociale."—*Agli Annali di Freniatria*, 1892–94.

On Spiritualism and Insanity [*Ueber Spiritismus und Geistesstörung*]. (*Arch. f. Psych., Bd. xxxiv, H.* 3.) *Henneberg, R.*

Dr. Henneberg has read deeply in the extensive literature of spiritualism and occultism. He treats of table turning and spirit rapping, and what he calls psychographs, in which the subject, believed to be in a trance, writes to the dictation of the spirits of the dead. He mentions cases in which the mental derangement resulted from being hypnotised. Persons who practise these so-called communings with spirits have fallen into hysterical conditions. Some of these were previously disposed to neurosis, so that the tendency was merely aggravated. In other instances hysteria appeared as the result of these practices in persons previously healthy. Dr. Henneberg gives in detail the description of eight cases in which insanity was the result of concentration on spiritualistic experiments. He observes that it is the duty of the physician to warn persons disposed to nervous diseases against any dealings with mediums, magnetisers, and faith healers, who work on the imagination. WILLIAM W. IRELAND.

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5. Clinical Neurology and Psychiatry.

Autobiography of a Maniac [*Selbst-Biographie eines Falls von Mania Acuta*]. (*Arch. f. Psych., Bd. xxxiv, H.* 3.)

The subject of this paper who records her own experiences was a Miss L. S—, described as a highly gifted and well-educated lady. She was admitted to the asylum at Zürich, December 21st, 1882, being then thirty-two years of age. There was a record of insanity in her family. As a child, she was intelligent, imaginative, and impressionable, unpractical, not good at arithmetic, but fond of drawing. As she grew up, she had religious scruples and doubts, especially about the time of confirmation. She was affected by listlessness and melancholy. At her own request, she was sent to a parsonage in the Pays de Vaud, where the cloud soon passed away. When twenty-one years of age, L. S— visited Italy. Amongst her Italian studies she read the *Decameron.* This book did not affect or excite her at the time, but left much that was impure in her memory, which had an evil effect in later days. She never read any other books of an indelicate character. She fell in love with a man with whom she used to study, who was nine years younger than herself. Apparently they were engaged to be married. He became insane, which deeply affected her. Before her own mental derangement she had a lasting dull headache, especially at the occiput, and sometimes pains and peculiar feelings in the head, but the attack of mania came on quite suddenly. When admitted to the asylum, she was very much excited, and seems to have been put under restraint and treated with the *Deckelbad* (the warm bath), the head remaining uncovered through a lid. She describes her terrors, the chain of ideas which rushed through her mind. She recalls that she used many words to which she gave

quite a different meaning to that they usually bear; some of them were of provincial or of foreign origin. She did not think she was insane nor recognise her excitement, and was surprised that people were afraid of her. She could, however, appreciate the mental alienation of her fellow-patients. She took great pleasure in feeding birds; she had many hallucinations and dreams which passed into her memory as illusions. She heard voices though she denied it. Her hallucinations or delusions were of various kinds and degrees, rising from mere suppositions to convictions; sometimes when spectral figures appeared to her she would guess who they were, try to identify them with real persons; for example, she saw an elderly woman of commanding aspect, very pale, and dressed in white robes, whom she supposed might be Queen Elizabeth of England. In honour of this personage she thought she saw a young horse sporting about in the sea. Looking out at the window of her cell, she saw the figure of a little grey monkey, of almost human expression, rising from the ground, and making signs for her to come away with it. This she felt willing to do, and thought that there was a kind of understanding between them. Another time, she thought that she was in purgatory, and that her companions in the asylum were going through penance there. She believed that she saw Pope Leo XIII, Dante, St. Catherine of Siena, and Francis of Assisi, and nourished the delusion that her grandmother was the original of Gretchen in *Faust*, and that her family were connected with Goethe. She thought that the currents of air which passed through the gratings were intended as signals from persons who wished to help her, and she stuck little things in the wire to keep up the correspondence. The birds who flew about the windows she took as messengers of freedom. She heard a tumult outside which she believed to be caused by anarchists, and a hollow voice as if preaching, but so quietly that she could not follow the words. She also heard noises like that of machinery. She thought that her teeth had been so calcified that they were all grown together, and expected them to be forcibly separated. A large number of hallucinations and delusions are tabulated in a brief form. After thirteen months' detention in the asylum she was discharged cured, and although nearly twenty years have now elapsed, she has had no return of mental derangement. WILLIAM W. IRELAND.

Idiocy and Athetosis [*Idiotismo ed Atetosi*]. (*Il Manicomio, Anno xvii, Nos.* 1, 2.) *Tomasini, S.*

The author describes one case of idiocy combined with athetosis, and gives a summary of the contributions which have been made to this subject. The number of autopsies of double athetosis is small. The lesions found in athetosis have been mainly of a hæmorrhagic character, though a few cases of atrophy and asymmetry of the brain, cerebellum, and bulb have been recorded. Athetosis is not infrequently met with in paralytic idiocy, although it often occurs where the intellect is not impaired. It seems needless, therefore, to treat what is merely a symptom of cerebral or nervous irritation as a concomitant of so profound an affection as idiocy.

WILLIAM W. IRELAND.

Cerebral Paralysis and Idiocy [*Cerebrale Kinderlähmung und Idiotie*]. (*Arch. f. Psych., Bd. xiii, xxxiv, H.* 3.) *Wachsmuth, H.*

He has made a careful study of twenty-two cases of this malady. Most of his material is taken from the hospital at Merxhausen, which receives incurable insane females from the province of Hessen and the principality of Waldeck. Out of 700 patients, there were 185 idiots, 22 of whom, *i. e.*, about 12 *per cent.*, were affected with cerebral paralysis. He deals with all the symptoms and pathology of the affection. In such cases the paralysis and idiocy is complicated by a variety of nervous symptoms, especially with epilepsy, which affects at least half the patients, and helps to increase the mental deficiency. Dr. Wachsmuth's paper fills forty-four pages. His experience leads him to confirm the observation of Bourneville, that epilepsy generally disappears between the fortieth and fiftieth years of life. A great part of our cases, he observes, have already passed this age, and they have no more epileptic attacks. In other instances a diminution of the epileptic attacks has been observed. Many of the cases of cerebral paralysis are regarded as being the sequel of encephalitis, sometimes caused by infectious diseases. Wachsmuth does not consider the amount of paralysis is a measure of the mental deficiency. This study of the subject has induced him to divide his cases into four classes.

1. Cases in which there is a complete restitution of bodily and mental health.

2. Cases in which there is no enduring injury to the mind but paralysis and other bodily symptoms.

3. Cases in which mental deficiencies, but no bodily injuries appear.

4. Cases in which there are both lasting mental and bodily derangements.

This last group comprises by far the largest number of cases. It is true, as Dr. Wachsmuth observes, that the diagnosis of the other groups is much more difficult. WILLIAM W. IRELAND.

Polyclonus in General Paralysis [*Policlonie nella demenza Paralitica*]. (*Riv. di Patol., Nerv. e Ment., fasc.* 6, 1901.) *Lambranzi, R.*

The author describes two cases, the first, a man, æt. 31, who died after fourteen months' illness, with well-marked symptoms of general paralysis. Ten days before death various groups of muscles of the right side of the body (those supplied by lower branch of facial nerve, those of right side of tongue, external abdominal oblique, serratus magnus, biceps cruris, flexors of forearm) were affected by clonus, irregular, with short but distinct intervals; the clonus ceased with sleep, and had no effect on the movement of the muscles. It continued till his death. In the second case, a man, æt. 39, the muscles of face were first affected, and, after a short interval, the right side of body. The movements were arythmic, irregular, and rapid, diminished by movement, increased by an emotion; they ceased in sleep. The pectorals, the abdominal oblique (120 contractions per min.), the extensors of the forearm, and the adductors of the thigh (150 per min.) were all affected.

Athetosis, affecting right hand, on one occasion supervened. The clonus later spread to left side of body. During the later stages of the illness they reappeared for a third time. The author points out the relative infrequency of the condition associated with the psychoses. He compares at considerable length the clonus with the allied muscular tremors in chorea in its various forms, and with the group of misclonus associated with epilepsy with a view to establishing the seat of the lesion. This is concluded to be in all these cases probably cortical.

J. R. GILMOUR.

Psychomotor Hallucinations in General Paralysis [*Hallucinations Psycho-motrices dans la Paralysie générale*]. (*Arch. de Neurol., July*, 1901.) *Marie et Buvat.*

The notes of three cases are given, preceded by an account of the observations made by others on this subject—Esquirol, Sérieux. Psychomotor hallucinations, verbal and graphic, appear to be rare in general paralysis, although one must not lose sight of the fact that their diagnosis in this condition is difficult, either on account of their transient character, or on account of the dementia of the patient.

In the first case, that of a man, æt. 35 years, the patient speaks of himself in the third person, and believes he has someone, a woman, inside him who speaks to him and writes to him with his own hand, and to whom he speaks. The second case is that of a man, æt. 47 years. Associated with disorders of memory and attention he has psychomotor hallucinations. He announces that the "don" is about to speak. His voice alters and he speaks of himself as a stranger; this "don" speaks with his tongue in his teeth and converses with the patient and with those who speak to him. This condition is also revealed in the letters which he writes. The third is that of a man, æt. 38 years. A voice within him addresses him thus: "What are you doing, B—, in this place? Go home." When questioned, he says that a woman constantly talks to him in his mouth, moves his tongue in spite of himself, and insults him; he closes his teeth so as not to speak, but speaks in spite of himself.

H. J. MACEVOY.

The Genital Sense studied in the same Patients during the Three Stages of General Paralysis [*Du Sens génital étudié chez les mêmes Malades aux trois Périodes de la Paralysie générale*]. (*Arch. de Neurol. July*, 1900, *to July*, 1901.) *Marondon de Montyel.*

The author has studied the condition of the genital sense in 108 general paralytics in relation to age, form of mental disorder, etc., and draws certain interesting conclusions. He finds that, for example, the self-satisfaction of general paralytics and their delusions of great physical strength are not due to genital over-activity. That disorders of the genital sense are not related to alterations of touch sensation or of sensation to pain, as has been held by some observers. In seven cases, especially where delusions concerning the genital organs were prominent and spontaneously related (notes given), it appears clear after reading the account given that the genital delusions have no physical basis, and do not seem to be related in any way with the state of the genital organs. Dr. de Montyel finds no relation either between

the condition of the genital sense and the subjective sensations felt in the skin by certain general paralytics. Alcohol, of all causes, apparently is most frequently responsible for alterations in the genital sense, more especially in the direction of increase.

As regards the important questions of prognosis and diagnosis, the author has no doubt that in the prodromal period genital disorders by their early appearance, their accentuation, and their special characteristics, may enable one to foresee or predict general paralysis some time before its invasion. These disorders appear early, and when they consist of alternating excitement and impotence, as is most commonly the case, the import is clear. Persisting total impotence is important from the point of view of diagnosis when the general health is good.

Not much help is forthcoming in this direction as regards prognosis. The author resumes under twenty-three different headings the conclusions which he has drawn from his researches—dealing with male general paralytics only. H. J. MACEVOY.

On Fixed Ideas [*Sull' idee fisse*]. (*Clinica Moderna*, 1899.) *Bianchi, L.*

This is a lecture on fixed ideas and obsessions. For the genesis of these two factors are necessary, first, an excessive condition of feeling; second, a congenital or acquired weakness of mental constitution. The difference between them and paranoia consists in the fact that in the case of obsessions there is no alteration of the personality. The author divides them into (1) obsessional emotions, (2) obsessional ideas, and (3) obsessional impulses. This is not a rigorous psychological distinction, but it is justified by the prevalence of one of the elements constituting each group. The emotional group may be divided into repulsions (or phobias) and imperative desires. The phobia may be general or for one determinate object only. Under the heading of obsessional desires are included dipsomania and certain other drug habits. The obsessional impulses are distinguished by their motor content; as these become more automatic they pass into the group of ties. Obsessional ideas have frequently a hypochondriacal basis. They are rarely accompanied by hallucinations. As regards prognosis there are two classes of cases, first, those in which the original psychical weakness is hereditary or dates from early infancy; second, the cases in which the weakness is acquired. In the first class the outlook is very grave and amelioration only results where development and education are very favourable. Other functions may through time become affected, but it rarely passes into other forms of insanity. Agitated melancholia may, however, develop. Suicide is rare, those affected being generally undecided. The treatment is largely general. Muscular and mental exercises are of benefit, as also outdoor work and electricity. If neurasthenia be present it is an indication for treatment; suggestion may also be tried. J. R. GILMOUR.

Heart and Circulation in the Feeble-minded. (*The Amer. Journ. Med. Sc., June*, 1901.) *Taylor and Pearce.*

The writers contribute, in this paper, the results of observations made at the Pennsylvania School for Feeble-minded Children at

Elwyn, Pa., but state that this is only a partial representation of their work.

They were chiefly concerned with the so-called imbecile class or backward-minded individuals, in whom a fair degree of amelioration can be expected, and they hope yet to secure some practical results by treatment directed towards the vascular system and its innervation. For the idiot, they truly observe, little can be expected from any treatment other than educational and hygienic.

They believe that the nervous system of the young child suffers from the effects of toxins in many ways not yet understood, and suggest that the foundation of much disease, especially that affecting the brain, is laid long before we are capable of suspecting or detecting its presence, through the agency of insidious and unknown toxic agents. They infer that much of this damage is expended upon the structures of the circulatory system, and think that even if we could control the activity of the vaso-motor system alone much might be accomplished. The alternation of exalted or depressed states may be taken as an expression of a cytolysis of the cerebral neurones. Again, they infer that the peculiarities of the mental phenomena depend in some measure upon the degree of cell alteration as well as upon the character of the circulatory poison, and also upon the number, condition, and situation of the neurones involved in the process.

After some further observations on toxæmia and auto-toxæmia in their relation to circulatory incompetence, they quote Oliver and Wilmarth on Mongolian forms of idiocy, to the effect that the general pathological conditions, such as club-shaped, cold, clammy extremities, tendency to ulceration, ecchymoses, etc., bear close causal relation to imperfect development of the entire vascular system. The patients generally succumbed, during the colder months of the year, with gross hæmorrhagic or exudative lesions in the mucous tracts and other vital areas. The common ætiological factor was great activity, and a final overthrow of the nutritive centres during the earlier portion of the antenatal existence.

The subsequent part of this article consists of tabulated records of forty male and thirty-two female cases, studied out of the total number of 955 inmates examined, from which the authors draw the following conclusions, *e. g.*, that organic vascular heart-disease is a large ætiological factor in continuing the downward course of imbeciles; they having found a great number of varied cardio-vascular signs, and these out of proportion to the mental defect. Careful anthropometric studies and observations in detail of somatic disease other than that of the nervous system should be made in cases of mental enfeeblement. Many of the high-grade cases can be bettered much more by attention being paid to the therapeusis of the cardio-vascular disorders of imbeciles, also of the insane. Scientific laboratory studies of the blood and excretions will, no doubt, furnish valuable data in this direction in the future, admitting the large *rôle* which biochemical products must play in the pathology of many diseases. The action of certain alkaloids upon the peripheral circulation needs careful study and experiment. The proper use of especially directed regulated movements (imbeciles being good

imitators) is beneficial, as by improving the physique, however slightly, the mentality will also be improved.

Care must be taken that backward children are not physically overworked in view of their preponderating lowered physique and liability to heart disease, but fresh air and properly directed active employment are indicated. A. W. WILCOX.

A Study of the Insanities of Adolescence. (*Journ. Nerv. and Ment. Dis., Aug.* 1901.) *Pickett.*

In this article, the author studies the cases of 284 young male patients, between fifteen and thirty years of age on admission to the Philadelphia Hospital, having excluded all those who were plainly imbecile, epileptic, or paretic. After alluding to the histories of these cases, alcoholic in forty-four,—although most of these he believes, were moderate drinkers,—he asks "What relations have the doctrines of degeneration with our present subject?" and points out that Esquirol and Morel have observed the tendency of hereditary insanity to appear at puberty and in adolescence, and that the latter author more definitely states that at this period degeneration reveals itself. A degenerate history was obtained in more than three quarters of the author's cases. The anatomical marks of degeneracy also were common, but unfortunately no systematic study of these was made. Obsessions, the psychic stigmata of degeneration according to Magnan, he believes with Régis are rather actual insanities, disorders of the will on a basis of neurasthenia; coming and going with the state of nervous health they are stigmata only as insanity itself is a stigma: to serve as a real test of degeneration, a stigma must be permanent. Only by close anatomical study on a large scale with classification of stigmata, can degeneration obtain a useful clinical significance. He agrees with Morel that the theory of degeneration should be kept single and thought of mainly as related to heredity. It is important not to confuse the two uses of the word "degeneration," the one being proper to psychiatry, the other to pathological anatomy. With Jaffray he thinks that "to be insane, the patient must be degenerate."

He next deals at some length with the question of classification, and quotes Wille to the effect that there is no insanity peculiar to puberty, but only "puberty modified" insanity. He criticises this author's book on the 'Insanities of the Puberty Age,' saying that to regard mania, melancholia, circular insanity, etc. (the "simple elements of insanity," as Magnan calls them), as fundamental, in the way that the simple elements in chemistry are so, is right in teaching, but is wrong in the philosophic study of psychiatry, and also Morselli's statement that hypochondriasis is a distinct clinical entity, and the insistence of the Germans on acute paranoia, which, he says, clinically helps us little. There is no boundary, he admits, between mania and paranoia, but the prognosis in the borderland cases is that of mania or of paranoia according as excitement or delusion dominates the picture. From the standpoint of prognosis, then, what are the "puberty modifications" of insanity? he asks, and replies: In the first place, a tendency to dementia. In this connection Morel first used the

term *démence précoce*. The theory is, according to Mills, that with many individuals the potentiality of life, mentally, is early exhausted. In the author's own series less than one fourth left the hospital restored, many of these probably continuing "psychic cripples." On the average, two thirds of the insane men at the Philadelphia Hospital, between fifteen and thirty years of age become chronic dements or die of intercurrent disease. This is an important clinical fact, and justifies, he believes, in itself, a separate consideration of the insanities of puberty, for when we apply clinical tests we apply the only tests that hitherto have borne fruit in psychiatry. With Kraepelin, then, he claims special consideration for many of his cases, on the clinical ground of prognosis: dementia præcox.

He then gives three tables and a chart of eleven cases of katatonia, seventeen of paranoia, and thirty of hebephrenia in which hopeless dementia came on rapidly. Following Kahlbaum's advice to "group by the most frequently occurring symptom" in these cases he notes two important ones, first, delusion; second, catalepsy.

The author is a firm believer in katatonia, and after discussing the symptoms of this form of insanity at some length, he proceeds to the prognosis, agreeing with Kahlbaum that in many cases it is good. This is contrary to the teaching of the later German writers. He believes that at this period of life recovery is possible from mild forms of both katatonia and paranoia. He found that persecutory delusions were common in his cases, and formulates the theory that an adolescent will react to such a delusion in the form of egotistic delusion, or in the form of katatonia according as his temperament is egoistic and assertive or soft and hysterical. He found that the paranoics were rather older than the rest of his cases, and harmonises this fact with his theory by assuming that age braces the hysterical temperament and increases the assertiveness of the individual. This would explain the frequent coincidence of katatonic and paranoic manifestations in the same patient as noted by Kahlbaum, Kierman, Spitzka, and many others since. He then describes the various symptoms exhibited by this series of cases, pointing out that dementia which shows itself from the beginning of the mental trouble is the most important, and names this group, after Kraepelin, dementia paranoides. Hebephrenia he looks upon as including those cases of dementia præcox which are not distinctly paranoic and not katatonic; it is a group of the unclassified members of dementia præcox.

In conclusion, the author truly remarks that, after all, it may be the most common-sense plan to divide the insanities into the conventional forms of mania, melancholia, etc., then to approach the subject from a second standpoint, discussing the cases in their relation to periods of life—childhood, puberty, adolescence, the menopause, and senility.

A. W. WILCOX.

Insanity of Adolescence [*Folie de l'Adolescence*]. (*Arch. de Neurol., Aug.*, 1900.) *Bourneville and Bellin.*

The notes of an interesting case are given—fully and carefully recorded as Bourneville's cases generally are. A. G—, a girl æt. 14

years was admitted into the Fondation Vallée, March 4th, 1899. Her family history was very bad—father, alcoholic and violent; mother, hysterical, then insane; grandparents, neurotic, as well as several uncles and aunts. The patient was possibly conceived when her father was drunk, her mother being at the time liable to attacks of hysteria. She had once convulsions limited to the face; up to the age of twelve years she had nocturnal incontinence, and after this had attacks of depression, of alternating crying and laughter. When her mother was placed under care, the girl was placed in an orphan school at Les Andelys, where, no doubt, under the influence of the separation from her mother and religious practices she developed mystical delusions—she thought she was Joan of Arc and had blessed visions, etc. A few days later she came under Bourneville's care. The mystical delusions persisted for a few days, and after a short remission (March 9th—23rd) were followed by a period of maniacal excitement—crying, singing, incoherent purposeless movements, extravagance, dirty habits, and insomnia. The attack lasted a week, and was followed by a remission (March 30th—April 21st) after which she was somewhat melancholic for a while, although free from hallucinations and mystical delusions. On May 1st she was practically well. About a year later, menstruation appeared, without any mental disturbance. The treatment consisted in baths and douches, with the administration of chloral and bromides to combat the insomnia and excitement; general exercises, occupation, etc., afterwards. H. J. MACEVOY.

Systematised Delusional Insanity from Dream to Dream [*Délire systématisé de Rêve à Rêve*]. (*Rev. de Psychiat.*, *No.* 4, 1901.) *Klippel and Trenaunay.*

This is a case with a long chronic evolution, which shows the narrow relations which may exist between dreams and delusions. Whether dreaming during sleep, or apparently at times dreaming when awake, the patient presented persistent delusions which were grafted on or sprang from the dreams, and occasionally led to acts. O. L— was aged 49 when he came under the authors' care, having been in the post office for twenty-four years; he complained of pains in the lower limbs, which exaggerated a natural limp (due to former injuries), and pains in the head, which he referred to visions he had recently experienced. The patient had written a long account of these hallucinations, which revealed two dominant ideas: (1) that the patient was God's elect, and (2) that he was persecuted. To explain them he referred to certain episodes which had occurred far back in his life, and the visions seemed to be of two kinds: (*a*) representations of his ordinary life; (*b*) supernatural. As regards these supernatural visions, a few of these were extra-terrestrial (referring to the heavens, to the sun, etc.), but most (a large number altogether) were terrestrial (a rainbow descending about the patient's head, beholding Christ on the Cross appearing on a newspaper he was reading, a star falling and the moon stretching out to catch it, etc.). Hallucinations of hearing occasionally accompanied the last-mentioned hallucination of vision. The ideas of persecution arose in his mind at the time of appearance of these visions; they mostly referred to his thoughts being

read. The various hallucinations appear to begin in dreams, during which he is authorised to divulge them, etc. H. J. MACEVOY.

A Case of Prolonged Dream, Toxi-infectious in Origin [*Un Cas de Rêve prolongé, d Origine toxi-infectieuse*]. (*Rev. de Psychiat., No.* 6, 1900.) *Klippel and Trenaunay.*

The case simulates a form of alcoholism. Nightmare, dreaming prolonged into the waking state, general mental confusion superadded—these represent the degrees of infection acting on the brain, and well illustrated in the notes of this observation.

A man, æt. 41 years, was admitted into hospital on June 6th, 1899, suffering from acute articular rheumatism. His family history *quâ* nervous disease was not good. At eighteen years of age, he joined the navy, and beyond some rheumatism, his health kept fairly good during his eight years' sojourn in the colonies. He then took up photography, and in this work suffered from attacks of vertigo (? from cyanide of potassium fumes) up to the age of thirty. At this time, he had an illness lasting three months, which left his face drawn to the left, and details of which he completely forgot. After this, he had several attacks of acute rheumatism.

The present attack was articular, no cardiac trouble; it responded to salicylate of soda. Suddenly, on June 15th, during convalescence, he, without warning, was seized with cerebral disorder (the salicylate was not given after June 11th), he became excited in the night, confused, had delusions that he was invited to a presidential reception, and wanted to get out of the hospital, etc. In the morning, this mental confusion was especially noticed on recalling events of the night, but he was still full of delusions. This condition lasted until June 19th, it was worse at night, and he was generally calm and less confused in the day, although his delusions were even then easily excited by reference to the dreams of the night before. As the mind improved, it was especially noticed that the tongue, which at first was much furred, became cleaner, and finally normal on the 20th, although there was not anything especially to note concerning his other organs and functions. All memory of the mental disorder vanished after the attack. A few days later, the patient had a relapse of rheumatism, but the mind kept clear. The patient was not a drinker, although the details of this attack so strongly suggest a form of alcoholic toxæmia.

H. J. MACEVOY.

The Importance of Dreams as Symptoms of Disease [*La Valeur séméiologique du Rêve*]. (*Rev. Scient., No.* 14, 1901, *premier semestre.*) *Vaschide and Pieron.*

This is a continuation of a paper on dreams (see *Revue Scientifique*, March 30th, 1901), and deals especially with the dreams of epileptics. Reference is made to Duaste's cases, in which dreams occurred during the epileptic seizure only (*Journal de Médecine de Bordeaux*, Nos. xlviii and xlvix, 1899); but the possibility of the dream being merely an aura must not be dismissed. Certain characteristics of epileptic dreams are to be noted: the predominance of the colour red; certain parts of

the body especially figure: the head, the sexual organs, the chest; the introduction of strong animals, the act of falling, etc.

Dreams are often the indication of functional disorder, but are of no help in gauging its gravity. In certain organic affections prognostic signs may be given by dreams. The authors give the notes of several cases illustrating this point; in one, a vivid dream, in which the head was squeezed in a vice, preceded the onset of meningitis; in another, during which the throat was seized by a coachman, an acute sore throat followed; in a third case a girl dreamt that she was knocked down by her *fiancé*, who pressed his knee upon her throat and filled her mouth with filth; *four* days later she developed a dangerous sore throat. The authors believe that dreams in insanity may be of prognostic and diagnostic value. They look forward to the publication, later on, of observations on this subject. H. J. MACEVOY.

Case of Kleptomania and Death from Cerebral Uræmia [*Observation d'un Cas de Kleptomanie terminé par un Accès urémique à forme nerveuse*]. (*Rev. de Psychiat., No.* 8, 1901.) *Meunier.*

On January 12th, 1901, H—, æt. 40 years, was admitted to Sainte Anne Asylum, having just escaped imprisonment, owing to Dr. Garnier's certificate of "mental debility, melancholia, confusion of ideas, excitement at intervals, want of appreciation of his condition, etc." A few days later he came under the care of Dr. Marie at Villejuif. He became troublesome on account of his pilfering habits. On seven or eight occasions he robbed patients of such things as books, ink-stands, pencils, etc. When the objects were found in his pockets, he always maintained that he was driven to steal in spite of himself. In March, he was placed on a diet without salt—or rather with a minimum of salt—(75 grains a day in his bread and milk); in addition, he was given 30 grains of bromide of potassium per diem. On the first day, (March 1st) of this treatment he committed a robbery, but never after. Moreover, his demented appearance improved somewhat, and he became sociable with the other patients; towards the middle of the month he began to occupy himself. At the end of March, he was put on ordinary diet, and the bromide of potassium suppressed, but the kleptomania did not recur. From April 1st to June 19th, he was quiet and well behaved, and presented nothing unusual. Suddenly, on June 15th, he presented slight left hemiplegia on getting up in the morning; he got up, although dazed and complaining of severe headache; at 7 o'clock he was seized with epileptiform convulsions lasting five minutes, followed by coma with high temperature, and ending fatally on the third day. There was marked albuminuria. Venesection was performed. At the autopsy large congested inflamed kidneys were found, and hypertrophic cirrhosis of the liver. The interest of the case is the apparent cure of the kleptomania under the influence of the bromide and cutting off the table salt. H. J. MACEVOY.

Autosuggestive Neurasthenia [*La Neurastenia autosuggestiva*]. (*Riv. Mens. di Neuropat. e Psichiat., July*, 1901.) *Guidi, G.*

The author describes under this heading a group of cases in which the mental disturbance is always associated with subjective psychical

facts. He divides his thirteen cases into three groups. In the first, some illness has directed special attention to the organ afterwards believed to be diseased. In the second, the individuals thought they had heart disease, after having seen cases of it in others. In the third, the psychical trauma was caused by some marked agency as death of friends or parents. The symptoms were mild depression, confusion, and ideas that some organ was diseased. These cases come on in apparently healthy individuals and heredity is generally absent. They differ from hysteria in the absence of any objective phenomena and from phases of pathophobia in being unattended by any signs of degeneracy. The author considers that they arise from the impression absorbing in a morbid way the attention of the subject, and producing the beginning of an association of ideas. J. R. GILMOUR

Psycho-motor Epilepsy of Syphilitic Origin, with Consciousness of the Epileptic Attacks, and associated with Criminal Tendencies [*Epilessia psichomotoria con coscienza degli accessi e manifestazioni criminose e di origine sifilitica*]. (*Arch. di Psich., vol. xxii, fasc.* 4, 5, 1901.) *Lombroso, Gina.*

This is a very complete clinical report of a case of some interest. The patient, a man, æt. 68, with nothing special in his family history, had contracted syphilis at the age of 21; twenty years later, after a period of intense brain work, he had a sudden attack of localised frontal headache with paresis of the right side. The paralytic symptoms cleared up rapidly, but the patient remained subject to headache and vertiginous attacks, and also to periodic fits of morbid anger with impulsive violence to things and persons about him. Latterly, these symptoms increased, and the patient's mental power declined.

Signorina Lombroso, after an exhaustive examination, arrives at a diagnosis of epilepsy due to syphilitic arteritis with meningeal lesions. Attention is drawn to the anti-social direction of the impulses; and the authoress particularly emphasises the complete retention of memory during the epileptoid attacks. W. C. SULLIVAN.

Epilepsy and Crime [*Juristische Briefe; III. Fallsucht und Verbrechen*]. (*Allgem. österreich. Gerichts-Zeitung*, 1901.) *Benedikt.*

The author points out, that in relation to crime, it is necessary to consider separately the periodic attacks and the intervallary condition of the epileptic. Of the former he distinguishes three varieties—(1) absences, or *petit mal;* (2) convulsive attacks; and (3) attacks characterised by phases of altered consciousness—psychic epilepsy. It is regarding the last class of epileptic phenomena—the most important in legal medicine—that Benedikt's remarks are specially interesting. He points out that in these epileptic dream-states the actions performed may be very complex, and may have the appearance of deliberation; that memory may be partially retained for events at any period of the attack; and that the attacks may last for hours, days, or even longer. He considers that such prolonged attacks have affinities with periodic insanity and with dipsomania.

Apart from the fits, many epileptics present no mental abnormality,

while others are defective in intelligence and prone to criminal impulses. In the latter, Benedikt contends, the criminal temperament must be an extension of the same deformed brain-state which leads to the convulsive attacks in the non-criminal epileptic. He thus, to a certain extent, accepts Lombroso's doctrine of the epileptic basis of instinctive criminality.

Reference is made to two or three illustrative cases of psychic epilepsy, but without details. The paper is rather discursive.

W. C. SULLIVAN.

Clinical Contributions concerning Insanity with Rigidity of Muscles (catatonic) [*Klinische Beiträge zur Katatonie*]. (*Allgem. Zeits. f. Psychiat., Bd. lviii, H. 2 and* 3, 1901.) *Schüle.*

The catatonic condition has as much individual existence as any other form of primary dementia ; it is episodic in following other morbid psychical processes. The condition is said to be caused by a particular form of cortico-psychical inhibition, combined with a subcortical inhibition and excitation, particularly of the cortical centres.

Clinically, these cases do not always lead to imbecility, but pass on to forms of monomania and stupor, which after a long time may end in imbecility. The best known condition in which the catatonic state is seen is in paralysis, in which the muscular system has lost its tone, such as status catalepticus, and a form of occasional stammering, in which the labials cannot be pronounced, alternating with inhibition of speech, nodding movements, etc.

This want of tone in the muscles is seen in chronic monomania and in cases of sexual excitement, particularly when associated with masturbation, and in women in cases of metritis. The disease is met with also in certain periodical conditions, particularly periodical mania in imbeciles and juveniles. Recovery takes place in these cases, as the catatonia is less severe. Another periodic type is the so-called stupor variety met with in menstrual cases.

In subacute and chronic melancholia, the patient becomes stiff and motionless, the features are fixed; he keeps very quiet, and repeats the same words or sentences as the case may be. Simple movements are made in jerks, they are much delayed and ultimately cease. The patient is apt to stop half way whilst he is accomplishing a certain movement ; he "strikes an attitude" and remain so for hours, or even days. He talks of an "impending danger" which prevents him from doing anything. In these genuine melancholic cases, the patient passes through a stage of hallucinatory stupor before the catatonic modification commences. The stupor diminishes during the atonic stage, but consciousness remains dulled.

There are no certain signs which can guide our prognosis in this condition. With regard to the tension of the motor apparatus, this symptom gives no clue to prognosis.

As a general rule the prognosis in acute cases with a moderate degree of stupor (especially in hallucinatory stupor) is better than in chronic cases. The prognosis in the chronic cases is better in adults than in juveniles. A sudden return of consciousness is unfavourable. The psychical

state must be closely observed, the more the intellect is disturbed the graver the prognosis. As a rule, in catatonic "mania" the prognosis is good when movement is chiefly affected, and symptoms of cerebral irritation are few, the patient being middle-aged and well nourished. Coldness and œdema of the extremities are unfavourable signs. A subnormal temperature is also a bad sign. The prognosis is exceedingly grave when cerebral innervation occurs, as seen in paresis of muscles of the face, pupil, or eye.

Signs of peripheral paralysis in the extremities (tibial and peroneal nerves) is grave, and also vomiting when it occurs. The influence of masturbation on the course of the disease is very important.

R. CARTER.

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6. Pathology of Insanity.

Multiple Cysticerci of the Brain and Epilepsy [*Cisticercosi multipla dell' Cervillo ed Epilessia*]. (*Riv. di Patol., Nerv. e Ment., fasc.* 5, 1900.) *Lui, A.*

The patient was a lad æt. 18. At six years suffered from periodic frontal headaches and hebetude. After two years had vertigo and "absences." The character changed, and he became strong and irritable. He attempted murder at seventeen, and shortly thereafter had the first attack of "classical" epilepsy. This was followed at intervals by other seizures, and he died in status epilepticus. The autopsy showed numerous cysticercus cysts in the pia, some on the surface free, others embedded in the cortex, which tore as they were removed. These cysts varied in size from a pin's head to a small hazel nut. There were a few subcortical cysts, some in the basal ganglia and lateral ventricles. The pons, cerebellum, and cord were free from cysts, as were also the internal organs. Cysticercosis produces in the brain the same symptoms as other focal lesions. When multiple, and especially when they arise in the period of development, they may produce, instead of an epileptiform phenomenon, a true epilepsy.

J. R. GILMOUR.

On the Alterations of the Central Nervous System in the Acute Confusional Psychoses [*Nuovo Contributo alla Conoscenza delle Alterazioni del Sistema nervoso centrale nelle Psicosi acute confusionali*]. (*Riv. di Patol., Nerv. e Ment., fasc.* 8, 1901.) *Cauria, M.*

This is the third paper by this author on the same subject. In this case the types of alteration of the nerve-cells were two:—First, the disintegration of the chromatic substance which, reduced to fine granules, was scattered uniformly through the cell, rendering it homogeneous; the nucleus central and unaltered. This is the usual type following toxines. Second, the type with central chromatolysis and deformity, and displacement of the nucleus. This is the type following the cutting of the axis-cylinder process. In this case, this was associated with degeneration of the fibres of various parts of the motor tracts,

and was probably an example of the secondary degeneration of the nerve-cell from "reaction at a distance." The lesion in the pyramidal tracts of the cord stands in relation to the symptoms presented by the patient, *e. g.* hypertonus, exaggeration of the tendon reflexes, paresis of the upper limbs. The curability of such cases is not in contradiction with the anatomical facts, as the alteration in the nerve-cell is reparable. The primary degeneration of the fibres is probably due to the same toxine as had produced the nerve-cell change.

J. R. GILMOUR.

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7. Treatment of Insanity.

A Contribution to the Statistics of the Asylum Treatment of Alcoholics [*Zur Statistik der Anstaltsbehandlung der Alkoholisten*]. (*Allg. Zeits. f. Psychiat., Bd. lviii, H.* 4, 1901.) *Moeli.*

This paper gives a very elaborate analysis of 742 cases of alcoholism (males) admitted to the Lichtenberg Asylum during the six years 1893–99. The cases are classified according to the number of previous admissions, mode of admission (from police, from hospitals, and voluntarily), length of interval in relapsing cases, duration of treatment, nature of symptoms, predisposition (heredity, trauma, epilepsy, etc.), external influences (occupation, home conditions, etc.), nature of offence in criminal cases. Further cross classifications show the relations of these different orders of fact to one another.

In so complex a paper it is only possible to indicate a few of the more salient points.

Of the total number of cases a shade over 40 *per cent.* had been under treatment before; 7·14 *per cent.* had relapsed upwards of five times. In the relapsing cases the interval between the admissions did not appear to be materially influenced by the length of the preceding treatment, *e. g.* the proportion of early relapses (within three months) was even a little higher in those cases where the treatment had extended over nine months than in those where it had lasted less than three months.

Voluntary admissions were much more frequent after several relapses.

As regards the character of the symptoms, the majority of the cases are classed by the author under the heading of "general mental weakness without delirium;" to this class he assigns 83 *per cent.* of the cases with frequent relapses.

Parental alcoholism was noted as a predisposition in 47·8 *per cent.* of the series, trauma in 22·1 *per cent.*, epilepsy in 7 *per cent.* In many cases several of these conditions co-existed. The influence of all these factors—and of the traumatic factor in particular—was more marked in the frequently recurring cases.

The statistics of delinquency showed the usual prevalence of crimes of violence against the person.

The author is careful to point out that he does not claim any general

validity for conclusions drawn from the study of so special and limited a field, but he is disposed to think that the facts warrant a good deal of scepticism as to the probable results of the asylum treatment of the habitual drunkard. He believes that after care, involving exclusion of the moral and material influences which make for intemperance, is likely to be of more effect than prolonged treatment in inebriate reformatories. W. C. SULLIVAN.

The Bed Treatment of Insanity [*Le Traitement par le Repos au Lit en Médecine mentale*]. (*Arch. de Neurol., May*, 1901.) *Paris, A.*

Dr. Paris confirms by his testimony the value of rest in bed in the treatment of the insane. He also points out that it does not really raise the expense of maintenance appreciably, for if, on the one hand, it necessitates an increase in the staff of attendants, it obviates the cost of the destructiveness of the maniacal patient, and the greater and more prolonged consumption of sedative medicines, etc. Another aspect of this question is the lessened call for surgical treatment which rest in bed brings with it; thus the metrorrhagias, wounds, and fractures are much less in evidence, and one accident in particular is of much less frequent occurrence, viz. hernia.

Dr. Paris finds it necessary that the bed treatment should be practised in separate rooms (not isolation cells) as the treatment in dormitory is not successful. HARRINGTON SAINSBURY.

Statistical Consideration of a Series of Gynæcological Observations at the Asylum of Ville-Evrard in 1899 [*Considérations statistiques sur le Service d'Observations gynécologiques de l'Asile public de Ville-Evrard en* 1899]. (*Arch. de Neurol., Aug.*, 1901.) *Picqué et Febvré.*

In this paper, the authors point out the frequency with which gynæcological troubles are found associated with mental perversions, and they insist upon the dependence in many cases of the latter upon the pelvic mischief. According to the traditions of asylum practice in France a pelvic examination is only performed after the consent of the relations has been obtained. At the asylum of Ville-Evrard, with 400 to 450 beds, this consent was obtained in sixty-six cases only. Excluding, for reasons, five of these cases, there were found gynæcological troubles in fifty-nine out of the remaining sixty-one cases. With this enormous proportion in view, and the frequent ætiological relationship between this form of disease and mental aberration, the refusal of the relations to allow the necessary examination of patients who are themselves not able to act on their own behalf becomes a very serious matter, and the authors ask whether society, which takes upon itself to commit a patient to an asylum and by law to administer and protect the property of the individual, cannot take better care of that other form of property—health. True, in cases where symptoms are urgent we may take it upon our own consciences and act then and there as we deem best for the patient, but, as MM. Picqué and Febvré insist, where does urgency begin in matters medical and surgical?

HARRINGTON SAINSBURY.

Dispensary Treatment of Mental Diseases. (*Amer. Journ. Insanity, July*, 1901.) *Channing, W.*

Dr. Channing pleads with much force for the wider establishment of out-patient departments for the treatment of mental affections in connection with hospitals and dispensaries. Such departments, besides giving treatment and instruction (a very important part of their work), would serve as a "repository for the troublesome, a clearing house for doubtful cases, and a bureau of information in regard to the necessary machinery to be made use of in committing or otherwise disposing of patients." Those who have had charge of our overcrowded out-patient rooms will appreciate to the full the need which Dr. Channing points out, for it is absolutely impossible under present conditions to give the mental cases which now and again present themselves as out-patients the attention they require. As it is these sufferers have to content themselves with a dose of mistura alba or calomel, or perhaps a dose of bromide and some hasty words of reassurance, and then the "next patient." Perhaps the greatest service which these mental departments promise is in connection with *defective children*, some of whom "furnish a portion of the dullards in the schools, who are such an injury to the advance of the average pupils. Others become tramps or criminals. The girls often become the mothers of illegitimate children, and so spread the circle of degeneration and defect wider and wider." Dr. Channing accentuates the importance of the last-mentioned work, and in order to utilise more effectually the proposed department he systematises in tabular form the investigation of the defective child.

The long list of mental affections which Drs. Channing and Jelly have had under observation at the department which they have established in connection with the Boston Dispensary, U.S.A., furnishes sufficient evidence of the need for the department. The experience in this country which similar departments have gained will unquestionably enforce Dr. Channing's advocacy. HARRINGTON SAINSBURY.

Modern Advances in the Treatment of the Insane. (*Scot. Med. Surg. Journ., Aug.*, 1901.) *Havelock, T. G.*

The advances referred to are, first, the erection of detached hospitals at asylums and the allocation of cases on admission to the various parts of the asylum where they can be best dealt with. Not least among the advantages of this system is the result that the less interesting cases "are not lost sight of, as they are apt to be in a block full of recent admissions."

Next, on the subject of bed treatment of the violent insane, we find that Dr. Havelock is not in accord with this method, at any rate as advocated by Continental physicians in particular, and as a routine practice. He deprecates these restrictions of practice to "bed-treatment" or exercise treatment, and counsels the judicious use of all methods available, and their individualisation.

The villa colony asylums are on their trial, he thinks, at any rate as to their economy of working, though he has no doubt that many cases may with great advantage be treated in detached buildings.

Under new remedies we find the *thyroid gland* mentioned, only to be discarded, except in the insanity of myxœdema. Among sedatives *paraldehyde* is stated to be "the most valuable and safest hypnotic," though he finds it unavailing in the excitement of general paralysis and in senile alcoholism. In these latter, he has recourse to chloral. As to sulphonal and trional, Dr. Havelock gives words of warning—the latter he finds less prone to excite hæmatoporphyrinuria, but not to be free from this danger. Hyoscin he finds useful only in exceptional cases of extreme urgency, dormiol and chloralamide of doubtful utility.

HARRINGTON SAINSBURY.

Three and a half years' Experience of Faradisation of the Head on Scientific Principles in the Treatment of Chronic Insomnia and Associated Neuroses, comprising a Series of Forty-six Cases. (*Glas. Med. Journ.*, *Aug.*, 1901.) *Sloan, S.*

This paper gives a complete record of all the cases without exception. The results are arranged under five heads:

1. Cases in which the patient (he or she being judge) has been cured.
2. Cases in which the improvement has been marked.
3. Cases in which the improvement has been slight.
4. Cases without appreciable result.
5. Cases in which some harm was done, though this was of a temporary nature.

Forty-five *per cent.* of the cases come under heading 1; 32 *per cent.* under 2; 11 *per cent.* under 3, the result being not worth the trouble; 9 *per cent.* under 4; 2 *per cent.* under 5, though the distress caused was for a limited time only. These results are brilliant, and Dr. Sloan is justified in summing them up in the following words:—"that there is no remedial measure at present known to the profession, other than a prolonged holiday, which will give such immediate and more or less prolonged benefit."

Dr. Sloan wisely refrains from any serious speculation as to how the current produces its results, and after a short description of the exhilarating effects of the treatment which, independently of the action upon the sleeplessness, he has observed, he passes to his *modus operandi*. The séance is of 10 to 20 minutes' duration, on an average 15 minutes. A large electrode of 15 square inches is applied to the brow, and one of 10 square inches to the nape of the neck. A current of $\frac{1}{2}$ to 1 milliampère is applied, and at the end of the sitting the current is gradually reduced, and then shut off, the patient being allowed to remain quietly sitting for a few minutes longer, this latter being an important detail. Dr. Sloan uses a secondary coil of much greater length than that usually employed, containing some 8000 to 9000 turns. It is evident that the employment of this treatment depends much on attention to minute detail, the avoidance of any loose connection, etc., and for these we must refer to the original paper.

HARRINGTON SAINSBURY.

8. Sociology.

Flagellatio Puerorum as an Expression of Masked Sadism in a Sexual Invert [*Flagellatio Puerorum als Ausdruck des larvirten Sadismus eines pædophilen Conträrsexualen*]. (*Allg. Zeitsch. f. Psychiat., Bd. lviii, H.* 4, 1901.) *Von Krafft-Ebing.*

The patient, æt. 34, a lawyer by profession, married, with neuropathic heredity, and having himself presented all his life symptoms of the degenerate temperament—obsessions, labile emotional tone, tremors, etc., —was accused of immoral acts with boys under his care. It was proved that for many years he had shown a morbid passion for flogging boys about the age of puberty on the bare nates, frequently offering them bribes to get their consent to the operation. He also stroked and pinched the buttocks, but did not at any time touch the genitals, nor did he himself on these occasions show any signs of sexual excitement.

The accused did not dispute the facts, but maintained that he had acted purely from motives of pedagogic zeal, that when flogging the boys he had no sexual thoughts, and no erection. It appeared, however, from his own admissions, that he was of morbid sexual disposition; his sexual impulses were feeble; he found difficulty in normal intercourse, to which he had to stimulate himself by images of boys, and by the desire of paternity; his rare erotic dreams were associated with similar images.

The case was clearly one of homosexualism and sadism in a degenerate. A further question, however, remains: May not the patient himself have been, as he alleged he was, unconscious of the sexual cause of his conduct? Krafft-Ebing is disposed to think that he probably was. His sexual hypoæsthesia would allow his inversion to develop in the ideal direction without local genital reactions. So he would remain ignorant of the sexual origin of his pedagogic taste, just as the pubescent girl is unaware of the sexual source of her religious passion. And when, later on, sadist impulses appeared, he would still remain in this state of self-deception, since the satisfaction of these impulses was not associated with any specifically sexual phenomena.

Such a condition must evidently modify the individual's "responsibility," since it implies the absence of the sense of wrong-doing. The question raised in this case is of wide application, for this independence of consciousness and conduct is by no means rare, especially in the degenerate, in whom the *rôle* of the unconsciousness is greater than in the normal. Cases of the kind illustrate the disadvantages in practice of standards of responsibility based on such metaphysical notions as the doctrine of free-will. W. C. SULLIVAN.

A Plea for the Sterilisation of Women as a Means of limiting or preventing the Reproduction of Lower Degenerates [*Per la Sterilizzazione della Donna come Mezzo per limitare o impedire la Riproduzione dei Maggiormente Degenerati*]. (*Bollettino della Soc. Ginecol. di Napoli*, 1901.) *Zuccarelli.*

In an address to the Gynæcological Society of Naples, the author,

who is apparently a thorough-going optimist, urges the desirability of accelerating human progress to perfection by a system of artificial selection involving the sterilisation of the degenerate. He thinks it preferable that women should be the victims of this system, and he exhorts his gynæcological hearers to devise new and safer operations to this end. W. C. SULLIVAN.

On Reform of the Lunacy Law [*Juristische Briefe; VI. Zur Reform der Irrengesetzgebung*]. (*Allgem. österreich. Gerichts-Zeitung*, 1901.) *Benedikt.*

The author considers that the present time is favourable for bringing the provisions of the criminal and civil law into better accord with modern views of insanity. He touches on most of the aspects of lunacy legislation, and suggests various reforms in principle and procedure. He particularly emphasises the need of fuller recognition by the law of the pathological element in the criminal nature; the practical corollary of this admission should be the establishment of asylums for criminal lunatics, and of other special institutions intermediate between the prison and the asylum for degenerates and weak-minded criminals.

With regard to the general question of the relation of society to the lunatic, the author thinks that the law might define those mental conditions which are to be reckoned as distinctly insane, and which may be considered sufficient grounds for committal to an asylum. On this point Dr. Benedikt has the courage of his convictions, and does not recoil from the attempt to enumerate these conditions. His list includes: (1) hallucinations; (2) illusions; (3) states of excitement with actions dependent on hallucinations and illusions; (4) mania; (5) simple melancholia; (6) melancholia with delusions; (7) confusion (Verwirrtheit); and (8) dementia. The law should impose on medical men the duty of notifying cases of insanity (as defined in this list) to the proper authorities, who can then decide the further steps—committal to an asylum, home treatment, etc.,—which may be desirable in the individual instance.

Inebriety, sexual perversions, and similar conditions Benedikt would have expressively recognised in law as distinct from insanity; the individuals presenting these vicious tendencies should not be deemed irresponsible, but should be subjected to a modified penal discipline in special institutions. W. C. SULLIVAN.

The Total Abstinence Question [*Zur Abstinenzfrage*]. (*Wien. med. Presse, No.* 14, 1901.) *Benedikt.*

Dr. Benedikt has been moved to wrath by the recent progress of the theory, especially current in the experimental school of psychologists, that even small doses of alcohol act injuriously on mental function. Anticipating that this heresy would be supported by the Vienna Anti-alcoholist Congress, he has accordingly confided to the columns of the *Wiener medizinische Presse*, with a perhaps excessive candour, his opinion of the doctrine and its advocates. The latter are, in the professor's view, for the most part a lot of "young-lady-like idealists,"

"altruistic hypochrondriacs," "sophists," and so on. Dr. Benedikt confines himself to the use of these energetic epithets and to the rhetorical invocation of universal practice in regard of alcohol; he does not meet the theory which he denounces by criticism either of the experiments on which it is based or of the interpretation which has been placed upon these experiments. W. C. SULLIVAN.

An International Swindler [*La Truffatrice intronazionale*]. (*Riv. Mens. di Psich. Forense, Anno* 1, 1899.) *Bianchi, L.*

This is a medico-legal report on the condition of a lady arrested for repeated acts of fraud and theft. Her history is of interest. During the past twenty years she has been under treatment in Camberwell and Banstead Asylums in this country, in three asylums in America, and in many on the Continent. She was of good family (with a marked predisposition to phthisis and nervous disease) and highly educated. She was the authoress of two novels of the decadent type, which caused some talk when they were published in 1892. The chief difficulty in deciding the question of her responsibility arose from the largely negative results of her examination. The reports sent from the different institutions were vague and unsatisfactory, and no definite diagnosis had evidently been possible. Morphinism, hallucinations of hearing, and tendency to suicide were facts, however, stated in different reports. From the history and the great variety of the symptoms of her different illnesses, Professor Bianchi came to the conclusion that her condition had an hysterical basis, and that she was not responsible. This finding was accepted by the Tribunal. Subsequent symptoms also confirmed this diagnosis. J. R. GILMOUR.

On the Isolation of Tubercular Patients in Asylums for the Insane [*Sur l'isolement des Tuberculeux dans les Asiles d'Aliénés*]. (*Rev. de Psychiat., No.* 1, 1901.) *Marie.*

This is an extract from a communication made at the Congress of Psychiatry, 1900, in collaboration with Dr. Toulouse. It is important, in the first place, that candidates for the post of attendants in asylums should be carefully selected before being engaged, and attendants properly treated (isolated, etc.) when suffering from phthisis. Disinfection of infected rooms, and avoidance of overwork among them should be attended to. A special asylum sanatorium for tubercular patients should be erected. At Villejuif this is already realised. Attention is called to the mortality statistics of the asylum in the department of the Seine. Out of a total of 1017 deaths there were 170 from pulmonary affections (including forty-five cases of phthisis, eleven of hæmoptysis, and thirty-three of chronic bronchitis). Some reference is made to information obtained from Great Britain, Italy, and Germany on this question of tuberculosis in the insane.

H. J. MACEVOY.

9. Asylum Reports.

Some English County Asylums.

Devon.—The Committee report four times in each year to the County Council, which we believe to be an uncommon practice. Yet in addition to this they desire to be brought into still closer relation to the parent body.

> The Committee are of opinion that they should be more closely associated with the office of the Clerk of the Council, and have, as all the other committees, the advantage of the clerk at their meetings. Such an arrangement would tend to facilitate the business and render unnecessary the constant reference of one office to the other, and they hope the County Council will sanction such an alteration.

They also

> recommend the Council to approve of the third proposal of the Select Committee, "that county councils should have power conferred upon them to provide separate accommodation for imbeciles and epileptics."

We see no reason against committees and county councils taking such powers, but as we have said before, though in individual instances some good may arise, it is not probable that any such benefit will be found by its general application as some authorities seem to think.

A proportion of 26 general paralytics in 111 male admissions is enormous, especially when it is remembered that the chief seaport in the county has its own asylum.

Gloucestershire.—This county is one that shows no increase in occurring insanity.

The subjoined is from the Commissioners' report and is noteworthy:

> We may say that a general air of contentment reigned. No one was turbulent, very few noisy, and we attribute much of the quietude to be due to the fact that the Committee regularly visit the wards and listen to the patients' complaints.

Dr. Cradock makes a close study of American legislation for the limitation of insanity. He reproduces the following from a Minnesota project of law:

> The Bill provides that no man or woman who is epileptic, imbecile, feeble-minded, or afflicted with chronic insanity shall intermarry within the State when the woman is under the age of forty-five years. Any person who, not being an epileptic, marries an imbecile or one afflicted with chronic insanity, or who knowingly violates this provision, shall, upon conviction, be punished by a fine of not more than $1000 (£200), or by imprisonment in the State prison for not more than five years, or by both such fine and imprisonment.

It would be interesting to know on what grounds an epileptic is thus favoured.

We are getting on. It is stated that at a Colorado medical meeting a doctor proposed that parents should be allowed to arrange the painless destruction of their imbecile children. Commenting on this the *Medical Journal* (of that ilk?) appears to have said (possibly in sarcasm):

> The proposed law is too wishy-washy: the children should be killed whether

their parents consent or not, and the latter also had better be put out of the way lest they procreate other children of feeble intellect!

It is well that full development of the idea should be put before those who hope to limit insanity by Act of Parliament.

Hereford.—The old, old story from the Commissioners' report!

The staff of attendants gives for day duty one for every eight and a half male and one for every eight female patients.

Numerically this is a sufficient staff, but we regret to say that the duration of the service is most unsatisfactory, no less than 58 per cent. of the men, for instance, having been less than one year in the asylum service.

This, coupled with the fact that there have been since our colleagues' visit, several instances of roughness towards and neglect of patients, points to the necessity of measures being taken to secure and retain the services of competent and suitable attendants.

The scale of wages for the attendants of the first class on both sides is too low, especially having regard to the fact (which we mention with regret) that no prospect of a pension is held out on retirement.

Another cause that militates against the duration of the service of the staff is the lack of cottage accommodation for married attendants.

And from Dr. Morrison's report:

But the duration of service among the male attendants is highly unsatisfactory. The majority of the class of men we have had in recent years to select for appointments have left much to be desired for their fitness, while many who have shown aptitude for the work have left either to revert to their previous trades, enter the Poor Law service with its prospect of pension, or to take up private nursing, all of which appear to offer a better remunerative opening to steady well-trained men than service in the asylum. Your Committee will need to provide means and ways to retain the services of this class of men, which at present we seem unable to do.

Northumberland.—It is odd reading that a coroner should stir the Committee up to provide an Isolation Hospital. But the occurrence of a second case of erysipelas in one ward prompted a jury to express a not unnatural surprise that there is no means of isolating infectious disease in this asylum. The procedure bore immediate fruit.

Dr. McDowall states that while free expert advice in mental trouble, though offered, was not accepted when given at the asylum, the institution of an out-patient department for such cases at the Royal Infirmary, Newcastle, has been accompanied by marked success. He attends once a week.

Somerset and Bath (Wells).—We deeply regret to have to mention the sad death of Dr. Law Wade. The facts of his death and his claims to a feeling remembrance of his services and life on the part of the Association have been appropriately dealt with elsewhere. It is noteworthy that this his last report shows for the year such satisfactory ratios as 51·4 of recoveries and 8·9 of deaths. In relation to the latter it may be pointed out that while influenza and its complications carried off none of the 32 males who died, no less than 18 out of the 42 female deaths were attributed to this fell disease.

That Dr. Wade possessed one essential element of success in managing an asylum—the securing the esteem of the subordinate staff—

is made evident by the subjoined extract from the Commissioners' report:

The staff of attendants is sufficiently strong, and they seem of a respectable class. No fewer than 60 per cent. of the men and 30 per cent. of the women have lived for many years in the asylum service, whilst the number of men under one year's service would be reduced by one half had it not been for the calling out of the Reserves.

Suffolk.—We commend to notice Dr. Whitwell's method of showing statistical facts by chromatic plans. On one sheet the additions, subtractions, and remainders of patients at the end of each year are thus contrasted. A second sheet brings before the eye in a forcible manner a division of patients, union by union, into five classes—acute recoverable cases, those who are chronic but must be detained, those who are chronic but might be treated elsewhere, those who are chronic but whose removal would mean expensive increase in staff, imbeciles and idiots. As Dr. Whitwell remarks, the table shows the population of the asylum in terms of the money value of its elements to the community.

The following pregnant table shows from this year's admissions the tendency of cases to recover or otherwise in relation to the period at which they come under treatment:

Patients who came under treatment before termination of the	Percentage of recoveries.
1st month after inception	90 *per cent.*
2nd " "	73 "
6th " "	20 "
12th " "	—

The admission of a child of 5 years old suffering from mild imbecility suggests that the ordinary Poor Law arrangements in Suffolk have not attained a very high level of efficiency.

West Riding.—The wages and hours of service are under the consideration of the committees on the representation of the staff.

At *Menston* a new Homestead has been built and taken into use. It accommodates 40 farm patients, with 4 attendants. It is found to be very useful.

At *Wakefield* the Acute Hospital has been opened, and so far has been found to answer its purpose admirably. Stanley Hall has been purchased and adapted for the reception of imbecile and idiot lads suitable for the treatment to be provided there. A specially trained attendant and his wife from the Royal Albert Asylum have been engaged as chief attendant and schoolmistress. Further development of the principle of segregation in this asylum consists of new epileptic blocks and two cottage homes.

Some Scottish District Asylums.

Glasgow, Gartloch.—This report is the last which Dr. Oswald will issue. His translation to Gartnavel, on which we congratulate him, will be dealt with in another part of the JOURNAL. Though it is only the fourth report of the asylum, it tells of a proposed increase of 240 beds

in the shape of separate villa pavilions for chronic cases. Dr. Oswald has carried out the training of attendants to the full, and has added practical and theoretical instruction in sick cookery and massage by competent teachers from Glasgow. We notice, with regret, that several important tables of statistics are omitted. Those dealing with past history (Nos. 2, 3, and 4) do not appear. The admissions were more than 50 *per cent.* of the average residence.

Govan, Hawkhead.—The Visiting Commissioners both speak highly of the work of the hospital section of the asylum, and, indeed, of the whole of it. Mention is made of the efficacy of rest in bed for several days after admission. We are sure that in suitable cases experience will confirm the teachings of Dr. Rayner at Hanwell on this point some years ago. Dr. Watson can show the satisfactory ratio of 48 *per cent.* of admissions, excluding transfers. We find no table showing the form of insanity on admission. This is a regrettable omission. Nearly 20 *per cent.* of the deaths were attributed to general paralysis, which, indeed, formed the prominent factor in causation of death.

Lanark, Hartwood.—We sincerely regret to read in various parts of the report mention of Dr. Campbell Clark's severe indisposition. For some months he was absent on leave, and his duties were taken over by his senior assistant, Dr. Kerr, and performed by him to the expressed satisfaction of the Committee, Commissioners, and Dr. Clark. In this asylum, too, the statistical tables do not include any dealing with the history of the place. We look to these institutions, with so many progressive ideas and practices tending to increase recoveries, to justify evolution by results, and of such results a complete record should be kept from the commencement. For the past year we find, by working out the figures for ourselves, that the recovery ratio is so satisfactory as 55 *per cent.*(1)

Lanark and Govan, Kirklands.—There is much truth in the following remarks of Dr. Skeen:

> Most of these recoveries have been good—cases which, with fair chances given both by themselves and their surroundings, ought to do perfectly well in the world. Unfortunately there is perhaps nothing so hard in the life of a person who has been confined in an asylum for the insane, especially if for any lengthened period —say over the twelve months—as the going out again into the world. Such a person, unless backed up and assisted by friends, is naturally very diffident; and without friends, and feeling his own position, unable to explain his absence from the world for a lengthened period in a manner satisfactory to a would-be employer (for a residence in an asylum does not as a rule form a recommendation when applying for work), such a person is very apt to become despondent and still more uncertain of himself; and such cases, even if, in fact more so, their insanity has been due to their own misconduct, are apt to fall back.

Of course a beneficial and not uncommon method of giving such help is for the patient to be sent out on trial for a time with an allowance from the asylum.

Roxburgh, etc., Melrose.—Serious overcrowding on the male side is the prominent feature in the report, and it is proposed to build fresh accommodation for 60 men. This is to take the shape of a hospital

similar to that which successfully dealt with the surplus female population. Dr. Carlyle Johnston roundly but very properly tells his committee that "the male patients do not, in fact, receive that consideration, that quality of care and treatment, which their friends and guardians have a right to expect."

(1) Since the above was written announcement has been made of Dr. Clark's much regretted passing away.

Notes and News.

THE MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

The GENERAL MEETING was held in London at the Rooms of the Association, 11, Chandos Street, Cavendish Square, W., on Thursday, November 21st, 1901, at 3 p.m. Dr. Blandford presided.

Present—*Members:* Drs. G. F. Blandford, C. Mercier, H. A. Benham, H. H. Newington, T. B. Hyslop, H. Rayner, H. T. S. Aveline, C. H. Bond, G. S. Elliot, P. W. Macdonald, C. H. Hitchcock, A. Boycott, H. A. Kidd, E. B. Whitcombe, W. D. Moore, S. R. Macphail, D. Fleck, W. Kingdon, H. E. Haynes, A. Turner, J. R. Whitwell, L. French, E. Daunt, W. S. Kay, S. Edgerley, W. C. Sullivan, R. C. Stewart, J. C. Johnstone, E. D. O'Neill, F. O'Mara, C. Clapham, F. Edridge-Green, S. J. Gilfillan, C. Caldecott, F. H. Edwards, H. N. Cappe, G. H. Savage, G. E. Shuttleworth, J. Chambers, T. O. Wood, F. R. P. Taylor, H. G. Hill, H. C. MacBryan, H. N. Kershaw, H. Corner, B. Pierce, R. H. Steen, R. N. Paton, C. T. Ewart, R. Pugh, D. Bower, R. J. Stilwell, W. Rawes, W. Douglas, T. S. Adair, A. Miller, J. Baker, J. B. Spence, and Robert Jones.

Visitors: Sir T. Lauder Brunton, Dr. T. Brunton Blaikie, Messrs. H. Barnell, A. H. Bostock, G. L. Craik, Louis French, Alfred Nutt, J. Danvers Power, W. A. Stansfield, A. Wallace, and Hugh H. Weir.

The HON. SECRETARY read a telegram which he had received from the President, Dr. Oscar Woods, regretting his inability to be present at the meeting.

Dr. MERCIER proposed that, owing to the absence of Dr. Woods, the senior ex-President, Dr. Blandford, be asked to take the chair.

This was seconded by Dr. RAYNER, and carried unanimously.

Apologies for non-attendance were received from Dr. Urquhart, Dr. Lloyd Andriezen, and Dr. Wiglesworth.

The CHAIRMAN said he thought the meeting would agree that the minutes might be taken as read, in order to economise time, as they had already appeared in the JOURNAL. Agreed.

The following candidates were elected as ordinary members:—Barnett, Horatio, M.B., B.C.Cantab., M.R.C.S., L.R.C.P.Lond., Medical Superintendent, Stretton House, Church Stretton, Salop (proposed by Theo. B. Hyslop, Maurice Craig, and W. H. B. Stoddart); Barwell, Francis B., M.R.C.S.Eng., L.R.C.P.Lond., Assistant Medical Officer, Darenth Asylum, Dartford, Kent (proposed by F. R. P. Taylor, E. H. Beresford, and Robert Jones); Cleland, William Lennox, M.B., B.Ch.Edin., Park Side, South Australia (proposed by J. Murray Lindsay, C. Mercier, and A. R. Urquhart); Cooper, K. D., M.R.C.S.Eng., Assistant Medical Officer, The Lawn, Lincoln (proposed by A. P. Russell, H. Hayes Newington, and A. R. Urquhart); French, Louis Alexander, M.R.C.S., L.R.C.P., Bethlem Royal Hospital, Lambeth, London, S.E. (proposed by Theo. B. Hyslop, Maurice Craig, and W. H. B. Stoddart); Harding, William, M.D., M.R.C.P.Lond., Medical Superintendent, Northampton County Asylum, Berry Wood, Northampton (proposed

by Robert Jones, H. Hayes Newington, and C. T. Ewart); Munn, Patrick James, M.B., C.M.Edin., Assistant Medical Officer, Three Counties Asylum, near Hitchin, Herts (proposed by S. E. de Lisle, David Bower, and Horace E. Haynes); Ogilvy, David, B.A., M.B., B.Ch., M.D.Dub., L.M., Assistant Medical Officer, Banstead Asylum, Sutton, Surrey (proposed by T. Claye Shaw, D. Johnstone Jones, and Ernest C. Lambert); Starkey, William, M.B., B.Ch., B.A.O.Roy.Univ.Irel., Assistant Medical Officer, Down District Asylum, Downpatrick, Ireland (proposed by M. J. Nolan, Conolly Norman, and Arthur Finegan).

Pensions for Irish Asylums Officials.

Dr. E. D. O'Neill, of the District Asylum, Limerick, said that before reading the resolution which stood in his name he wished to briefly explain to the members how the matter came to be brought up that day. At the annual meeting in Cork he read a paper on the pension question, in which he put forward definite views. But, unfortunately, through an oversight, he omitted to have a resolution proposed at that meeting giving effect to the conclusions in his paper. Accordingly, at very great personal inconvenience, he was present at this general meeting to rectify that omission by asking the members of the Association to unanimously pass the resolution he was about to propose. There was nothing of a contentious character in the proposition, and he felt sure it would be unanimously adopted. He had originally hoped to include in the proposition the three countries of the kingdom, because he regarded the question as of an international character, one which affected all asylum officials in England, Scotland, and Ireland. He thought the members should make a determined and united effort to push forward the question; otherwise he feared that when some of the members of the Association came to look for that superannuation to which they were entitled, they would find themselves grievously disappointed. A resolution framed on the same lines had already been proposed on behalf of English asylum officials. It might reasonably be asked, How did that resolution crop up at that meeting? Should it not have been submitted to the Irish Division? The only reasons he had for not bringing it before the Irish Division was that there would not be a meeting until next April, and he was anxious to have the approval of the Council of the Association, and that the resolution should be ratified at a general meeting. The resolution was as follows:

"Resolved, that the Medico-Psychological Association of Great Britain and Ireland earnestly desires to call the attention of Government to the great injustice inflicted on Irish asylum officials by the wording of the clause of the existing Act of Parliament dealing with the question of superannuation. It regrets that the Government did not avail themselves of the opportunity afforded by recent legislation to make more secure the provision for old age in the asylum service. The Association respectfully urges on the Government an alteration of the said clause by the introduction of the word 'shall' instead of 'may.' It points out that all other services have a fixed scale of pension, and every official knows, when he is entering, what he will be entitled to on retirement; whereas asylum officials are left entirely to the discretion of their committees, from whom there is no appeal. Resolved, that a copy of the foregoing resolution be forwarded to the Rt. Hon. George Wyndham, M.P., Chief Secretary for Ireland."

Dr. Hayes Newington said he had much pleasure in seconding the resolution. As Chairman of the Parliamentary Committee of the Association, on behalf of England he could say that the question had been before that Committee for many years past—at least ten or twelve,—and the Committee thought they were gradually making headway. They were extremely glad to get the help of Ireland nowadays, and no doubt the Irish members of the Association would be able to bring pressure to bear upon their own members of Parliament, as the members of the Association in England had endeavoured to do. The question of justice to asylum attendants was very much like a heap of stones by the road-side, at which horses which were not accustomed to heaps of stones were apt to shy. At first it was found that all committees and members of Parliament, when the question was put before them, put it on one side as a thing not to be considered; but they were now beginning to give it more attention, and more promises of support were forthcoming. As Dr. O'Neill had said, it would be a great help for them all if

they could secure the assistance of Ireland; and then when England had been successful also, possibly Scotland would be able to get a similar measure of justice.

The resolution was put and carried unanimously.

Sir THOMAS LAUDER BRUNTON, M.D., F.R.S., F.R.C.P., Physician to St. Bartholomew's Hospital, read a paper entitled "Fairies, Apparitions, Visions, and Hallucinations." This paper and the discussion thereon will be published in the April number of the JOURNAL.

Dr. WILLIAM C. SULLIVAN (of H.M. Prison, Pentonville) read a paper entitled "Crime and General Paralysis" (see page 28).

Members afterwards dined together at the Café Royal, Regent Street.

COUNCIL MEETING.

A Council Meeting was held at 2 p.m. on the same day.

Present: Drs. Rayner (Acting President), H. Hayes Newington (Treasurer), J. B. Spence, P. W. MacDonald, T. S. Adair, Theo. B. Hyslop, L. A. Weatherly, G. S. Elliot, C. H. Bond, C. A. Mercier, H. A. Benham (Registrar), C. H. Hitchcock, A. N. Boycott, A. Miller, H. Gardiner Hill, H. A. Kidd, R. Percy Smith. H. T. S. Aveline, and Robert Jones (Hon. Sec.).

SOUTH-EASTERN DIVISION.

The Autumn Meeting of the South-Eastern Division was held by the courtesy of Dr. Moore at the Holloway Sanatorium, Virginia Water, on October 16th, 1901.

Among those present were Drs. Fletcher Beach, Moore, Andriezen, Gardiner Hill, Chambers, A. S. Newington, Miller, Lindsay, Hyslop, Edridge-Green, Haynes, J. W. Evans, Cole, Adèle de Steiger, R. C. Despard, Haslett, Fielding, Cecil Osburne, Forsyth, Fee, P. Campbell, Taylor, Stanley-Elliott, Noott, F. H. Edwards, Tinker, Roots, Bower, J. R. Hill, Corner, Shuttleworth, Harper, Patterson, Gayton, Outterson Wood, Worth, Kidd, and Boycott (Hon. Sec.).

After luncheon a meeting of the Divisional Committee was held. During the morning and afternoon the members inspected the buildings and grounds, and at 3 p.m. the general meeting of the Division took place, Dr. Fletcher Beach being voted to the chair.

The minutes of the last meeting were read and confirmed.

The Hon. Secretary read a letter from G. Harold Urmson, Esq., Commissioner in Lunacy, thanking the Division for their vote of sympathy on the occasion of his recent accident.

An invitation from Dr. Barton to hold the Spring Meeting of the Division at the Surrey County Asylum, Brookwood, in April, 1902, was unanimously accepted.

Dr. ADÈLE DE STEIGER read a paper on "Two Cases of Lipoma of the Brain" (see page 64).

THE BURDEN OF LUNACY.

Dr. ANDRIEZEN gave a discourse upon the question, "The Burden of Lunacy, can it be mitigated?"

In his opening remarks he stated that appeared from the returns of the Commissioners in Lunacy that there were 1300 more lunatics last year than the year before, but the base-line from which the Commissioners made their computation was not, in his opinion, a reliable one. They took their census upon one day only—January 1st in each year. Now the population of asylums on that particular date might be largely reduced on the one hand, or largely increased on the other hand, by the conditions of the winter. The only proper and accurate way of getting a reliable basis was by taking a daily or weekly census for the whole year and striking an average. He had, for his purpose, taken the average number of lunatics resident in asylums as giving a census which afforded the nearest possible approach to accuracy. He should deal with the average number resident in all institutions, except those for imbeciles or idiots whose numbers

would be found on inquiry to remain very nearly constant (their recovery and death rates were very nearly constant), so that they could be put aside and thus eliminate the question of idiocy. The average numbers resident in all lunatic institutions—idiot establishments excepted—were as follow, intervals of three years being selected so as not to make the statistics too numerous:—In 1891 the average number was 62,909; 1894, 68,569; 1897, 75,817; 1900, 82,122. They would see that the ratio of increase every three years was much more rapid than the increase of the population of the country. That was the first point to be definitely grasped. Taking the population census of 1891 and that of the present year, together with the Registrar-General's returns for the intermediate years, he had carefully tabulated and compared them with the average numbers of the insane population, and had found the same conclusion borne out by the data. That the insane population had increased with greater velocity than the sane was further shown in the chart published by the London Asylums Committee, which, doubtless, many of them had seen. The chart was instructive because it put the results graphically, by means of curves. (These the speaker illustrated on the blackboard.) With this chart the Asylums Committee published the population figures also for the districts under their charge. A growing increase in the proportion of the lunatics to the rest of the population was apparent for the period of twelve years comprised in the chart. The fact could be represented in another way by taking the ratio of lunatics to the general population of England and Wales. In 1890 there was one lunatic to 336 of the general population. He had very carefully drawn, by means of a millimètre scale, a curve (illustrated) showing the gradations of the ratios up to the present date. It indicated that the increase was fairly constant—no violent oscillations,—and he considered this itself was *a priori* evidence that lunacy was an increasing quantity. In 1900 the ratio was one to 300 of the population, and if the curve were to be extended, on the assumption of the same rate of increase being maintained, in 1910 the ratio would be one to 260. This was a state of affairs by no means pleasant to contemplate. There was a steady increase of the insane population, and at a rather greater velocity than the increase of the general population. Now as to the question of cost. The problem was so large as regarded England and Wales that he had thought it wise to limit himself to the five large county asylums of London, which were typical of the rest of the country. The original cost of the five asylums—the cost of the buildings as distinguished from the cost of the land—was as follows:—Hanwell, £103,000; Cane Hill, £237,000; Banstead, £288,000; Colney Hatch, £226,000; and Claybury (which illustrated the increased cost of building materials in recent times), £484,000. There were other items of cost, such as the cost of original sites, of land subsequently purchased, and the cost of alterations and repairs. These brought up the figures to the following amounts:—Hanwell, £420,000; Cane Hill, £392,000; Banstead, £414,000; Colney Hatch, £452,000; and Claybury, £527,000. The London Asylums Committee, in their report just published, stated that the cost of labour, materials, etc., was increasing, and therefore they had decided to increase the charge for maintenance of patients. That came into force on the 1st July last, and he thought the increase was about a shilling per head per week. So there seemed no prospect of the cost diminishing, but the contrary, and added to the increasing prevalence of lunacy was the increasing cost of the patients' maintenance. These facts sufficiently showed the burden of lunacy. To most of them, no doubt, it had occurred that there ought to be some means of reducing this burden; and when public opinion had become sufficiently enlightened the question would probably be brought forward in Parliament and referred to a Royal Commission. As to the question of mitigation perhaps some of the means he was going to suggest might appear to be trivial, but he thought that taken altogether the sum total would be regarded as important. In the early part of last century the number of cases that came to the asylums from lead poisoning were considerable, but legislation in regard to the lead industry had operated so effectively that now there were few cases of insanity from this cause. So, in regard to puerperal insanity of septic origin, this had diminished since the adoption of antiseptic methods in midwifery. He believed it was in the *Boston Journal* that he saw it stated that Dr. Jelly, Collector of Records for thirty years, had clearly proved this. He admitted the numbers concerned were small, but the facts showed that with the adoption of antiseptic methods the effects could be restricted. In

referring, however, to alcohol, he thought he need not apologise for any smallness of the numbers involved. Dr. Percy Smith, in his presidential address to the members of the British Medical Association two years ago, drew particular attention to alcohol as the cause of much insanity. Dr. Clouston, in his report for last year, stated that an undue amount of mental disease in males admitted to Morningside Asylum was caused by the excessive use of alcoholic stimulants, which accounted for a quarter of the whole number of cases, and drink was assigned by him as either the sole or a contributory cause in one third of the admissions of males alone. Dr. Andriezen next referred to syphilis as a cause of insanity, and he again quoted observations which set down syphilis as an ætiological factor in idiocy and insanity, and classed it with alcoholism as a preventable cause. There were in asylums a considerable number of children whose derangement was of syphilitic origin. Syphilis produced all sorts of brain diseases. Many cases of epilepsy were of syphilitic origin, and there was really, he thought, rather a larger percentage of cases in asylums than was usually believed for which syphilis was responsible. Regarding syphilis as a disease which might be prevented, various propositions had been made, and Dr. Percy Smith, in his presidential address, had alluded to the subject. In Norway and Finland they had made the disease a notifiable one, but he supposed that in this country we were not yet nearly ripe enough for such legislation, so that the prospect of dealing with syphilis by law was remote. Referring briefly to phthisis, Dr. Andriezen said it was matter for congratulation that the general public had at last awakened to the fact that phthisis was a dangerous disease. There were a number of people confined in lunatic asylums in consequence of mental diseases caused by this malady. The marriage of imbeciles, epileptics, and persons who had had one or more attacks of insanity might well be a subject for legislation, which could do much to lighten the burden of insanity springing from this cause. At present, however, there was no prospect of it, and the only thing that Association could do was to educate public opinion, and so pave the way for legislation in future. Dr. Andriezen also maintained that unrestricted pauper alien immigration was one of the causes of the steady increase year by year of the burden of lunacy, and was another of those causes which legislation could do much to prevent. He was glad to see that an organised body of members of Parliament and others, under the presidency of Sir Howard Vincent, was now working to bring about legislative action in this matter at an early date. Lastly, there was the classification of patients on what he should call the medical and economical basis. During the last few years this had been attracting increasing attention. Chronic, incurable, and fairly harmless patients need not be housed, fed, and clothed very much in the same way as other lunatics. It was an unnecessary procedure, and the pecuniary burden of lunacy might be lessened by a well-considered scheme. The Commissioners in Lunacy had emphasised this idea, and had issued a circular stating that where buildings were required in future for large numbers of chronic patients the cost must be kept within certain limits, or sanction would be refused. Dr. Andriezen, in conclusion, suggested the introduction of an industrial colony system, under which the weak-minded might be housed, and, at the same time, found useful employment. This would be much better, he said, than their being at large propagating their species to the detriment and cost of the community.

Dr. FLETCHER BEACH remarked that the amount of alcoholism depended largely upon the prosperity of the country. When times were good they had more of it than when times were bad. With regard to syphilis, he was present at a discussion where it was urged that a large amount of insanity was due to this cause, but a majority of those present thought that syphilis was not the sole cause. His own opinion was that if all the cases attributed to syphilis were analysed not more than 5 per cent. could be definitely traced to that cause. However, he was not so sanguine that they would be able to reduce that cause for some time to come. It took a long time to convince the lay mind of anything of a scientific nature. He was very glad to endorse what Dr. Andriezen had said in regard to pauper immigration.

Dr. HYSLOP said that Dr. Andriezen's discourse was to a large extent a reply to many questions he had been asked by lay friends regarding the alarming increase of insanity. The question was really a most important one. Forty years ago the Commissioners reported that the proportion of lunatics was only one to 500 of the population. As it had now got to one to 300, it seemed as if in another forty years

there would not be sufficient sane people left to manage the asylums. He believed there was one cause of the increase of insanity which Dr. Andriezen had not mentioned, and it arose from the struggle for existence in these days, the turning of night into day. In the metropolis many cases came from districts like Fleet Street. He considered that alcoholism was responsible for even more than had been stated. They had to remember not only the cases directly caused by alcohol, but the many attributed to specific conditions which had really been mainly due to alcohol. Then as to syphilis. A great injury was done to the country when the Contagious Diseases Act was repealed.

Dr. ANDRIEZEN, in reply, said he agreed entirely with Dr. Hyslop in regard to the Contagious Diseases Act. He noticed that two or three American states, Minnesota being one of them, had made laws within the last month or two to prevent the marriage of weak-minded people, epileptics, etc. He admitted that it was one of the unfortunate effects of progress and civilisation that we lived at too high pressure.

After the discussion on the papers a hearty vote of thanks to Dr. Moore for inviting the Division to meet at Virginia Water and for his hospitality was unanimously carried, as was also a vote of thanks to the Chairman.

The members were afterwards hospitably entertained by Dr. Moore at dinner.

SOUTH-WESTERN DIVISION.

The Autumn Meeting was held in the Board Room of the Royal Mineral Water Hospital, Bath, on Tuesday, October 22nd, by kind permission of the Governors.

Dr. Goodall was voted to the chair.

Present: Drs. Weatherly, Baker, Blachford, Benham, Rorie, Deas, Morton, Bullen, Millar, MacBryan, Aveline, MacDonald (Hon. Sec.), and Monckton, as visitor.

The Honorary Secretary announced letters of apology from Dr. Oscar Woods, Dr. Morrison, Dr. Mumby, Dr. Soutar, and Dr. Noott.

The minutes having been read and signed, the names of two candidates were submitted for election, viz. Glasgow, John George, L.R.C.P.Lond., M.R.C.S., A.M.O. Portsmouth Asylum (Proposers: B. H. Mumby, P. W. MacDonald, and G. A. Rorie); Findlay, John, M.B., B.Ch., A.M.O. Dorchester Asylum (Proposers: P. W. MacDonald, G. A. Rorie, and J. Chambers); and were unanimously elected.

THE NEXT MEETING.

The Hon. Sec. reported an invitation from Dr. Aveline to hold the Spring Meeting at the Catford Asylum, near Taunton, and moved that it be accepted with thanks. This was cordially agreed to.

THE LATE DR. LAW WADE.

The Hon. Sec. said that as this was the first time they had met since the death of the late Dr. Law Wade, of Wells, he felt sure they all wished to express their sense of regret and loss at his untimely and unexpected death. Dr. Wade had always taken a great interest in the Division. He was not cut off after his full term of years, but in the prime of life, full of energy and full of work, and he felt it was an extremely sad thing, not only for those more immediately concerned, but for those who knew him and worked with him. He would formally move that an expression of their regret be conveyed to his sorrowing widow.

Dr. LIONEL A. WEATHERLY seconded the motion, and, speaking as an old friend of Dr. Wade's, he said that they would all miss him very much for his geniality. His energy in his work was unbounded, and they all valued his able help. The resolution was adopted.

Dr. JOHN BAKER read a paper entitled "Female Criminal Lunatics" (see page 13).

Dr. J. V. BLACHFORD read a paper entitled "Degeneration of the Optic Thalami" (see page 58).

Dr. P. W. MACDONALD read a paper entitled "Note on the Prefrontal Lobes and the Localisation of Mental Functions" (see page 9).

On the motion of Dr. BENHAM, seconded by Dr. Deas, a vote of thanks was accorded to the Governors of the Hospital for the use of the Board Room.

The members dined afterwards at Messrs. Fortt's restaurant.

NORTHERN AND MIDLAND DIVISION.

A meeting of the members of the Northern and Midland Division of the Medico-Psychological Association was held at Bootham Asylum, York, on Wednesday, October 30th, 1901.

Members present: Drs. Adair, Blair, Clapham, Ewan, Gill, Grove, Gramshaw, Hearder, Hingston, Hitchcock, Holmes, Kershaw, Legge, Macleod, Macphail, Mackenzie, Merson, Miller, Middlemass, Pope, Powell, Tighe. Visitor: Dr. T. Anderson.

Dr. Clapham having been voted to the chair, Dr. Hitchcock (Hon. Sec.) read the minutes of the preceding meeting, which were approved.

In connection with the nomination of members by the Northern and Midland Division for vacancies on the Council of the Association, the following resolution was, on the motion of Dr. MACPHAIL, seconded by Dr. POWELL, unanimously adopted:

"That this Division desires to record its dissatisfaction that on two occasions its nomination and recommendation of members to the Council for vacancies arising from the retirement of members representing the Northern and Midland Division had not been accepted."

It was further resolved that a copy of the foregoing resolution should be sent to the General Secretary, with a request that he should bring it before the Council of the Association at their next meeting.

On the invitation of Dr. Gill, it was resolved that the next meeting of the Division should be held at Shaftesbury House, Formby, on Wednesday, April 16th, 1902.

BUREAU OF INFORMATION.

Dr. MILLER (Hatton Asylum) presented his report on the progress made in the establishment of a bureau of information on matters of asylum administration. The report was as follows:

At a meeting of our Branch at Leicester in April last, I briefly opened a discussion on the desirability of forming a bureau of information in connection with asylum management. My remarks were followed by a discussion in which all members present, I think, took part, and while not feeling very sure of my ground I still thought that the meeting was sufficiently in sympathy with my project to justify my going further.

Following on the report of our proceedings in the JOURNAL, the question appeared to claim the attention of other members of our Association, who seemed to think that some good might accrue from the formation of a bureau on the lines suggested by me.

At the meeting of the Council of the Association, held at Cork, a resolution was unanimously passed in favour of my proposal, and I was asked to proceed with the work. As I was anxious, if possible, to start on a firm footing, I postponed the carrying out of the instruction conveyed in the minute of the Council for the following reason:

There are some eighty county and borough asylums, and about the same number of hospitals and licensed houses in the country. Now, unless I could make sure of the support of, at all events, a large proportion of the superintendents of these institutions, it would be a useless waste of time going on with the work, as the information I should have at my disposal would be only of a very incomplete character.

I therefore decided to send a circular letter to all the superintendents of public institutions for the care of lunatics and lay my scheme briefly before them in the hope that they would think fit to give me their support. The editors of the JOURNAL communicated with me on the subject, approving of the idea, and giving it their practical help. I therefore sent them the proof of the circular for their perusal, and feeling that as the members of this Branch were kind enough to listen to my original plea, it would only be my bare duty to present the circular to them for discussion prior to having it printed, I will therefore, with your permission, read it.

[This circular, in a slightly altered form, is printed on page 207.]

As to the class of information sought for I have only to call to your mind the many circulars which you receive during the course of twelve months, all of which you reply to (or possibly you don't), at all events you rarely hear any more from the person who sends the query to you. A few months after you receive another query of a practically similar nature, until you naturally begin to think these queries more or less of a nuisance. Under the plan I suggest you would only be asked to reply once on any subject in one year, and you would receive a list for correction at regular intervals of, say, twelve months; any alteration from the previous reply would be noted at the bureau, so that up-to-date information would after a time be obtainable at short notice by anyone seeking it. I am sure that to many of us an arrangement of this description would be eminently useful. I have had to seek information by this means, rather preferring to take the collected opinion of my fellow superintendents than consult some of the books on the subject containing information by no means always reliable and generally more or less antiquated. In conclusion, I would like to add that I am entirely in your hands; if the venture is to succeed it will only do so by aid of your support and co-operation.

The CHAIRMAN said that Dr. Miller brought the matter forward at Leicester, and they very much approved of it. He was kind enough to offer to take it in hand for a year and see what he could make of it. He (the Chairman) thought that that meeting would approve of it, and that it was worthy their consideration. If worked out in the way Dr. Miller pointed out, it would be of infinite use to individuals and the Association generally.

Dr. POWELL said that they must all feel very much obliged to Dr. Miller for the work that he had done in that direction. It was a new question, and he felt that it was a thing that was, at any rate, worth trying. They should encourage Dr. Miller to go on with the work and accept the circular as a Division. The circular was a reasonable one, and he moved that the meeting should support what had been done.

Dr. EWAN seconded this motion, and it was, after the discussion of various details, carried unanimously.

THE PHOTOGRAPHING OF INSANE PATIENTS.

Dr. POWELL then opened a discussion on "The Photographing of Insane Patients: is it Detrimental to Them?" He said that he believed most asylums had adopted the system of photographing patients on admission, that is, as many as could be got to sit still. It occurred to him that this was done somewhat indiscriminately, and done too much as a routine without considering whether it gave pain to the patients or not. He argued that the pain would be very considerable in cases of sensitive melancholia. He recollected seeing two women coming away from the room in perfect misery, and it seemed to him that the process had given them pain. Delusional patients were very suspicious, and they, too, would object. These cases, perhaps sensible in other ways, would feel their residence in an asylum acutely, and would be glad to forget it. They would look on the fact of having been photographed as a permanent record of their residence in an asylum, and they would rather not have it. They did not get acute cases in the case-books unless they were snapshotted, and they did not do that. To illustrate a case completely they should photograph the patient on discharge as well as on admission. He should not hesitate for one moment to commend the system of photographing patients and illustrating the cases in the case-books, but he should recommend that it be not done as a routine process. He would ask the medical officers to discriminate,

and if the photographing gave the patients pain he would not have it done. He only brought the matter up in that cursory way to hear what other members of the Division had to say about it.

The CHAIRMAN said that the subject was a very interesting one. There might, he thought, be processes of photographing patients without their knowing anything about it. They would then get a much truer likeness with regard to the complaint.

Dr. GILL said it was a question whether there was any advantage to science in photographing all patients. He agreed that if it was to be done it should be done in a very secret way, and the photograph destroyed after the patient left.

Dr. MACPHAIL thought that if any of the patients could give a good reason why they should not be photographed they should have the right to do so. He did not think the custom was abused very much.

Dr. POPE said that he had never seen any objection to it, and the case-books were kept under control. It seemed to him that the Lunacy Commissioners looked for it, for they made in their reports such entries as "No photography done," "No photograph room provided." He agreed with Dr. Powell that the system should be safeguarded. Snapshotting and enlarging could easily be done. In large asylums it was a great advantage to have photographs as a means of identification.

Dr. ADAIR said that he had had a good deal of experience in photographing patients, for he had five or six hundred admissions per year and they photographed all they could. If there was any case, however, which they thought was not fit or would not be advantageous to the patient it was not done. In any case where a patient objected they did not take the photograph, but he must say that the cases were very rare where the patients objected. As to the question of privacy they took the history of all the cases, some of which were not too creditable to the patients, and it was as bad to keep that as it was to keep the photographs.

Dr. MILLER said that he had snapshotted several patients during the past fifteen years and it had not been objected to until the previous week. He contended that photography was very useful in tracing escaped patients.

Dr. HITCHCOCK spoke of the undesirability of photographing patients. He did not think that anyone had a right to photograph insane patients, and he had felt very strongly on the subject since some years ago he was shown in the collection of an amateur photographer photographs of patients suffering from acute mania. The only argument in favour of photographing the patients was that of identification of large numbers in large pauper asylums, and that criminal lunatics might be so identified.

Dr. POWELL said, in reply, that he was struck by the fact that Dr. Gill and Dr. Hitchcock, who had to do with better-class patients, should have expressed opinions against the system, and he considered that pauper patients should receive equal consideration. He would not say that as scientific men they had no right to photograph for the treatment of disease. It was a good thing that patients should be consulted regarding their wishes in the matter. Still, if a delicate, sensitive melancholiac were appealed to he could not say no, although he might feel that he would prefer to not be photographed. With regard to identity he had never had a case in his twenty-one years' experience.

A vote of thanks to the Chairman closed the meeting.

Previous to the business meeting the members had luncheon in the asylum and were taken round the building and grounds by the medical officers. In the evening members and friends to the number of twenty-one had dinner at the Station Hotel, York.

RECENT MEDICO-LEGAL CASES.

REPORTED BY DR. MERCIER.

[The Editors request that members will oblige by sending full newspaper reports of all cases of interest as published by the local press at the time of the assizes.]

Rex v. *Pritchard.*

Charles Legg Pritchard, 24, painter, was indicted for sending to Sir Edward Bradford a letter threatening to kill and murder Francis Hanks. Hanks was a chief inspector in the service of the North Metropolitan Tramway Company. Prisoner had for some time past busied himself in watching the North Metropolitan Tramways, and had persuaded himself that there had been cruelty to the horses and overloading of the cars, and he had for some time been sending letters of complaint not only to the officers of the Company but to the police. On August 12th he wrote to Sir Edward Bradford to the effect that he had received no assistance from the police, and that in consequence of the violent behaviour of certain persons towards him, he had taken a revolver with him, and should not hesitate to use it. A police officer called upon the prisoner and cautioned him. On September 2nd the prisoner wrote another letter to Sir Edward Bradford in which he threatened to shoot Hanks. The prisoner was arrested upon a warrant and struggled violently with the police, trying to get his hand to his pocket, in which was found a loaded revolver. The police proved the facts, and declared that there was no foundation for the statement that there had been cruelty to the horses. Dr. Scott, medical officer to Holloway Gaol, was of opinion that the prisoner was of unsound mind at the time he wrote the letter, and that he did not know the nature or quality of his act, or that he was doing wrong; also that the prisoner was at present of unsound mind. Guilty, but insane.—Central Criminal Court, October 23rd, Mr. Justice Bigham.—*Times*, October 24th.

That the prisoner was insane there seems to be no doubt, but the interest of the case lies in the very unusual form that the insanity took. It seems to have been a case of paranoia, but the delusion of persecution was unique in this respect: that the persecution was directed, not against the person himself, but against the horses of the tramway company. So far as I am aware, no such case has been recorded before.

The terms in which Dr. Scott was allowed to give his evidence should be noted. In this and in the following cases he stated his opinion in the very terms which have often been prohibited, and attention is again drawn to the freedom with which the medical witnesses are now allowed to prove insanity in this way, and to the great latitude that is given them in courts of justice.

Rex v. *Holmes.*

Harriet Holmes, 46, married woman, was indicted for the murder of her two children. It was the common case of a woman in a fit of depression murdering her children. The facts being proved, Dr. Scott gave his opinion that the prisoner was of unsound mind at the time she killed the children so as not to be responsible for her actions. Guilty, but insane.—Central Criminal Court, October 23rd, Mr. Justice Bigham.—*Times*, October 24th.

Rex v. *Richardson.*

John Thomas Richardson, 41, salesman, was indicted for the murder of his son, æt. 2 years. Prisoner murdered the child by punishing him with excessive violence for some childish indiscretion. He struggled violently with the police on being arrested, and when charged he said: "Me kill the child! I love my baby. Wilful murder! you must be mad. I thought the baby had a nerve, so I bit it through the mouth and on the top of the head, and I thought it would do it good." The prisoner had been very strange in his manner some time previously. He was extremely fond of the child. Dr. Scott gave his opinion that the prisoner was

insane at the time he committed the act, and did not know its nature and quality. Guilty, but insane.—Central Criminal Court, October 23rd, Mr. Justice Bigham. —*Times*, October 24th.

Rex v. *Neville.*

Alice Neville, 37, was indicted for wounding George Neville, her husband, with intent, etc.

The husband, on his return from work, noticed that the prisoner was very strange in manner, and that the bed had not been made. He asked her to pull herself together and make the bed, and he sat down to read while she did so, and went to sleep. He awoke to find her standing in front of him with a knife. He was bleeding from a wound in the throat. The prisoner attempted to cut her own throat, inflicting a serious wound upon it. She had been in a melancholy and depressed condition for some time. Dr. Scott said that he should say that the prisoner did not know what she was doing when she committed the act. Guilty, but insane.—Central Criminal Court, October 23rd, Mr. Justice Bigham.—*Times*, October 24th.

This series of cases illustrates very well the present practice in trials in which the plea of lunacy is raised on good grounds. The judge allows ample latitude to the medical witness, who is, in fact, called by the prosecution. The following case shows a different practice:

Rex v. *McKenna.*

Patrick McKenna, 53, joiner, was indicted for the murder of his wife. The accused seems to have been jealous of his wife, without cause, as he subsequently admitted. He was drunk on the day of the murder, was refused money by his wife, and then accused her of unfaithfulness and threatened her. Twice he went away, and twice he returned. On the second occasion he took her by the shoulders, and taking a carving knife off the table said, "I will cut your throat." She took the knife from him, but a second time he seized it, and plunged it into her neck. She died soon afterwards. On the way to the police station he said, "I went to the house without premeditation and without malice. It is horrible. She threw the knife on the table and said, 'If you want to do it, do it.' It was done in a minute. She was launched into eternity unprepared. She has gone to hell if there is such a place." Mr. Sutton, for the prosecution, said that he purposed to call two medical witnesses to give evidence as to the state of the prisoner's mind, in view of a possible defence on the ground of insanity in the prisoner's family. The judge said he did not see that this evidence could be heard. Everybody was presumed to be sane until they were found out to be otherwise. He did not know of any other circuit in which it was the custom to take the course proposed by Mr. Sutton. Mr. Sutton said that his reason for proposing to call the evidence was that on one occasion Mr. Justice Hawkins made some very severe comments because that course had not been adopted after allegations of insanity had been made before the magistrate. The judge said it was not a question of custom, but one of evidence, and what a learned judge might have thought right to be done in one particular case was no reason for doing anything contrary to the rules of evidence. The plea of insanity was not raised in defence, and the efforts of counsel were limited to an endeavour, which was not successful, to reduce the crime to manslaughter. Guilty, sentenced to death.—Manchester Assizes, November 13th, Mr. Justice Bucknill.—*Manchester Guardian*, November 14th.

It is manifest that in this case there was no sufficient evidence of insanity to enable the plea to be raised with any chance of success, or it would have been raised in defence. It must be remembered that the evidence gained by the prosecution from medical examination of the prisoner in gaol is placed at the service of the defence, and if it was not utilised by the defence it must have been because it was not of any value; in other words, it went to establish the sanity, not the insanity, of the prisoner.

BUREAU OF INFORMATION.

We have received the following circular which Dr. Miller has addressed to the Medical Superintendents of Asylums in England and Wales.

WARWICK COUNTY LUNATIC ASYLUM,
HATTON, NEAR WARWICK;
November 12th, 1901.

Dear Sir,—At the April meeting of the North and Midland Division of the Medico-Psychological Association I introduced the subject of the desirability of forming a bureau of information regarding asylum administration.

At the last meeting of the Council in July, a motion was unanimously carried to the effect that I should proceed with the work. Before going further I think it desirable that I should explain the nature of my scheme, and obtain the vote of my fellow superintendents as to whether they are willing to assist me in the matter, as it would be impossible to carry out my object without the assistance of, at all events, a very large proportion of my fellow workers.

The object of the Bureau would be—

1. To receive the original query from any superintendent desiring information.
2. To send out the queries to all asylums.
3. To receive the replies and tabulate the answers in the manner prescribed in the original query.
4. To send the replies to the questioners and to those who have responded to the query.
5. To preserve and publish, if desirable, for circulation among the members these replies, keep them up to date by annual corrections, and to forward a copy to each contributor.
6. A subscription of 10*s*. 6*d*. to be charged for the first year, the accounts to be audited by the Association auditors, and the question of future subscription to be considered by the members of the Bureau.

Are you willing to assist me by allowing your queries to pass through my hands on the understanding that—

1. You receive a statement showing the result of your query tabulated to your wishes;
2. That a copy of such tabulated statement be sent to all from whom replies are received;

And that all information in the Bureau be at your service when required?

Believe me, yours faithfully,
ALFRED MILLER.

'HANDBOOK FOR NURSES AND ATTENDANTS.'

We are requested to state that as the 15,000 copies of the Handbook which have been printed up to the present date are almost sold out, the further issue of 5000 copies has been sanctioned by the Council. It is considered undesirable to introduce at the present moment any such alterations as would necessarily constitute the re-issue of a new edition, since such a step would, to a certain extent, put out of date the many thousand copies now in use. It is felt that the time has not yet come for a thorough revision. Nevertheless the Council considered that some instructions for the prevention of the spread of consumption in asylums might well be added, and a sub-committee (Drs. Spence and Weatherly) was requested to draw them up. They will be printed on a separate sheet and can be readily pasted on the inside of the covers of the book. These will be supplied gratis with the re-issue, and to bring up the existing copies to the same level of usefulness it has been arranged that copies in the same form will be supplied by the publishers (Messrs. Baillière and Co., 8, Henrietta Street, Covent Garden) on receipt of a stamped and addressed wrapper. It is suggested that medical superintendents should cause such application to be made in respect of all the copies now in use at their respective asylums.

We also understand that the re-issue will contain the altered regulations for training and examination which have been passed by the Association since the first issue of the present edition.

RESIGNATION OF DR. YELLOWLEES.

The resignation of Dr. Yellowlees as Physician Superintendent of the Glasgow Royal Asylum has not been altogether unexpected by those who were aware of his recent illness and the grave affection of his eyesight; but still it will be difficult to imagine Gartnavel without him, so identified has the work of his later years become with the fame of that beneficent institution. We understand, however, that Dr. Yellowlees does not intend to seek release from the practice of his profession or the work of teaching, and we may hope to see him at our meetings as enthusiastic and as helpful as ever. We have also good reason to hope that he will place on record the impressions and recollections of his long experience of asylum life, and can assure him of a hearty welcome to any book he may produce, promising as it would a variety of incidents and reflections on things new and old.

Dr. Yellowlees took his degree in Edinburgh in 1857, and was then associated with Sir W. T. Gairdner and Professor Spence in their hospital work. In the following year he was appointed to a junior post at Morningside under the late Dr. Skae, his colleagues having been Sir John Sibbald and Professor John Young. General practice in Yorkshire engaged his attention for two years. After that valuable experience he returned to Morningside, whence he was appointed Medical Superintendent of the Glamorgan County Asylum in 1863. On the resignation of the late Dr. Macintosh, Dr. Yellowlees was appointed to Gartnavel in 1874. At that time there was a debt of £10,000 on the institution, a debt which has been converted into a surplus of £30,000 as the result of his skilful management. Many changes have been recorded in the administration of Gartnavel during the twenty-seven years which have elapsed since Dr. Yellowlees' appointment. Gartnavel is now devoted to private patients only, and the numbers exceed those of any other similar institution in the country. The charitable action of the asylum is deserving of all praise. A new dining hall, the reconstruction of wards, the introduction of electric lighting, and the reorganisation of the whole institution form the basis of a long history of successful management.

Honours have been paid to Dr. Yellowlees in recognition of his worth and ability. He served as President of the Faculty of Physicians and Surgeons from 1892 to 1894, as President of the Medico-Psychological Association in 1890, as President of the Psychological Section of the British Medical Association in 1885. The University of Glasgow, where he has been Lecturer on Insanity since 1880, conferred on him the degree of LL.D., and various foreign societies for the study of psychiatry have included him among their honorary members.

Dr. Yellowlees has thus had the widest relations with his professional brethren and the public, and we hope that his views and reviews will be given to the world at no distant date.

He retires on the handsome pension of £1200 per annum, with the best wishes of the directors of the Glasgow Royal Asylum. Confident in Dr. Oswald's ability to maintain the high level of efficiency to which Gartnavel has been brought, Dr. Yellowlees may now devote himself to work of a less harassing nature, and we are assured that our readers will join with us in hoping that he will yet see many and useful days.

OBITUARY.

Henry Sutherland.

Dr. Henry Sutherland, whose death on November 19th last we are grieved to record, was a greatly esteemed and long-standing member of our Association.

He was the second of six sons of the late Dr. Alexander John Sutherland, and grandson of the late Dr. Alexander Robert Sutherland. Both his grandfather and father held the office of Physician to St. Luke's Hospital for the Insane. Dr. Henry Sutherland was born in 1841. He took the M.A. and M.B. degrees of the University of Oxford in 1869. In 1870 he became a Member of the Royal College of Physicians of London, and in 1872 M.D.Oxon.

He received his medical education at St. George's Hospital, London, and at Addenbrooke's Hospital, Cambridge. Devoting himself to the study of mental diseases, he had his early training at Bethlem Royal Hospital and at the West Riding County Asylum at Wakefield. After leaving Wakefield he returned to London, and he was soon appointed Lecturer on Insanity at the Westminster Hospital Medical School, and a Physician to the St. George's (Hanover Square) Dispensary. He became actively engaged in professional work as an alienist, and he was Visiting Physician to Otto House and to Newlands House.

He was a Fellow of the Royal Medical and Chirurgical, Obstetric, and Medical Societies, and a member of the Medico-Psychological Association, and of the Pathological, Clinical, Neurological, and West London Medico-Chirurgical Societies.

He was the author of *A Directory of Justices in Lunacy*, and of articles on "Feeding (forcible) of the Insane," "Menstruation and Insanity," "Cases on the Borderland of Insanity," "On Arachnoid Cysts," "The Histology of the Blood in the Insane," and on a number of other subjects of much practical interest.

Dr. Sutherland won for himself the affection and esteem of his colleagues and patients, and he will long be mourned by a wide circle of friends.

Archibald Campbell Clark.

The members of the Association will learn with deep regret of the death of Dr. Campbell Clark, which occurred at Hartwood House, Lanarkshire, on November 28th, 1901. Belonging to Lochgilphead, Argyllshire, Dr. Clark in early life, before he turned his attention to medical study, was connected for a time with the lay staff of the district asylum there, and in this way he had the opportunity of viewing asylum work from an unusual standpoint. It made a deep impression on him; and in subsequent life he showed much sympathy with the lay staff in their work, and a large-hearted capacity of understanding and dealing with their difficulties. His experience at Lochgilphead led him to select the medical profession, with the object of devoting himself to asylum practice; and with characteristic pluck and perseverance he carried out his purpose in spite of obstacles of worldly circumstance which would have proved insurmountable to many men. He graduated at Edinburgh University in 1878, and immediately afterwards became Assistant Medical Officer in the Roxburgh District Asylum, Melrose, under Dr. Grierson. After a few months' service there he joined the staff of the Royal Edinburgh Asylum as Assistant Physician under Dr. Clouston. Promotion to independent work came to him very quickly by his appointment in 1880 to the Medical Superintendentship of the asylum at Bothwell, near Glasgow. At that time the lunacy affairs of Lanarkshire were in an unsettled and indeterminate state, and it was recognised that the existing asylum accommodation was altogether insufficient. The remarkable success with which the small institution at Bothwell was made for several years to meet the wants of a large and very populous district until permanent arrangements could be made, was due entirely to Dr. Clark's energy and ability. The estate of Hartwood had been purchased with the intention of building there an asylum sufficient for the requirements of the whole county. Subsequently it was thought better to make separate provision for the two large urban parishes of Glasgow, and Hartwood then became the site of the new asylum for the county of Lanark, exclusive of Glasgow. Dr. Clark had a very important part in drawing up the plans of the new institution, and when the buildings were ready for occupation he went there from Bothwell as Medical Superintendent, which post he still held at the time of his illness and death. In some respects the plans of Hartwood followed lines which were new in asylum construction, and Dr. Clark's practical knowledge was justified by the result, as in his hands the asylum quickly obtained a very high reputation for efficiency and successful administration. Very soon after entering on the duties of superintendentship Dr. Clark began to devote attention

to the special training of attendants and nurses in asylum work, and it was mainly on his initiative that the Scottish Division took up the question of providing more systematic instruction for them. He acted as convener of the first committee appointed for that purpose, and wrote one section of the *Handbook for Attendants*, which has since been enlarged and adopted by the Association as its authorised text-book for the examination for the certificate of proficiency in nursing and attendance on the insane. He found time also for original investigations in the more strictly medical portion of his work, and made valuable contributions to the journals, his papers on puerperal insanity being especially noteworthy. He likewise filled the post of Mackintosh Lecturer on Psychological Medicine in St. Mungo's College, Glasgow, and published a *Clinical Manual of Mental Diseases*. During the last two years the state of his health had caused much anxiety, and for a time he had to give up work entirely and go to the South of England to recruit. He rallied somewhat, but his health was never good again, and the end has come all too soon to an active life.' He was twice married, and leaves a widow and family, with whom much sympathy is felt in their loss. To know Dr. Clark in private life was to recognise his broad-minded sympathies, his great consideration for others, and his thorough goodness of heart. By his death the Association, and particularly the Scottish Division, loses a most valued member, and one who was foremost in working for the advancement of everything connected with our special department of medicine.

RESIGNATION OF THE REGISTRAR.

Every member of our Association will regret to hear that Dr. Benham has felt it necessary to place his resignation in the hands of the President. His health has been unsatisfactory of late, and he has been obliged to apply for a long leave of absence. Dr. Beveridge Spence has kindly consented to carry on the work until more permanent arrangements can be made. The Association is deeply indebted to these gentlemen for all the laborious work which they have done in the office of Registrar. We hope that Dr. Benham will return to his post with renewed health and vigour.

NOTICES BY THE REGISTRAR.

Examination for the Nursing Certificate.

One hundred and twenty-seven candidates applied for admission to the November examination for this certificate. Of this number eighty-nine were successful, thirty-three failed to satisfy the examiners, and five withdrew. The following is a list of the successful candidates:

Derby County Asylum, Mickleover.—Males: George Davidson Anthony, Walter Thomas Smith, Henry Yates. Female: Agnes Campbell.

Kent County Asylum, Maidstone.—Males: William Albert Bradford, Percy Hubbard, Clement Newman, John Moore Richards, Jesse George Stanford, John Woodsell. Females: Lucy Flora Hayter, Nellie Reeves, Emily Spurgeon.

London County Asylum, Bexley.—Males: William Benger, Arnold Carryer, William Henry Carver, Frederick Montague Jeffery, Edward Mitchell, James Robbens. Females: Margaret Hassell, Alice Holland.

Somerset and Bath County Asylum, Cotford, Taunton.—Males: William John Homer, Philip Pook. Females: Ellen Locke, Alice Miller, Lily Tuck.

Warwick County Asylum, Hatton.—Females: Rose Anna Boyle, Clara Chance. Mary Jemima Harvey, Elizabeth Mason, Henrietta Elizabeth Steadman.

Joint Counties Asylum, Carmarthen.—Males: Thomas Evans, Arthur Fishpool. Females: Theodosia Davies, Mary Ann Griffiths, Lillian Margaret Jeffreys, Mary

Hannah Lloyd, Agnes Margaretta Poyntz, Winifred Wintour, Florence Agnes Wood, Elizabeth Morgan.

Peckham House Asylum, London.—Males: Edward Ablitt, Rudland Bere. Females: Edith Emily Baxter, Alexandra Emily Hill, Elizabeth Lewis, Margaret Christina Simpson.

The Retreat, York.—Females: Susan Emily Clark, Isabella Annie Hearder, Ethel Mary McKew.

Prestwich Asylum, Manchester.—Male: William Rowarth Stubbins.

SCOTLAND.

District Asylum, Inverness.—Male: Donald MacDonald.

James Murray's Royal Asylum, Perth.—Males: John Cameron, Donald McLeish. Female: Christina Mustard Ford.

Kirklands Asylum, Bothwell.—Males: George Bryce, James Saunders Lubanski.

Roxburgh District, Melrose.—Female: Jane Clubb.

Royal Asylum, Edinburgh.—Females: Margaret Copinger, Bessie Marwick, Robina Milne, Elizabeth Porter, Agnes Thorburn Purves, Hannah Elizabeth Robertson, Margaret Jane Sinclair, Annie Winkle.

IRELAND.

District Asylum, Londonderry.—Male: John O'Donnell. Female: Catherine McDevitte.

District Asylum, Omagh.—Males: Peter Kelly, John McConkey. Females: Isabella Armstrong, Susan Boyle, Mary Anne Martin, Ellen McCullagh, Minnie McCreery, Mary Anne McEnhill, Kate Mullan, Mary Stewart.

St. Patrick's Hospital, Dublin.—Male: Patrick Cleary. Females: Kate Campbell, Alice Sherry.

SOUTH AFRICA.

Valkenberg Asylum.—Females: Kate O'Reilly, Violet Ulrich, Kate Walker.

Robben Island Asylum.—Males: John Lineker, Walter Frederick Rigley. Females: Florence Maud Bernott, Katherine Moore, Elizabeth Gerber.

The following is a list of the questions which appeared on the paper:

1. Describe the mechanism of respiration. State what changes take place in the blood and in the air during respiration.
2. What are muscles? What are the different kinds of muscles? Of what uses are they and how do they act? Give the names of some of the principal muscles.
3. How would you arrest bleeding from (1) an artery? (2) a vein—say in the leg?
4. What are—(1) fomentations? (2) stupes? (3) inhalations? (4) gargles?
5. What dangers are sick people exposed to by change of temperature in sick wards?
6. What do you understand by the "insane ear"? What other name is used for it? In what cases does it occur and how is it caused?
7. Describe fully what is meant by a "draw-sheet." What are its uses? How do you change it when a patient is still in bed?
8. What are the principal points upon which the medical officers at their visits may require information from you regarding sick patients who may be placed under your care?
9. What precautions would you take in preparing a bath for a patient?
10. What is meant by "impulsiveness"? What are the chief morbid impulses to be watched for in insane patients, and in what cases are they most likely to occur?

Next Examination for Nursing Certificate.

The next examination will be held on Monday, May 5th, 1902, and candidates are earnestly requested to send in their schedules, duly filled up, to the Registrar

of the Association not later than Monday, April 7th, 1902, as that will be the last day upon which, under the rules, applications for examination can be received.

Note.—As the names of some of the persons to whom the Nursing Certificate has been granted have been removed from the register, employers are requested to refer to the Registrar in order to ascertain if a particular name is still on the roll of the Association. In all inquiries the number of the certificate should be given.

Examination for the Professional Certificate.

The next examination for the Certificate in Psychological Medicine will be held in July, 1902.

The examination for the Gaskell Prize will take place at Bethlem Hospital, London, in the same month, and the examiners are authorised to award a second prize in this competition should one of the candidates attain such a standard as would justify them in doing so. Due notice of the exact dates will appear in the medical papers.

For further particulars respecting the various examinations of the Association apply to the Registrar, Dr. Spence, Burntwood Asylum, near Lichfield.

Prize Dissertation.

Although the subjects for the essay in competition for the Bronze Medal and Prize of the Association are not limited to the following, in accordance with custom the President suggests—

1. On the advantage of providing hospitals in asylums for acute mental cases.
2. Causation of colitis in asylums, and how it can be prevented.
3. State care of the insane.

The Manuscript Prize Dissertation and every accompanying drawing and preparation will become the property of the Association, to be published in the Journal at the discretion of the editors. The dissertation, for the Association Medal and Prize of Ten Guineas, must be delivered to the Registrar, Dr. Spence, Burntwood Asylum, near Lichfield, before May 30th, 1902, from whom all particulars may be obtained.

By the rules of the Association the Medal and Prize are awarded to the author (if the dissertation be of sufficient merit) being an assistant medical officer of any lunatic asylum (public or private) or of any lunatic hospital in the United Kingdom. The author need not necessarily be a member of the Medico-Psychological Association.

THE CRAIG COLONY PRIZE FOR ORIGINAL RESEARCH IN EPILEPSY.

Dr. Frederick Peterson, of New York City, offers a prize of $200.00 for the best original unpublished contribution to the pathology and treatment of epilepsy. Originality is the main condition. All manuscript should be submitted in English. The prize is open to universal competition. Each essay must be accompanied by a sealed envelope, containing the name and address of the author and bearing upon the outside a motto or device, which is to be inscribed also upon the essay. All papers received will be submitted to a committee, consisting of three members of the New York Neurological Society, and the award will be made upon its recommendation at the annual meeting of the Board of Managers of the Craig Colony, October 14th, 1902.

Manuscripts should be sent to Dr. Frederick Peterson, 4, West Fiftieth Street, New York City, on or before September 30th, 1902. The successful essay becomes the property of the Craig Colony, and will be published in its medical reports.

NOTICES OF MEETINGS.

General Meeting.—The next General Meeting will be held, through the kindness and courtesy of Dr. Mould, at the Royal Hospital, Cheadle, on February 14th, 1901.

Northern and Midland Division.—The Spring Meeting will be held on Wednesday, April 16th, 1902, at Shaftesbury House, Formby, Liverpool.

South-Eastern Division.—The Spring Meeting will be held at the Surrey County Asylum, Brookwood, in April, 1902.

South-Western Division.—The Spring Meeting will be held at the Cotford Asylum, near Taunton, in April, 1902.

Scottish Division.—The Spring Meeting will be held at the Central Hotel, Glasgow, on March 28th, 1902.

Irish Division.—The next Meeting will be held at the Royal College of Physicians, Dublin, in April, 1902.

AFTER-CARE ASSOCIATION.

The Archbishop of Canterbury will preside at the Annual Meeting of the After-Care Association, to be held at Lambeth Palace Library, on February 8th, 1902, at 3 p.m.

APPOINTMENTS.

Blair, Robert, M.D.Glasg., appointed Consulting Physician to Woodilee Asylum, Lenzie.

Beresford, Edwin H., M.R.C.S.Eng., L.R.C.P.Lond., appointed Medical Superintendent of the New Metropolitan Asylum, Tooting Bec.

Dobson, Nurgamt Austin, M.B., appointed Assistant Medical Officer to the Bracebridge Asylum, near Lincoln.

Donaldson, William Ireland, M.D.Dublin, appointed Medical Superintendent to the London County Asylum, The Manor, Epsom.

Eades, A. J., L.R.C.P. and S.I., appointed Senior Assistant Medical Officer at the County Asylum, Winwick.

Hunt, Thomas, M.R.C.S.Eng., L.R.C.P.Edin., appointed Resident Medical Officer, St. George's Retreat, Burgess Hill.

Johnston, George A., M.B., Ch.B.Aberd., appointed Assistant Medical Officer at the Royal Asylum, Montrose.

Kerr, Neil T., M.B.Edin., appointed Medical Superintendent of the Lanark District Asylum, Hartwood.

Marr, Hamilton, C., M.D.Glasg., appointed Medical Superintendent, Woodilee Asylum, Lenzie.

Oswald, Landel, R., M.B.Glasg., appointed Physician Superintendent to the Royal Asylum, Gartnavel, Glasgow.

Parker, Wm. A., M.B.Glasg., appointed Medical Superintendent of Gartloch Asylum, Glasgow.

Perceval, F., M.R.C.S.Eng., L.R.C.P.Lond., appointed Medical Superintendent of Prestwich Asylum.

THE

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Part I.—Original Articles.

The Treatment of Incipient Mental Disorder and its Clinical Teaching in the Wards of General Hospitals.

By Sir JOHN SIBBALD, M.D., etc.(1)

I HAVE to thank the Council of the Society for their kindness in appointing a day for the discussion of the question which is the subject of the following paper. The paper has been written at the suggestion of my friends Dr. Clouston and Dr. John Macpherson; but it is right to say, as they have left me a free hand in dealing with the subject, that they are not to be held responsible for the opinions it contains.

Our chief object is to elicit the views of the meeting in regard to what we deem an important defect in the present arrangements for the treatment of mental disease and for giving clinical instruction in regard to it; and I am to indicate that, in our opinion, this defect might be best remedied by the establishment of wards in the Royal Infirmary for the treatment of incipient and transitory mental disorders. I therefore propose to show that, from the point of view of public charity, the establishment of such wards is desirable; and I hope also to make it clear both that the present opportunities for clinical instruction in insanity are singularly inadequate, and that the wards we propose would furnish the means of making such instruction efficient and complete.

It is proper to put on record that the raising of the question

at present is entirely due to my friend Dr. John Macpherson, one of His Majesty's Commissioners in Lunacy, who contributed a valuable article on the subject to the *Scotsman* of July 4th last; and if, as I hope, the present discussion takes effect in the establishment of the wards we desire, it is to him that our gratitude will be due. It is not, however, a new question. In the original plan of the Royal Infirmary a large portion of the under floor was appropriated to patients suffering from mental derangement, so that the question of providing for such cases within the institution dates back to, at the latest, the year 1738; but the question was not discussed in its present form till the middle of the nineteenth century, before which time neither the importance of hospital treatment for the early stages of insanity nor the necessity for any clinical teaching in insanity can be said to have been recognised. Even so late as the year 1870, as I showed in an article in the *Journal of Mental Science* (January, 1871), neither in this country nor on the Continent was provision for the clinical teaching of insanity in the medical schools anything but exceptional. The first who effectually awakened an interest in the subject was Griesinger, who, for some years previous to his appointment in 1865 as Professor of Nervous and Mental Diseases in the University of Berlin, had insisted on the importance of providing efficiently for such teaching in every medical school, and who induced the authorities of the Royal Charité (the great general hospital at Berlin) to provide for clinical teaching, both in neuropathy and psychopathy, by giving him wards illustrative of each of these subjects. My own active interest in the subject began in 1866, when I translated the opening lecture of Griesinger's first course (*Journal of Mental Science*, January, 1867). In 1867 I attended several of Griesinger's lectures in Berlin; and in that and subsequent years advocated, when opportunity offered, the establishment in this country of wards somewhat similar to those at Berlin.(2) But I felt, in common with many others, that the most important requirement in those days was to obtain the recognition of instruction in insanity in any shape as a compulsory part of a medical curriculum—a recognition only recently obtained in Scotland, and one for which, I understand, we are largely indebted to the advocacy of Sir Arthur Mitchell, when a member of the late Scottish Universities Commission.

The importance of teaching insanity, and of illustrating the teaching clinically, gradually, indeed, became more and more felt, until now there is teaching, both systematic and clinical, in connection with every medical school. The clinical teaching is, however, always given in asylums, and that this is an imperfect arrangement was early recognised. The late Professor Laycock recognised this so clearly that he suggested, in 1869, that the managers of the Royal Infirmary should set apart wards to serve both for the treatment of mental disease and for the clinical instruction in insanity of medical students. Sir Arthur Mitchell also advocated the establishment of such wards in his Morison Lectures in 1871, and so far succeeded in the advocacy that plans were prepared for such wards among the original plans for the buildings of the present Royal Infirmary. Sir John Batty Tuke, though he afterwards supported a proposal that a special hospital for the treatment of mental disease and for its teaching should be established in London, said in an article in the *Nineteenth Century* for April, 1889, that the "ideal arrangement for teaching is a department for the treatment of insanity in connection with general hospitals." The importance of hospital treatment for the treatment of the early stages of mental disorder has also been recognised in the interest of the patients, independent of the question of clinical instruction. The most conspicuous instance of this within my knowledge is the wards for the treatment of incipient mental disorder that Dr. Carswell induced the Glasgow Parish Council to establish in connection with their poorhouse hospital, and which have been in operation for more than twelve years. Though these wards have not, as far as I am aware, been made to serve the purpose of clinical instruction, Dr. Carswell has shown their usefulness in providing curative treatment for patients whose malady has not reached the stage which makes relegation to an asylum necessary.

Other illustrations might be given of the way in which the question now raised has occupied the minds of those interested in the treatment of the insane and in the efficiency of medical teaching, but sufficient has been said to show that the matter has been long under consideration.

Little need be said to show that the wards we propose would be useful from the charitable point of view, patients in the early stages of mental disorder being at present almost

entirely neglected. If hospital treatment is desired for any of these unfortunate sufferers, the only direction in which we can look is either to general hospitals or to lunatic asylums; but the desired help cannot be obtained there, for cases of mental disorder are, as a rule, excluded from general hospitals, and the cases we have in view have not arrived at the stage which makes relegation to an asylum either necessary or justifiable. It is certain, therefore, that a considerable number of patients are thus allowed to fall into incurable insanity who might have been, and indeed ought to have been, saved from that fate.

A few words may be said as to the way in which these cases of commencing mental disease have come to be unprovided with hospital treatment. I need scarcely say that it is not in any sense the result of premeditated neglect. It has arisen, indeed, in an indirect way, from the exceptional care that the Legislature has taken to provide efficient hospital treatment for the insane poor as a whole, they being the most numerous of the few special classes of patients for whom hospital accommodation is provided compulsorily by the rate-payer. This accommodation, as every one knows, is given in the institutions called lunatic asylums; but the Legislature has judged it necessary so to hedge round with statutory precautions the admission of patients to these institutions, and there are such impediments in the way of their admission, due to social considerations, that it is not until mental disorder has taken indubitable hold of a patient, and not even then in many cases, that the asylum can be resorted to. The statutory precautions (at least as regards all patients except those called "voluntary patients," who are necessarily a very small class) prevent the admission to an asylum in Scotland of every person for whom medical certificates, according to a prescribed form, and a sheriff's order cannot be obtained; and similar precautions exist in England and Ireland.

The impediment arising from social considerations is perhaps the most important of all. It is always with great reluctance, and only as a last resort, that a patient is placed in an asylum. So far as this reluctance is justifiable, and so far as it has much practical effect, it rests on the fact that a person who has once been an inmate of an asylum is regarded, though often quite erroneously, as unreliable for sound judg-

ment and prudent conduct, and is henceforth seriously handicapped in the battle of life. For these two reasons, then—the legal and the social,—there is a large number of the persons suffering from mental disorder and requiring hospital treatment who are prevented from being treated in asylums at the stage of the disorder when treatment is not only most needed but also most likely to be effective in promoting recovery. As I have already indicated, this exclusion from asylums, means as regards these patients their exclusion from hospital treatment of any kind; and I do not think it requires much argument to show that in Edinburgh such treatment can only be obtained by the establishment of special wards in the Royal Infirmary. It is evident that the requirements of the case would not be met by the creation of any institution into which only persons suffering from mental disorder would be received. Such an institution would be shunned on account of the social injury resulting from residence there; and treatment in the infirmary would be free from such disadvantages. The introduction of the proposed wards into the infirmary would also be an act of the highest philanthropy, as tending to obliterate the line of demarcation which has too long been drawn between patients suffering from what are called bodily diseases and patients suffering from what are called mental diseases, or, to state it more correctly, between those whose bodily illness has affected their minds and those whose bodily illness has left the mind in its normal condition. It might reasonably be expected also, if it were understood by the public that special attention was given in the infirmary to ailments in which the mind is disturbed, that there might be established in connection with the proposed wards a useful "out-patient" department, somewhat similar to that conducted by Dr. J. Batty Tuke, jun., in connection with the Edinburgh New Town Dispensary, in which patients suffering from mental failure or exhaustion, or any of the mental troubles which result from unsoundness of health, might receive trustworthy and helpful advice and assistance. There is an out-patient department for mental ailments in successful operation under Dr. Rayner at St. Thomas's Hospital in London; and a similar department established by Dr. Bevan Lewis in connection with the West Riding Asylum at Wakefield has also been found of very great use, notwithstanding its association with an ordinary asylum. It might certainly be expected that

such a department would be more resorted to by patients if it were connected with the Royal Infirmary than if it were connected with an institution devoted solely to the treatment of mental disease; and it is with great satisfaction that I am able to say that all these gentlemen view with keen sympathy and approval the idea of conjoining such a department with psychiatric wards in a general hospital.

It is important, in considering the introduction of wards such as we propose into the infirmary, to recognise that they need not differ appreciably from the ordinary wards of a general hospital. The question cannot be fully discussed on the present occasion; but I hope in a few words to indicate broadly the grounds on which I express this opinion.

It must, of course, be borne in mind that it is not proposed that patients should be kept in the wards for long periods; neither is it proposed that the wards should be places for the compulsory detention of patients. The limitation of the period of residence is important, for this reason among others: that it helps to emphasise the fact that the wards are not intended for the treatment of confirmed cases. For my own part, I should be satisfied with a period of residence of not more than six weeks. Before the end of that time, if death or recovery had not taken place, it would in most cases have become evident that removal to an asylum was inevitable. The restriction as to compulsory detention would exclude such patients as, if they are to be interfered with at all, can only be dealt with under the statutory provisions which regulate the admission of patients to asylums.

In any discussion of the arrangements of the wards it is also necessary to keep in view the trend of medical opinion as to the treatment of mental disorder in its early stages; and there can be no doubt that this opinion has been steadily moving more and more towards the adoption of methods more closely resembling those resorted to in the treatment of bodily disease. The main indications of treatment, especially for the incipient and transient phases of mental disorder—whether characterised by melancholic depression, maniacal excitement, mental confusion, or stupor,—are to obtain repose, to induce cessation of effort, both mental and bodily, and to restore the nutritive processes to healthy action. In the great majority of cases these results are best attained by medical treatment on ordi-

nary therapeutic principles, by rest in bed, by continuous nursing, and, in certain cases, by a discriminative application of hydrotherapy. In recent years the conviction has been growing that treatment on the lines of that associated with the name of Weir Mitchell, which has been found so efficient in dealing with other neurasthenic conditions, is equally applicable to the early stages of mental disorder. It is not, of course, to be regarded as a panacea; but there is good reason to regard it as an essential element in the treatment which is most likely to benefit the great majority of such cases. Active exercise and occupation are no doubt invaluable in the treatment of many cases of mental disorder; but their chief use is either in cases which have not reached the stage when hospital treatment is desirable, or in cases which have passed that stage and have become suitable for treatment in an asylum. Recent experience has shown also that many of the benefits formerly supposed to be obtainable only by voluntary exercise can be better obtained by massage and similar expedients included in the Weir Mitchell method. This method, generally known among alienists as "bed treatment," has for many years been growing steadily in favour, chiefly under the influence at first of Guislain, of Ghent, who strongly insisted on its value in the treatment of melancholia, and more recently of Ludwig Meyer, of Göttingen, who advocated its more general use; and its efficiency is now widely recognised among asylum physicians in this country.

The practical conclusion which, I think, we are justified in drawing from these considerations is that such asylum adjuncts as workshops, exercise gardens, cricket fields, and other arrangements not usually found in general hospitals would be unnecessary in connection with the proposed wards.

But we cannot omit from consideration, when discussing the arrangements of the wards, the improved system of nursing, the so-called "continuous nursing," which has developed *pari passu* with the bed treatment. One of the results of this development has been to modify and, in the minds of many, to revolutionise our ideas of the structural requirements for the treatment of active mental disease. It is chiefly owing to the adoption of this system that seclusion rooms and single rooms of all kinds, which were formerly regarded as indispensable for the treatment of a large number of asylum inmates,

especially the excited and restless, are coming to be used only in a few exceptional cases. With very few exceptions it is now found that cases of acute insanity, even the excited and noisy patients, may be more efficiently treated in associated dormitories than in single rooms.

Another recent development has brought wards for mental diseases more into line with ordinary hospital wards than they formerly were. This is the introduction of nursing by women into the male wards of asylums. In regard to this I shall content myself with a reference to the example of the wards for mental diseases in the general hospital at Copenhagen, where the nursing staff is almost entirely female, and to the position of the matter in the Stirling District Asylum. In that asylum the chief officer on the male side under the medical staff is a lady superintendent. Out of a total of 350 male patients, 115, or nearly a third, are, during the daytime, entirely under the care of female nurses; and this third includes the great majority of the male patients suffering from acute forms of mental disorder. Sixty-seven of the male patients are at present under the care of female nurses both night and day. I have already indicated that hydrotherapy is useful in some early cases. To provide for this, however, it would only be necessary that a suitably fitted bath-room should be attached to the wards; and in regard to the importance of this treatment, I may refer you to a valuable article on the subject by Professor Kraepelin, of Heidelberg, in the *Centralblatt für Nervenheilkunde und Psychiatrie* for December last.

In estimating the value of the kind of treatment I have so imperfectly sketched, it is of great importance to keep in view that it tends in every way to foster a feeling among the patients that they are from first to last regarded as suffering from illness which requires medical aid, and that the treatment is such as will suggest to their minds that everything that is done has for its object the promotion of their welfare.

It will require very few words to indicate the nature of the defects which exist in the present arrangements for clinical teaching. You may well believe that they do not rest upon anything for which the eminent lecturers are responsible who conduct the teaching for Edinburgh University or for the Royal Colleges School; and neither are they defects which are peculiar to the Edinburgh School. One of them is

that the teaching is given at too great a distance from the rest of the work of the students. For Edinburgh the clinical instruction is given at Morningside and Larbert Asylums, whose remoteness prevents the students from availing themselves of the teaching, except to a very limited extent. To make the teaching really efficient, it must be given in the immediate neighbourhood of the school, and this has been so fully recognised in Germany that since the year 1866 special buildings called clinical asylums have been erected in the immediate neighbourhood of sixteen of the German universities to fulfil this requirement. At the other four universities the defect did not exist, as there were either wards for mental diseases in the general hospitals connected with the universities, or there were asylums in close proximity, so that every university has now its psychiatrical clinique close to the medical school.

The requirement that the clinical teaching of mental disease should be provided in the immediate neighbourhood of the medical school is thus fully met by the German universities. I do not wish it to be understood, however, that I recommend the example of Germany as one to be followed in every detail. It is probable that the difference in the requirements of the lunacy laws in Great Britain from those of similar enactments in Germany would render an exact imitation impossible; but independently of that consideration, I think, from what I have seen of the German arrangements, that they are in several cases open to the objection that they are too suggestive of the ordinary asylum. In these instances they do not form part of the same building, or group of buildings, as the general hospital; and they are really small asylums, although intended only for the treatment of recent insanity or of recent insanity and allied nervous disorders. They are looked upon by the general public as asylums; and though Professor Meschede, of Königsberg, says that patients come more readily to them than to ordinary asylums, the fear of being socially damaged by residence there not only exists but has a seriously deterrent effect. They fail, therefore, to provide to any great extent for the special class of incipient and early cases which we desire to benefit. It may prevent misunderstanding if I point out that the "hospital in London with a visiting medical staff for the curative treatment of pauper lunatics and for the study of insanity," which was proposed in 1890 by

Mr. Brudenell Carter's Committee of the London County Council, would have been very similar in character to the German clinical asylums, and would, from the point of view of the present paper, have had similar defects. Its being intended for the treatment of patients certified to require detention in an asylum would also have made it differ essentially from the proposed wards. The examples within my knowledge which come nearest to an ideal arrangement seem to me to be the new wards for nervous and mental diseases in the Royal Charité at Berlin, and similar wards in the Communal Hospital at Copenhagen. I have not seen either of these buildings; but I am glad to be able to take the following details in regard to the Copenhagen wards from the description given by Dr. Urquhart, of Perth (*Journal of Mental Science*, January, 1897, p. 201). In this general hospital, containing 900 beds, which is in the immediate neighbourhood of the university, there are two pavilions under Dr. Pontoppidan, each containing about sixty beds, one for mental diseases and the other for other nervous diseases; and both are available for clinical teaching. At the time of Dr. Urquhart's visit the nursing of the male patients had for eight years been almost entirely done by women, one male attendant being attached to each of the two male wards. The male attendants are subordinate to the female nurses, and are not engaged in what is strictly speaking nurses' work. During the eight years only one patient had been found impossible for female nursing. The average length of residence of the patients is about three months.

The other serious defect in the present clinical teaching is more important than mere distance. The great majority of medical students are destined to be general practitioners, and it is therefore of the first importance that in all clinical instruction they should be made familiar with the diagnosis and treatment of those phases of disease which fall to be treated by the general practitioner. But the only clinical teaching of mental disease that exists at present is given in lunatic asylums; and consequently the only patients whom the students see are those whom the general practitioner is not called upon to treat.

It must be kept in mind that it is in the initial stage of mental disorder, before it has reached the stage when relegation of a patient to an asylum would be resorted to, that it is

of most importance that medical treatment should be careful and skilful, because it is then that it can be most effective. It is then that under careful guidance the patient may most hopefully be placed in circumstances that will allow the restorative forces of his constitution to regain control, that toxic processes may best be checked, and that the exhausted brain-cells may be stayed in their progress towards disorganisation. It is true of mental diseases, more perhaps than of any other class of diseases, that the earliest stages are those in which both teachers and students can best obtain much of the information necessary for the study of the nature and the causation of the malady; and it is consequently of special importance that students should have an opportunity of seeing such cases as early as possible.

I feel sure, also, that our knowledge of the real nature and the best treatment of mental disease would be greatly advanced if there were more ample opportunity for the careful observation and study of its early phases in hospitals, and more especially in hospitals associated with medical schools. The study of disease in all its relations would have made comparatively little progress during the past century without the light derived from the systematic observation which can only be effectively carried out in hospitals; and it is scarcely questionable that most of that systematic observation has been originated and carried on under the stimulus due to the association of the treatment of disease with its teaching. I think it is a matter of common experience that the patients whose curative treatment receives the most careful and capable attention are those whose good fortune it has been to be treated in wards where teaching is practised, and that it is the physicians and surgeons engaged in teaching who have chiefly contributed to our knowledge of the nature and the treatment of disease. I think it only reasonable, therefore, to expect that the observation of the early stages of mental disease in clinical wards would contribute notably to advance our knowledge.

I do not wish it to be understood that I am of opinion that no useful clinical teaching is to be obtained in asylums. On the contrary, I think that cases of recent insanity may be seen in asylums from which lessons of great value to the ordinary medical student can be drawn, and that it is only in asylums that the medical student can see certain forms of

mental disease which he should see if he is to have clinical teaching in its most complete form. I should therefore be glad, where an asylum is within convenient reach, that the opportunities of instruction which it affords should not be neglected. The point I wish chiefly to emphasise is that under present arrangements an important part of the instruction that the ordinary medical student should receive is omitted. He receives no direct clinical teaching as to the treatment of the incipient and the transitory phases of mental disease in their earliest stage, that is, before they have passed out of the hands of the general practitioner. It is in the treatment of these phases of mental disease that he will in after life find himself in presence of one of his most serious responsibilities, and it is only by the establishment of such wards as we propose that he can be duly equipped for the discharge of these responsibilities. I desire to press as strongly as I can that the need for these wards is urgent. In establishing them I think that provision would be made both for the treatment of a class of patients now exceptionally neglected, and for making practitioners of medicine better prepared for a most important part of their work; and I believe that a step would thus be taken which would redound to the credit of Edinburgh.

(1) A paper read at a special meeting of the Edinburgh Medico-Chirurgical Society on Wednesday, February 19th, 1902.—(2) See *Journal of Mental Science*, July, 1868, p. 253.

Hallucinations and Allied Mental Phenomena. By Sir LAUDER BRUNTON, M.D., F.R.S.(1)

"*The wicked flea.*"—Everybody knows the "wicked flea," for it is no respecter of persons. It makes its home in the palace of the prince, the hovel of the savage, and the tent of the Arab. The devotions of many a worshipper are destroyed by the *Pulex tabernaculi*, or church flea, which makes up by its voracity on Sundays for enforced abstinence on other days of the week; and one of the wonders narrated by travellers is that on camping in the desert they have found this wicked little creature waiting for them, ready to bite, although apparently its progenitors from time immemorial could hardly have had an opportunity of gratifying their taste for blood. When in Rome

one summer, fleas were abundant in the hotel where I was staying. I used to walk barefooted about my room every morning, and soon a prick on the instep would warn me that a flea was there. I looked down, saw a little black speck, put a wet finger upon it, and after a little rub would transfer it to a basin of water. The sensation of something solid between the finger and thumb and the transference of the black speck from my instep to the water convinced me of the presence of the flea, for I had the threefold evidence (1) of common sensation, (2) of sight, and (3) of muscular sense all combining to prove the actual existence of the flea. At other times during the day I had the evidence of sensation to indicate to me that fleas were again biting, and I felt quite convinced by sensation alone that such was the case, for although I could not corroborate the evidence of sensation either by sight or by muscular sense, yet it was not contradicted by these senses. But sometimes I have felt upon my hand a sensation exactly similar to the bite of a flea, and yet, as the hand has been on my writing-table within full vision, and no object whatever was to be seen on the hand, I have discarded the evidence of sensation in favour of that afforded by sight, and come to the conclusion that no flea either was or had been upon my hand. Had it not been for the sensation of sight, however, and had the hand been hidden from my view, I should have confidently believed that it had been bitten, trusting to the evidence of sensation, which, though unconfirmed by sight or muscular sense, was not contradicted by these senses.

"*The wicked flee when no man pursueth.*"—I have purposely chosen this common illustration; firstly, because it is familiar to the experience of every one; and secondly, because it was suggested to me by the phrase "the wicked flee when no man pursueth,"(2) a phrase descriptive of violent exertion combined almost certainly with the painful emotion of great terror without any objective cause. The terror and the flight are both due simply to a belief in the presence of pursuers when such pursuers do not exist in reality, but only in imagination.

Effects of imagination.—The degree of vividness with which the supposed pursuit is present to the imagination of the pursued may vary within wide limits. He may simply believe that he is pursued without his senses giving him any evidence

of the fact, but sometimes the mental excitement may be so great that it is transferred to the organs of sense, and he may actually believe that he hears their footsteps and distinguishes voices, or even that he sees the pursuers themselves in the distance. After outrunning and escaping from his imaginary pursuers he would, in such an instance as this, give a graphic account of how he had seen and heard them,—an account which, relying on his senses of sight and hearing, he would believe to be true, though in reality it was perfectly false.

Credulity and scepticism.—In primitive communities the attitude of men's minds tends towards credulity. They are ready not only to accept the evidence of their own sensations, but also the statements of others, even when their own sensations fail to afford evidence of the existence of the things which others declare they have seen or heard. They are inclined to attribute blindness or deafness to themselves rather than falsity of vision or hearing to another. In more civilised countries, however, excessive credulity is checked by scepticism. Statements made by an individual which are in contradiction to the sensations or ideas of the majority are disbelieved, and scepticism is, indeed, frequently carried to excess, and statements of fact are scouted as untruths. A good example of this is the complete incredulity with which Du Chaillu's statement of the existence of gorillas was met, until its truth was proved by the actual production of skeletons and skins of the gorilla.

Positive and negative evidence.—Until this was done the evidence in favour of the existence of a gorilla was the same as that of the existence of fairies, in so far as it depended upon individual testimony. It differed in this respect, however, that Du Chaillu had checked the evidence of sight by other senses; and although this evidence was not confirmed, yet it was not actually disproved by the evidence of others, who, although present, had not seen the animals he described. The existence of fairies, on the other hand, rests on the evidence of people who had seen and heard them, and sometimes been touched by them, but whose evidence as to anything objective was disproved by that of their neighbours, who saw, heard, and felt nothing at the moment when the fairies were alleged to have been present.

Definitions.[3]—Before proceeding further to discuss the

evidence of our senses, it may be well to state the meaning which I attach to some words which will be sure to come into the discussion. By hallucination I understand a sensation perceived by the individual without any objective cause; by illusion, a wrong perception excited by some external cause. By vision I understand an hallucination or illusion of the sense of sight; by apparition I understand a vision respecting some particular individual known to the observer.

Usually it is the action of stimuli on the peripheral ends of sensory nerves that excites sensations, but similar sensations may be produced by irritation of the large nerve-trunks into which the peripheral branches unite in their passage upward to the brain, or of the nerve-centres in the brain itself, although the peripheral branches have received no stimulation whatever. Yet under such circumstances sensation is usually referred by the individual to that part of the body to which the peripheral branches of the nerve are distributed, and from which sensory impulses would ordinarily be received. Thus when the trunk of the ulnar nerve, usually known as the "funny bone," is either twitched or struck at the elbow the sensation is chiefly referred to the fingers, to which the peripheral branches of the ulnar nerve are distributed, although no irritation has been applied either to the fingers themselves or to the peripheral branches of the ulnar nerve in them. In the same way, after a leg has been amputated a man very often complains of pains in his toes at change of weather. The reason is that the end of the nerve in the stump becomes liable to irritation from atmospheric changes, and this irritation is referred to the toes in the same way as the sensation caused by a twitch or blow on the "funny bone" is referred to the fingers. Similarly, irritation of the cerebrum, or brain proper, may produce sensations of pain, of feeling, of sight, or of hearing, although the peripheral nerves and nerve-trunks, which would ordinarily create such sensations, have not been stimulated at all. In this way impressions of sight or of sound, of touch or of pain, may be excited in the nerve-centres, and they are referred by the individual to the periphery just in the same way as excitement of nerve-trunks. In this way a person supposes himself to be conscious of impressions made upon his senses from without, although such impressions are due entirely to changes in his own nervous system.

Perception of sensations.—All physiologists are now agreed that the perception of sensations occurs in the cerebrum, or brain proper. Those changes in the cerebral cells which are correlated with the perception of sensations are usually originated by impressions made upon the peripheral organs of sense—the eye, the ear, the nose, the tongue, or the skin, etc. The peripheral organs of sense, again, are affected by external objects, and it is from the impressions thus made upon them and transmitted from the sense organs, through the nerves, to the brain that we form our ideas regarding external objects. It is evident that the correctness of these ideas will depend upon the perfection with which (1) the organs of sense, (2) the transmitting nerves, and (3) the brain-cells perform their functions, and that imperfection in any one of these structures may lead the individual to form erroneous notions regarding the external world.

Eyes and ears in different people.—I believe that people generally do not make sufficient allowance for differences between their neighbours' eyes or ears and their own.

In a most interesting lecture delivered several years ago at the Royal Institution, Liebreich pointed out that the peculiar character of Turner's later pictures was due to an alteration in his eye which caused him to see points as perpendicular lines —a condition which is easy to imitate by looking at lights with the eyes almost but not completely shut. He showed also that the purple tones in Mulready's later works were due to a yellowness in the painter's vision which caused him to use too much blue in the endeavour to obtain the correct colours in his pictures.

For my own part, I confess that at one time it never occurred to me that certain so-called impressionist pictures, with large blotches of colour and vague outlines, might actually represent what the painter himself saw, because all the objects that I saw had sharp and distinct outlines—so distinct, indeed, as to distract my attention from the colour of the objects. But since I have become to a certain extent presbyopic and wear glasses, I find that by using lenses that are too strong for my eyes the outlines of objects become blurred, but at the same time their colour becomes much more distinct and impressive, my attention being no longer directed away from it by the outlines. I am therefore inclined to think that the so-called impressionist

pictures may not be due to a simple desire on the part of the painters to put down on canvas something that neither they nor anybody else have ever seen, but may really be due to defective vision on their part, so that they deserve pity instead of scorn.

Acuteness and range of sight and hearing.—A greater range of colour-vision allows some people to see things to which others are quite blind. For example, I know that others see in a fire on a winter's evening lovely blue and violet flames, while I myself see nothing but red and yellow; and to those who are able to hear the note of a bat the air of a summer's eve may be full of shrill shrieks, while to others there will be perfect silence. Extreme acuteness of hearing may give to some people what seems to be almost a prophetic power denied to others, as is shown by the following incident.

My friend Professor H. C. Wood, of Philadelphia, told me that when out hunting he found his senses were, as a rule, quite as acute as those of any of his companions, whether they were Red Indians or white men. On one trip, however, he had with him an Indian hunter whose acuteness of hearing seemed almost preternatural. On one occasion this Indian said: "Two men and a woman are crossing the lake, and will be here in about half an hour." Wood asked him how he knew. He said by the splash of the paddles and the sound of their voices. The distance was so great that Wood thought at first it was mere fancy on the Indian's part, but the appearance of the travellers at the time the Indian mentioned showed that he was quite correct. In the same way the sense of smell may be preternaturally acute, and one lady told me that she was able to recognise coats belonging to different people by the smell. The extreme delicacy of touch attained by some people is little short of miraculous, and it is said that some of them can even distinguish the colours of stuffs and substances otherwise alike.

Divining rod.—Some people also seem to have a peculiar power of appreciating moisture, though they themselves cannot tell by what sense they do so. These people appear to have the power of discovering water, even at a considerable distance under the surface. The use of the divining rod is usually a subject of ridicule; but for my own part I quite believe in it, because I have known people who possess the power, and

although I have not actually seen them exercise it I have not the least doubt that their statements regarding it are true. It seems to me not improbable that they are enabled to perceive the presence of water through some vague sensation occurring in the joints or fibrous tissues when water is near, and this gives rise to slight involuntary movements, whereby the rod in their hand moves. I have been led to think this by the case of an old lady, one of my patients, which seems to supply the clue to the mode of action of the divining rod. She was very rheumatic and suffered much pain in her joints, especially at change of weather or in any damp place. So great was her sensibility to damp that she told me she could tell if she were driving over a bridge or near water even when her eyes were closed. In fact, she said, "Wherever you would see fog on a summer's morning when the sun is just rising, I should feel it if I were driving over that place at midday." The divining rod itself I regard as a mere indicator of involuntary muscular action magnifying slight movements, in the same way as the lever of the sphygmograph magnifies the lever of the pulse.

In his poem on *Signs of Rain*, Edward Jenner, the discoverer of vaccination, has the lines—

> Hark how the chairs and tables crack!
> Old Betty's joints are on the rack.

The cracking of chairs and tables, of course, is due to the absorption of moisture by the dry wood, and its consequent swelling, so that a strain is put on the joints of the various pieces composing the table. The cause of the pains in old Betty's joints is less evident, but probably both they and the divining rod are phenomena more complicated, yet of the same kind as the cracking of the tables, the turning up of the under sides of leaves from swelling of the petioles, and the appearance of a man instead of a woman before rain in the old-fashioned weather-glass, where the string suspending the little figures twisted or untwisted according to the amount of moisture in the air.

Indeed, I think it is quite possible that an ordinary galvanometer needle suspended by a thin thread of twisted silk impregnated with calcium chloride or some other hygroscopic material might serve as a "dowser" in the absence of any

man or woman possessing the nervous sensitiveness necessary to move the divining rod in the usual way.

Failure of the divining rod.—In his *Curious Myths of the Middle Ages*, Baring-Gould tells the story of a man who traced murderers from the scene of their crime for a long distance by means of the divining rod. He was brought to Paris, and his failure to track people there led to his being utterly disregarded; but if we read the whole story, and in place of putting in the words "man" and "rod" we use "bloodhound" and "nose," every one will say that the story is perfectly natural, and no one would wonder much that a bloodhound who could follow a track in the country might fail to find it in crowded streets. There seems, in fact, to be nothing more extraordinary or incredible in one man finding water by the divining rod while another cannot, than there is in the well-known facts that a camel becomes conscious of the vicinity of water long before a man, or that some people can hear high notes inaudible to others, as anyone can test for himself by means of a Galton's whistle.

Causes of Alterations in the Keenness of the Senses.

Peripheral changes.—Keenness of the senses may be increased or diminished by local alterations either in the nervous centres or the peripheral sense organs. As an example of the latter we may take the application of strychnine to the eye, which is said to increase the keenness of sight, while the sense of hearing may be gradually diminished by blocking of the auditory meatus by wax or the Eustachian tube by mucus, whilst the effect of cocaine in abolishing common sensation is now universally known. Excessive keenness of the senses may be due to changes in the brain; and in one case which I knew of inflammation of the brain, the sense of hearing during the illness became so extraordinarily acute as to remind one of the Indian hunter whom I have just mentioned. Every one knows the appearance of flashes of light which occur if the eye is struck in the dark, and the lovely peacock's feather which can be seen if one gently presses on the eyeball, especially from its nasal side. We thus see that some people, through the natural acuteness of their senses, recognise objec-

tive conditions such as the blue flame of carbonic oxide, the screeching of a bat, or the presence of moisture of which other people are quite unconscious, while on the other hand buzzing or ringing in the ears, flashes of light, or visual appearances may occur from changes in the organs of sense without any corresponding external object.

Cerebral conditions.—But the perception of impressions transmitted to the brain from the organs of sense depends much on the condition of the brain itself. Many impressions pass unheeded, for in walking through a crowded street we see numbers of people of whose presence we are conscious only so far as to avoid collisions, and whom we do not remember. Yet it is possible that many of these impressions of which we appear to be quite unconscious, and of which we have no recollection, may yet have imprinted themselves in some way upon the nerve-centres, and of these we may possibly again become conscious under other circumstances. Every one knows the powerful influence of smell in recalling scenes and persons—so much so, indeed, as occasionally to make one feel as if one were living a second time. Twenty years ago I suffered from malarial fever very severely and was obliged to go abroad. My wife and I took passage on a P. and O. boat. The passage to Gibraltar was very rough and the weather in the Bay of Biscay very stormy, so that my wife was unable to eat anything on the whole passage, and subsisted chiefly on limes and dry biscuits. From Gibraltar we went to Tangiers, and the passage there was also exceedingly bad. Some years afterwards my wife, in going out of the dining-room, just as we had risen from dinner, suddenly said, "I do not know what is the matter with me—I feel quite ill, just as if I were going to be sea-sick." She was unable to perceive any cause for this sudden feeling, but from where I was sitting I could see that she had just passed some Tangerine oranges, which were on a side table in a position where she was unlikely to notice them. She was not conscious of the smell, but she was conscious of the associated ideas of Tangiers and sea-sickness. In the same way the sense of hearing may give rise to associated ideas without the sounds rising into consciousness. Several years ago I was one night dressing for dinner on the second floor of my house, and all at once, without any reason for it that I could perceive, I began to think of a man whom I had seen

two or three years before, although there was nothing apparently to recall him to my memory at that particular moment. On going down to my study on the ground-floor I found this very man there. I have very little doubt that I had dimly heard his voice, and this recalled him to me, although I was not conscious of hearing anything. I believe, however, that a dog would have been definitely conscious of his presence, whereas I had only a vague suggestion of it. Some people have an extraordinary memory for sounds or voices, just as others have for faces, and in them the recurrence of a sound may occasion a definite sensation instead of a vague impression. Some time ago one of the nursing sisters in St. Bartholomew's Hospital heard a peculiar footstep on the stair outside her ward, and said, "If he were in the hospital I would say that was So-and-so's footstep," mentioning the name of a patient who had been under treatment in her ward more than ten years before. It turned out afterwards that this patient had returned to the hospital, and it was really his footsteps she had heard. Such exact recollection is, however, rare, and I believe it is vague suggestions, caused by the sounds of footsteps or voices of approaching people, that give rise to the proverbial appearance of people who are being spoken about. A curious example of a sensation, apparently unfelt at the time, being afterwards recalled, occurred in the case of a friend of mine. He had a tooth extracted under nitrous oxide, and during the extraction made movements as if conscious of pain, but on awaking from the anæsthetic he had no remembrance of any painful sensation. Next night, however, he dreamed the whole thing over again, and felt the pain of extraction in his dream. The perceptive centres have been well compared to a palimpsest, in which the various writings have been washed out again and again, but the last writing may blur in one place, or render legible in another, the remnants of the words previously written there. It is extraordinary how the impressions of our senses are modified by our ideas. Every one knows how the glowing coals in the fireplace on a winter's night take all sorts of forms and faces; and one sees the influence of ideas constantly in medical students who are learning auscultation, who hear, on listening to the chest of a patient, what they think ought to be there, and not the sounds which are actually there. I well remember an instance of this

sort occurring in my own case in regard to colour. The late William Black, the novelist, and I were watching the Falls of Niagara together. Black, who had a wonderful eye for colour, asked me what was the colour of the body of water before it began to fall over the cliff. Looking at it I said, "It is dark bottle-green," a colour which I had seen in water before. "No," replied Black, "it is livid purple." At first I thought that he was mistaken, but on looking carefully I found that he was quite correct, and that in giving my answer I had disregarded the evidence of my senses in favour of a preconceived idea. Every one knows the story of the practical joker who collected a crowd at Charing Cross, and by the simple means of suggestion got many people to believe that the stone lion which formerly stood over Northumberland House actually wagged its tail. I have heard it said, though I do not know with what truth, that one of the extraordinary juggling tricks shown in India depends upon suggestion for its success. A man erects a pole, and up this pole a boy seems to climb to the very top, and then to disappear. Yet a camera, while it shows the pole, does not show a boy climbing upon it at all. The vision of the boy climbing and ultimately disappearing is said to be entirely subjective on the part of the beholders, and no boy has been climbing at all. In this case a suggestion conveyed from the sense of hearing has awakened in the brain a visual sensation.

Thought-transference.—In some experiments that I made some years ago on thought-transference I noted a similar condition, in which a stimulus which would ordinarily have awakened one sense was actually perceived through another sense. When seated, together with my wife, in a very quiet country cottage, she opened a volume of the Psychical Society's *Transactions* and looked at a page of diagrams. She put her hand upon mine while she looked at this, and I quite felt that her hand moved very slowly on mine, but I was quite unable to make out by the sense of touch what the movement was. On closing my eyes, however, a spectrum rose before me very like what one sees when one closes one's eyes after looking at an incandescent lamp. The spectrum that I saw was of a triangle enclosed in a circle (Fig. 3). I drew this, and on comparing it with the figures at which my wife was looking, I found the triangle I saw was almost identical with one

on her book (Fig. 1), but while she was looking at it her attention had strayed to the next page on which was a line enfolding itself so that part of it formed a circle (Fig. 2). These two figures had combined themselves in the spectrum that I saw, and which, no doubt, had been excited in my visual centres by the movement of her hand upon mine unconsciously drawing the figures she saw. The

FIG. 1.

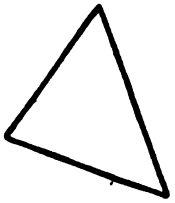


Diagram looked at in a book.

FIG. 2.

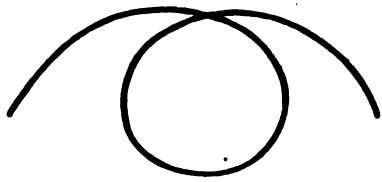
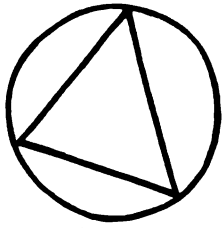


Diagram to which the gaze wandered from Fig. 1.

stimulus thus produced had probably passed up the nerves to the centre for touch in my brain, but had there excited only a vague feeling, while in the centre for sight it had raised a definite perception. In the same way I found that an impression might pass from the sense of hearing to that of sight. Sitting a few feet off, I closed my eyes while my wife drew on

FIG. 3.



Spectrum combining Figs. 1 and 2.

the floor some simple patterns copied from the book already mentioned. One of them was a circle with a single stroke passing outwards from the centre (Fig. 4), and this I reproduced almost exactly, with the exception that, instead of making one stroke from the centre, I drew a bundle of rays (Fig. 5). It is very easy to make out whether a person is drawing a triangle, a square, or a circle on

the back of one's hand with a point if the figure be large enough, but as the figure gets smaller and smaller it becomes impossible to define it by the sense of touch, and then the sense of sight appears to take up the work and produce the spectra I have described ; but there is a limit even to this, and if the drawings or movements on the back of the hand are very small the spectra become indefinite and unlike those at which the draughtsman is looking. I once tried to repeat this experiment of visualising spectra through touch with my friend the late Mr. George Romanes, but the movements of his hand upon mine, although distinguishable as movements, were so slight and so limited that I could not make out what he was drawing, either through the sense of touch or of sight.

FIG. 4.

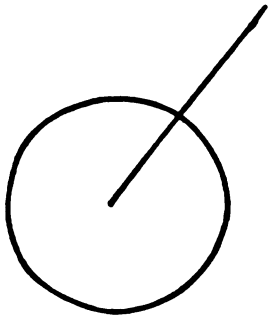
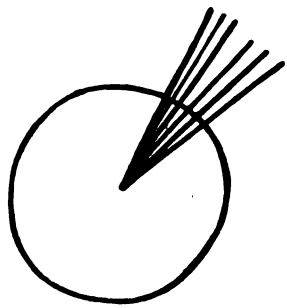


Diagram drawn on the floor with the foot.

FIG. 5.



Spectrum seen after hearing diagram, Fig. 4, drawn on floor.

It is quite possible that the tactile sense in some persons may be much keener than in me, and that tactile sensations too slight to be perceived by them through the brain centre for touch may be perceived as spectra when they are blindfolded in a way that seems almost miraculous to others. A case which appears to be of this kind has been recorded by Dr. Davey.(8) In these experiments the visual sense was excited through the sense of hearing, and I only saw the spectra when my eyes were shut.

Visions—voluntary.—It is possible for some people with their eyes shut, and by a vigorous effort of will, to call up some familiar face or scene ; very rarely, however, can this be done with the eyes open. The late Professor Guy, of King's

College, stated that he possessed the power in his youth, and that Goethe possessed it during the whole of his life.(4)

Involuntary.—Tesla, the famous electrician, was further troubled by a strange affection of the eye, causing the rising of images so persistent that they marred the vision of real objects, and disturbed his mind. Whenever an object was named to him, its image would appear at once so vividly before his eyes that he often believed it real. This illusion caused him such discomfort that he tried his best to break it, but did not succeed until he was twelve years old. Then, for a time, he was able to banish the images, but they have since returned, though less persistently. His later observations have convinced him that these images are really the recalling of former visual impressions, consciously or unconsciously received.(5)

Suggested visions.—In Miss Kingsley's work on West Africa she mentions a very curious way the natives have of killing some one they dislike. The assailant "throws his face" at the victim, by some process which Miss Kingsley does not describe. The consequence is that the unhappy victim sees the face wherever he turns, and by-and-by either commits suicide or dies of exhaustion. This seems to be a process of suggestion, the effect of which upon the visual centre of the brain is so powerful that the suggested object is constantly present. In this case the suggestion made by another causes an object already seen to reappear, and in all probability the powerful effect of this suggestion is due to the low development of the higher cerebral centres in the negro.

Closely associated with the African practice of throwing the face and with hypnotic suggestion is, I think, the Italian superstition of the "evil eye." Its Italian name, "Jattura," suggests "Gettare incanti," "to cast enchantment," and if this derivation be correct it would correspond closely to the African term of "throwing the face." It is certainly much more dreaded by the nervous and impressionable races of Southern Europe than amongst the more impassive inhabitants of northern climes.

Hypnotic visions.—But in the most civilised races temporary inaction of the higher centres may render the individual susceptible to suggestion to such an extent that he will completely

disregard the impression of his own senses and act only upon the suggestions made to him. Thus in an hypnotic *séance*, in which I had not the slightest doubt of the *bona fides* both of the subject and of the operator, I have seen a man avoid obstacles where there were none, try to sit down on a chair which was not there, drink mustard and water with the greatest gusto, and spit out pure water as if it had been a most filthy concoction. These are some of the very commonest effects of suggestion, and there are many others more complicated and more interesting, but I need not further dwell upon them.

One of the most common ways of producing an hypnotic condition is to stare intently at some luminous object, preferably held above the level of the eyes. But intense concentration of vision, even on an object which is not luminous, is sufficient to produce this state, and the monks of the Monastery of Mount Athos are said to have thrown themselves into a condition of trance, in which they supposed themselves to be conducted to heaven, by each man persistently staring at his umbilicus. By steadily staring into the fire some people are able to bring on a dreamy condition, in which their fancy seems to be freer from the trammels of sense than at other times, and persistent staring at a crucifix may not improbably have led to the visions of many religious enthusiasts, as well as to the curious feeling of levitation or floating in the air which many of them have experienced.

Hypnotism is not a condition which occurs only in man ; it can be produced also in animals. The old experiment in parlour magic of hypnotising a fowl by pressing its beak gently to the ground, and drawing a chalk line straight onwards from the point of the beak, succeeds easily and perfectly, even in a crowded lecture room, as I have many times proved. Langley succeeded in hypnotising young crocodiles, and Preyer hypnotised frogs so completely that they sat still until they dried up to mummies, although there was no obvious reason why they should not move as they liked. The hypnotic condition is, I think, probably due to two or more nervous currents acting in opposite directions, and its probable mechanism may become to some extent intelligible from the old illustration of a donkey dying of hunger between two bundles of hay so equally attractive that it could not turn towards one bundle

for a bite on account of the equal and opposite attraction of the other bundle drawing it in a different direction.

Hypnotism is, I think, to be classed with many other phenomena under the head of "Inhibition," but these I have discussed at length elsewhere, and it would take too long to enter into them now.(6)

One of the most interesting phenomena of hypnotism is that of deferred suggestion, in which, during the hypnotic sleep, the operator suggests to the subject that hours, days, or even months afterwards he shall do something at a certain time.

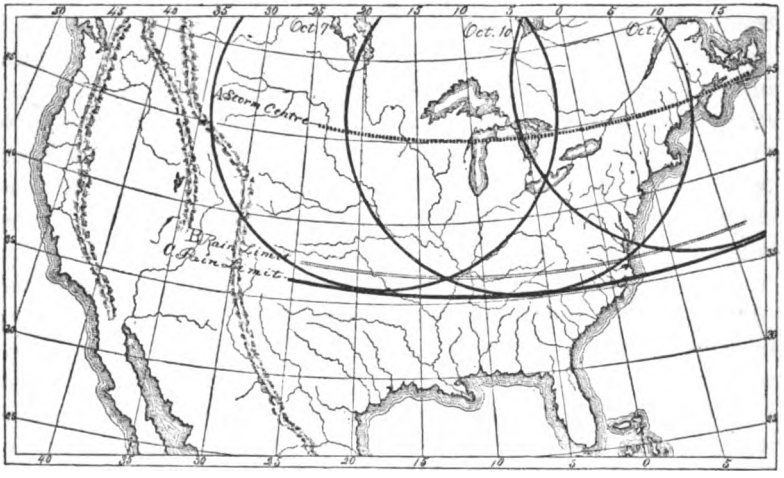
Premonition.—Closely allied to this is one form of premonition. An intimate friend of my own, who at that time was Surveyor-General of Canada, told me that on one occasion he had a premonition that some misfortune would befall him unless he was at a certain place on a certain day. He left his occupation, and travelled 200 miles across the prairie to arrive at the place which he had in his mind. On his arrival he found that his premonition was perfectly correct, and that misfortune would have befallen him had he not been there. He did not tell me what the misfortune was, and naturally I did not ask him. It appears to me that this somewhat unusual phenomenon is but an exceptional form of a very ordinary occurrence. Very many people have the power of sleeping perfectly soundly, and yet awaking at an unusually early hour to catch a train. During all the hours of sleep, however deep it may seem to be, some part of the brain appears to remain awake and to keep a record of the passage of time. Before going to sleep the individual has before him the data (*a*) that his train will start at a certain hour, and that (*b*) unless he awakes in good time to reach the station (*c*) the train will start without him. In my friend's case I think he must have had unconsciously before him, when he started on his tour over the prairies, certain data which would work out a definite result in a given time if he were not there to prevent it. During both the time of sleeping and waking these data were present to his mind, and as the problem approached solution he felt that he must needs go to prevent the result from being worked out.

Some of the forewarnings that occur in dreams are, I think, of a similar kind. The poet says, "For morning dreams

presage approaching fate, And morning dreams as poets tell are true." Now the dreams that occur in the morning on awaking are usually more or less closely associated with the thoughts that occupied the mind on going to sleep. In my own case, I find that if I am awakened in the middle of the night from a deep sleep, any dream that occurs at the moment of awaking has a starting-point in some occurrence several days back.

Rain areas and pain areas.—Other premonitions may, I think, be due to atmospheric conditions. For example, my wife on one occasion was induced to travel back from

FIG. 6.



Relation of pain area to rain area (after Weir Mitchell).

France to Ireland by a very strong impression that her mother needed her, and to the great astonishment of her friends she arrived at home and found that it was so. I am inclined to regard this as a phenomenon of the same character as the occurrence of neuralgic pains at or about the same time in places far apart, in men who have suffered from gunshot wounds. During the American War, Weir Mitchell took a particular interest in gunshot wounds, and after the war was over his patients were distributed throughout the States. He was interested to find that on one day he would get a batch of letters complaining of their wounds from patients in the Far West, and a day or two after from others in the middle

of the States, and a little later from those in the east. On comparing these complaints with the meteorological records, he found that a wave of rain and a wave of pain were travelling across the States at the same time. These areas were concentric, but the rain area was much smaller than the pain area. All those in the rain area who felt their wounds troubling them saw that the weather was disturbed, and were satisfied as to the cause of pain; but those in the pain area saw no reason for the pains they were suffering, although they were in reality due to the same meteorological causes as those in the rain area.(7) The radius of the pain area was no less than 150 miles greater than that of the rain area, and that of the rain area from the storm centre was 550 to 600 miles. I am inclined to think that my wife's action was probably caused by some meteorological change which had previously been associated in her mind with some ailment in her mother requiring her care. The same meteorological condition had probably occasioned in the mother the need for care, and in the daughter the sensation of being needed. The meteorological condition here had had an effect in recalling sensations similar to that of the sense of smell to which I have already alluded.

Brain waves.—All the phenomena that I have described seem fairly easy of explanation, but there is a certain residue which is difficult or impossible to explain by ordinary causes. For instance, I have known the case of a lady who dreamed during the Crimean War that her son, who was before Sebastopol, was injured in the right foot. Some months afterwards an officer in his regiment came back to England and told her that her son was injured in the left foot. "No," said she, "it was in the right foot;" and it turned out that she, who only knew of it from her dream, was right, and the officer who came to bring the news was wrong. Many such phenomena may be regarded as mere coincidences, but I think they cannot all be dismissed in this way, and the discovery of wireless telegraphy seems to render it quite possible that the brains of different people may occasionally be so *en rapport* that they act together like the transmitter and receiver in Marconi's system. This theory was first propounded under the title of "brain waves" by Mr. James Knowles in a letter to the *Spectator* of January 30th, 1869, and the prevision showed in this letter is so remarkable that I think it worth while to quote a large extract from it:

Let it be granted that whensoever any action takes place in the brain, a chemical change of its substance takes place also; or, in other words, an atonic movement occurs; for all chemical change involves—perhaps consists in—a change in the relative positions of the constituent particles of the substances changed.

[An electric manifestation is the likeliest outcome of any such chemical change, whatever other manifestations may also occur.]

Let it be also granted that there is, diffused throughout all known space, and permeating the interspaces of all bodies, solid, fluid, or gaseous, an universal impalpable elastic "ether," or material medium of surpassing and inconceivable tenuity.

[The undulations of this imponderable ether, if not of substances submerged in it, may probably prove to be light, magnetism, heat, etc.]

But if these two assumptions be granted—and the present condition of discovery seems to warrant them—should it not follow that no brain action can take place without creating a wave or undulation (whether electric or otherwise) in the ether; for the movement of any solid particle submerged in any such medium must create a wave?

If so, we should have as one result of brain action an undulation or wave in the circumambient, all-embracing ether—we should have what I will call brain waves proceeding from every brain when in action.

Each acting, thinking brain would then become a centre of undulations transmitted from it in all directions through space. Such undulations would vary in character and intensity in accordance with the varying nature and force of brain actions, *e. g.* the thoughts of love or hate, of life or death, of murder or rescue, of consent or refusal, would each have its corresponding tone or intensity of brain action, and consequently of brain wave (just as each passion has its corresponding tone of voice).

Why might not such undulations, when meeting with and falling upon duly sensitive substances, as if upon the sensitised paper of the photographer, produce impressions, dim portraits of thoughts, as undulations of light produce portraits of objects?

The sound-wave passes on through myriads of bodies, and among a million makes but one thing shake, or sound to it; a sympathy of structure makes it sensitive, and it alone. A voice or tone may pass unnoticed by ten thousand ears, but strike and vibrate one into a madness of recollection.

In the same way the brain wave of Damon passing through space, producing no perceptible effect, meets somewhere with the sensitised and sympathetic brain of Pythias, falls upon it, and thrills it with a familiar movement. The brain of Pythias is affected as by a tone, a perfume, a colour with which he has been used to associate his friend, he knows not how or why; but Damon comes into his thoughts, and the things concerning him by association live again. If the last brain waves of life be frequently intensest—convulsive in their energy, as the fire-fly's dying flash is its brightest, and as oftentimes the "lightning before death" would seem to show—we may, perhaps, seem to see how it is that apparitions at the hour of death are far more numerous and clear than any other ghost stories.

He narrates the story told to Mr. Robert Browning, who said that—

when he was in Florence, some years since, an Italian nobleman (a Count Ginnasi, of Ravenna) visiting at Florence, was brought to his house, without previous introduction, by an intimate friend. The Count professed to have great mesmeric or clairvoyant faculties, and declared, in reply to Mr. Browning's avowed scepticism, that he would undertake to convince him somehow or other of his powers. He then asked Mr. Browning whether he had anything about him then and there which he could hand to him, and which was in any way a relic or memento. This, Mr. Browning thought, was perhaps because he habitually wore no sort of trinket or ornament, not even a watchguard, and might, therefore, turn out to be a safe challenge. But it so happened that, by a curious accident, he was then wearing under his coat sleeves some gold wrist studs to his shirt, which he had quite recently taken into use, in the absence (by mistake of a sempstress) of his ordinary wrist buttons. He had never before worn them in Florence or elsewhere, and had found them in some old drawer where they had lain forgotten for years. One of these gold studs he took out and handed to the Count, who held it in his hand awhile, looking earnestly in Mr. Browning's face, and then said, as if much impressed, "C' è qualche cosa che mi grida nell' orecchio, 'Uccisione! uccisione!'" ("There is something here which cries out in my ear, 'Murder! murder!'")

And truly (says Mr. Browning) those very studs were taken from the dead body of a great-uncle of mine, who was violently killed on his estate in St. Kitt's, nearly eighty years ago. These, with a gold watch and other personal objects of value, were produced in a court of justice as proof that robbery had not been the purpose of the slaughter, which was effected by his own slaves. They were then transmitted to my grandfather, who had his initials engraved on them, and wore them all his life. They were taken out of the nightgown in which he died, and given to me, not my father. I may add that I tried to get Count Ginnasi to use his clairvoyance on this termination of ownership also; and that he nearly hit upon something like the fact, mentioning a bed in a room; but he failed in attempting to describe the room—situation of the bed with respect to the windows and door. The occurrence of my great-uncle's murder was known only to myself of all men in Florence, as certainly was also my possession of the studs.

In general, thought is communicated from one man to another by the muscular movements which originate speech, alter facial expression, produce gestures or writings, and not unfrequently the unconscious thought conveyed by facial expression belies the statement made by the lips. In Mr. Browning's case it seems possible that Count Ginnasi could read in the unconscious expression of Mr. Browning's face something which led him to suspect some horror connected with the

wrist studs. At the same time it seems possible that changes in Mr. Browning's brain may have been communicated directly, as in Marconi's apparatus, to the brain of Count Ginnasi without the intermediation of facial expression on the one hand, and of sight on the other.

Hallucinations.—Some of the various apparitions or appearances of friends, deceased or otherwise, which have been recorded upon fairly good authority may be regarded as phenomena belonging to the same class as wireless telegraphy, though in others the object seen may be due to self-suggestion. I think it probable that in both these conditions there may be no definite lesion, either of the brain or of the eye, such as might be discovered by the naked eye or microscopical observation, but in other cases I think some lesion probably occurs either in the eye itself or the cerebral centres. Mr. Tatham Thompson has recorded a most interesting case of a lady who came to him because she saw the head and horns of a goat constantly before her.(8) On measuring her field of vision with a perimeter he found that there was a blind spot corresponding to the figure she had described, and this was due to the bursting of a blood-vessel in the eye, and consequent injury to the retina (Pl. I). Other cases of hallucinations of vision may be due to choroiditis, *i. e.* inflammation of one of the membranes lining the interior of the eyeball. I think it very likely that this disease may be the cause of the hallucinations observed by Dr. Head in cases of *herpes zoster ophthalmicus*, a form of shingles involving the eye, and which is accompanied by a severe irritation in some of the nerves going to the eye.(9) Dr. Head found that out of eleven cases of this disease five had been subjects of typical hallucinations. One saw "a large white face at the bottom of the bed," one a "corpse;" two saw figures standing beside the bed, "misty as if wrapped in a cloak;" and one, even whilst walking the room at night on account of the pain, frequently saw a shadow without a face or limbs standing in the room. The well-known case of the German bookseller Nicolai or that of Mrs. A—, recorded by Sir David Brewster, and quoted by Huxley in his *Elementary Physiology*, as well as many others,(10) may have been due either to hæmorrhage or inflammation in the interior of the eye.

Causation of visions: organic causes.—But in the latter case

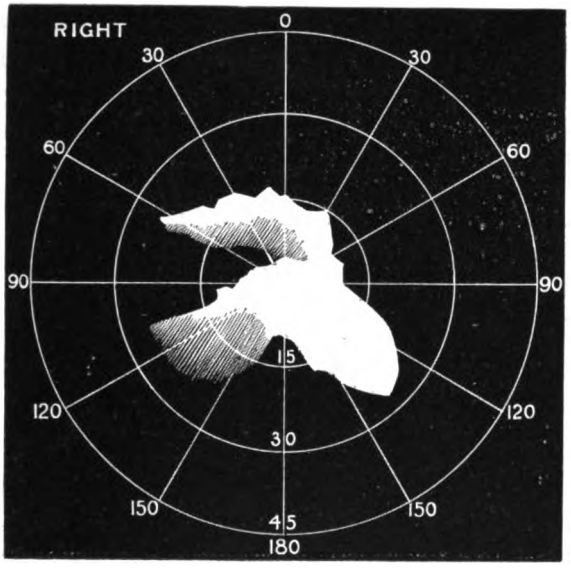


FIG. 1.—Scotoma having the shape of a goat's head. (After Tatham Thomson.)

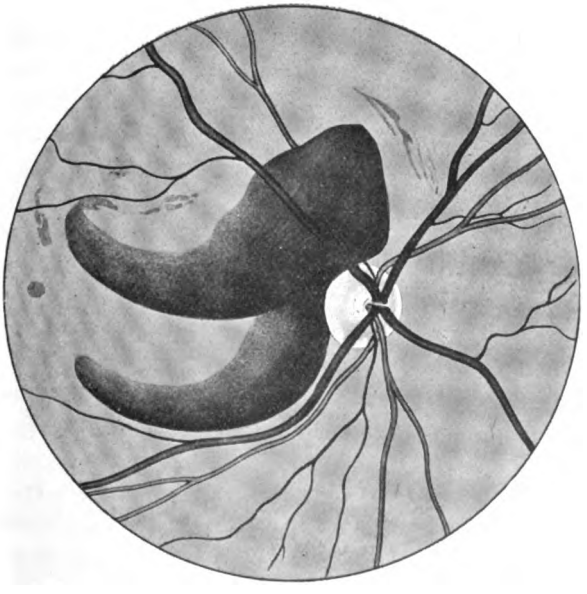


FIG. 2.—Retinal hæmorrhage giving rise to the scotoma shown in the previous figure, the lower of the two branches being limited by a vein.

To illustrate Sir LAUDER BRUNTON'S paper.

Adlard & Sr

there were hallucinations both of hearing and sight, as the lady several times heard voices speaking to her, while at others she saw her husband, a cat, a corpse, and deceased friends. The occurrence of these phenomena suggests irritation in the centres for hearing and sight, and it seems to me possible that they may have been due to small atheromatous particles, which, becoming detached from the walls of the blood-vessels, and carried to these centres by the current of blood, have plugged some small vessels in the brain, and thus given rise to localised irritation. But there are certain drugs which will also cause hallucinations of sight and hearing without producing any organic change. Amongst these are cannabis indica, quinine, and salicylate of soda. A most vivid account has been given by Dumas in his *Count of Monte Cristo* of the visions produced by cannabis indica, but others have failed to get a similar result, and I have no personal experience of it myself. Quinine, as every one knows, often gives rise to the sound of bells in the ears, and salicylate of soda does the same. Quinine rarely or never gives rise to visions, but salicylate of soda does so in many people when they have their eyes shut, and in a few when they have their eyes open. In the case of an old gentleman who was taking salicylate of soda, both his friends and I were much alarmed by the patient describing processions of people all round his bed, when, with the exception of a single attendant, no one was in the room. At first I thought that the patient was delirious, but I found that the pulse was quiet, the temperature normal, or rather subnormal, and I therefore concluded that the visions were probably due to irritation of the visual centre by the salicylate, of a similar nature to that which so frequently occurs in the auditory centre. The correctness of this hypothesis was proved, I think, by the fact that a very short time after the salicylate was left off the visions disappeared. I think it not unlikely that irritation may be caused also by commencing inflammation, which may ultimately lead to epilepsy and mental aberration. I once met with a curious case in J. S—, a student at St. Bartholomew's Hospital. He came to me one day in a state of great agitation, and told me his story. About ten days previously he had gone from the hospital to his rooms in Middleton Square. On entering the door he saw some one dressed in a brown coat sitting on an arm-chair with his feet in the fender. He did not recognise

the figure, and he said, "Who are you?" thinking it was one of his fellow-students. The figure gave no answer, but shrugged his shoulders; so J. S— thought it was only a fellow-student, and repeated the question. On getting no answer he said, "You may just as well speak;" but instead of going to the figure he went aside and threw off his great-coat. The figure remained perfectly quiet until he went up to it, but on putting his hand on the figure's shoulder it entirely disappeared. He was naturally very much alarmed, but went about his work at the hospital as usual. The night before I saw him he had again gone to his lodgings, and seen the figure as before, but instead of going up to it he simply gave a loud shriek, and fell down unconscious. My diagnosis was that he had had an epileptic seizure with a visual aura. On the first occasion he had had the aura only without the attack, but on the second he had had both the aura and the seizure. I gave him some bromide and tried to quiet his mind, but in a few days after I was sent for to see him again, and then I found that he was in a state of wild delirium, and was seeing processions of people going round and round his bed. He was taken to the hospital for a short time, but not recovering, he was transferred to an asylum. Here he remained for some time, and then he seemed to get well. He returned to his studies, but did not qualify, and then went to India. From that time onwards he seemed to be unable to get on with any one. He thought himself that he was irritable, but he managed to get a place as librarian, and the last I heard of him, about six years ago, was that he was still in it. The story of poor J. S— reminds one very strongly of the German stories of the Waldmädchen, where a hunter or woodsman goes out in the forest, sees a vision, usually of a woman, whom he sometimes follows to some enchanted land, and then by-and-by finds himself back in the wood where he was, and, rising from a state of apparent unconsciousness, finds his way home; but the neighbours observe he is never quite the same man afterwards —exactly as happened to poor J. S—.

The relationship of epilepsy to visions raises the interesting question of how far the so-called "seers," "prophets," and "medicine men" actually beheld visions, and how far they were able to bring them on by the antics or privations which they regard as a necessary preliminary to the exercise of their powers.

Many years ago I saw a performance of "howling dervishes," and while shouting continuously "Allah! Allah!" they waved their heads up and down and moved their bodies up and down, and left their hair flying about while they described a vertical figure of eight (8), and this went on for some time, until one man fell down in an epileptic fit. This exhibition threw a curious light upon the story of Samson, which had been to me, as it is to most children, of the utmost interest. This story is now by many critics discredited and looked upon as a solar myth, but to me it is a most vivid description of a man in whom great natural physical strength was extraordinarily exaggerated during periods of abnormal mental excitement. This excitement usually came on only in consequence of some external stimulus. When a lion roared against him, he sprung at it and killed it by tearing its jaws apart. When the Philistines shouted against him, he seized the jawbone of an ass—the first thing that came handy—and slew therewith a thousand men. His hair had never been cut from the time of his birth, and in it lay his strength. When the treacherous Delilah shaved his head and delivered him into the hands of the Philistines, he became weak as other men. Till I saw the performance of the "howling dervishes" I could not understand what Samson meant by saying, "I will go out as at other times before, and shake myself" (Judges xvi, 20). After seeing the performance, it seemed to me not unlikely that Samson was in the habit of bringing on the fit of excitement by shaking himself like a dervish, and the mass of hair which he possessed would tend to increase his excitement, and when the hair was shaven off the mere shaking had no effect. If this view be correct, the statement "Howbeit the hair of his head began to grow again after he was shaven" (Judges xvi, 22), acquires a new interest, for with its growth his supernatural strength appears to have returned, so that when he bowed himself between the pillars of the temple of Dagon he overturned them, and slew at his death more than he had ever slain in his life. I do not know that I should have connected Samson's supernatural strength with the dervish performance had it not been that several weeks before I saw it I had walked up the hill which is before Hebron. The hill is very steep, the day was very hot, and I could not help thinking what a foolish man Samson was to take the gates away from

the city of Gaza, to carry them away inland for fourteen hours and right up to the top of a steep hill, when he might quite easily have thrown them into some ravine where they would be quite as useless to the Philistines as on the top of the hill. This act appeared to me to be more like that of an epileptic, who runs straight on without either knowing or caring where he is going, than that of a sensible man; and the greater part of Samson's acts were rather exhibitions of blind fury than of the wisdom of a judge. Samson's achievements recall those of the Scandinavian hero Berserker, who entered into the battle with nothing on but his "bare sark" or shirt only, but in a state of fury which seemed to serve him in place of armour. This fury was no doubt imitated by many of his followers, so that his name has now become attached to it as an adjective. How it was brought on I do not know, but it seems closely allied in its nature to that which the Malays induce by *hasheesh* before they run amok.

Migraine.—Many authorities regard epilepsy and one-sided headache, or migraine, as closely associated conditions;([11]) and epilepsy is supposed by some to depend upon a spasmodic contraction of some of the blood-vessels in the brain. Du Bois Reymond, who suffered much from migraine himself, ascribed it to spasmodic contraction of the blood-vessels in his head, for he found in his own case that during the attack his temporal artery (*vide* Figs. 7—9) became tense and hard like a bit of whipcord, and the pupil of the corresponding eye dilated as if the sympathetic nerve in the neck had been stimulated. Others, again, have held, also on the ground of personal experience, that the blood-vessels were widely dilated. Observations that I have made on my own head show that both these ideas are right, for I find that the condition is really one of peripheral contraction and approximal dilatation; *i. e.* those parts of an artery which are nearest the heart expand widely, whilst those which are farthest away contract tightly. The carotid artery dilates widely and throbs violently, but the temporal artery is usually contracted as in Du Bois Reymond's case. Sometimes, however, the dilatation extends even to the temporal artery, so that it is dilated and throbbing while the headache is just as severe as when it is contracted and hard. On such occasions, if I pass my finger far enough along the artery, I always find a spot where the contraction begins, and usually

the branch (*vide* Fig. 8) which ascends up the frontal bone feels like a bit of piano wire under the finger, while the artery

FIG. 7.

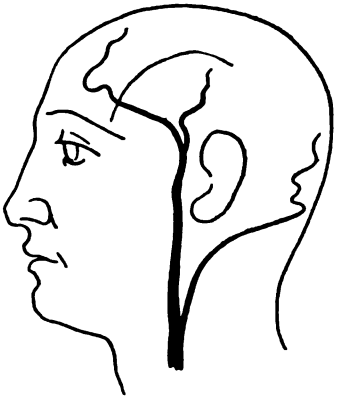


Diagram of the carotid, temporal, and occipital arteries in the normal state.

FIG. 8.

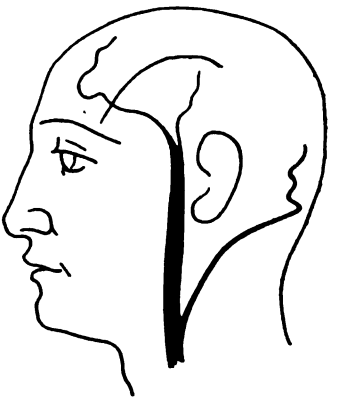


Diagram of arteries during migraine, showing dilatation of the carotid and spasmodic contractions of the temporal arteries.

as it crosses the temple is soft, dilated, and pulsating. Occasionally the vascular condition at the temples seems suddenly

FIG. 9.

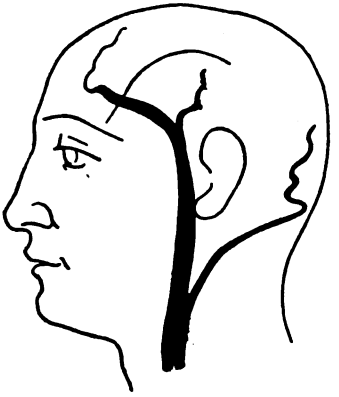


Diagram of arteries during migraine, showing dilatation of the carotid and temporal arteries, and spasmodic contraction of an ascending frontal branch of the anterior temporal artery.

to become normal, and the pain is transferred to the back of the head, and—what is sometimes more extraordinary—the

pain may leave the head altogether quite suddenly and commence in the abdomen, or *vice versâ*. There is evidently a close connection between the abdomen and the head, and one of the commonest terminations of migraine is violent vomiting. The pain of migraine is frequently accompanied by other phenomena, which are readily explicable on the hypothesis that those branches of the carotid artery which pass to the interior of the skull are affected in the same way as those which pass to its outside. If the terminal branches of the temporo-sphenoidal artery (Pl. II, fig. 1) become contracted like a bit of piano wire, as the one which runs up my forehead does during a headache, the nutrition of the centre for sight in the brain must necessarily be impaired, and if the spasm should extend farther down the artery to 5, the centres for hearing, taste, and smell will also suffer (Pl. II, fig. 2). I think it is probable that such impairment is the cause of the indistinct vision of the hemiopia, *i. e.* blindness to all objects on one side of the body, either to right or left, even of complete blindness, and of the zigzags which occur either before or during an attack of migraine. The senses of taste and smell are less frequently affected, but I have one case in which the patient has neither taste nor smell during the attack of headache, and after it is over both taste and smell return quite suddenly. In this patient there is no disturbance of vision, nor is there any aphasia during the attack. In other cases one finds aphasia to a greater or less extent present during the attack, and passing off when it is over.

To some the idea may seem far-fetched, but I am inclined to believe that the fairies which many people declared that they saw were nothing more than the coloured zigzags of migraine modified by imagination, and in some cases, perhaps, accompanied by, and to some extent occasioned by, an abnormal condition of one or other eye. It is quite extraordinary to notice in the stories of fairies how often the "seer" was struck blind of one or other eye, and after this his power of seeing fairies disappeared. When I was a small child, my aunt's maid told me that she had seen fairies when she was a little girl living in Earlston, the home of Thomas the Rhymer, and the centre of fairyland. She was standing one morning at the door of her house, when she saw a troop of small people dressed in green coming up the street. She called to her

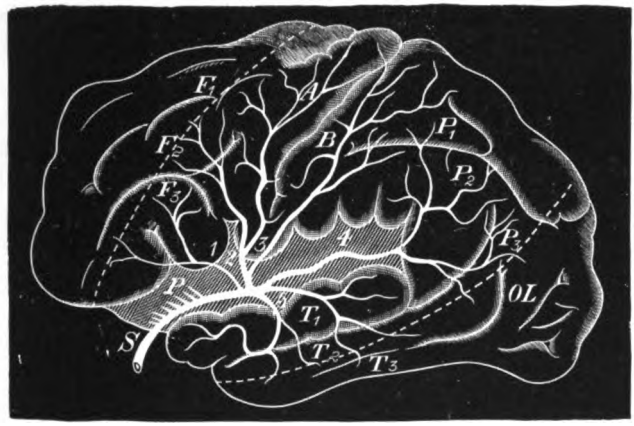


FIG 1.—Distribution of the arteries in the brain. (After Ross.)

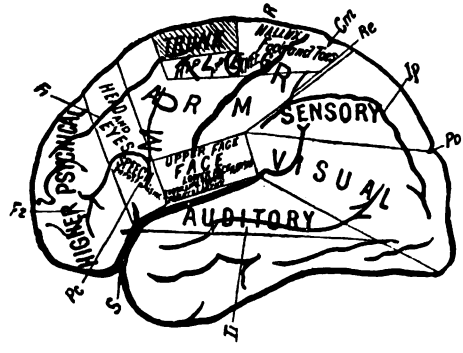


FIG. 2.—Cerebral cortex showing the distribution of function. (After Osler.)

To illustrate Sir LAUDER BRUNTON'S paper.

FIG. 1.—Dante and Virgil watching Paola da Malatesta and Francesca di Rimini in the procession of spirits. (From Doré's *Inferno*, by kind permission of Messrs. Cassell and Co., Ltd.)

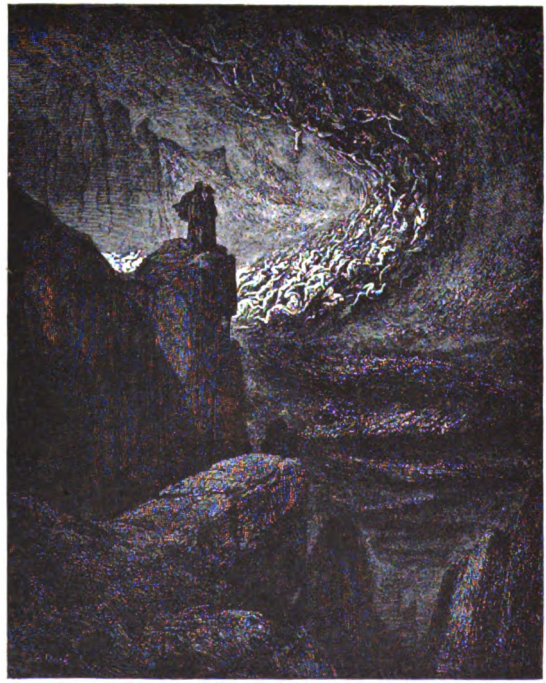


FIG. 2.—Procession of spirits taking the form of a D. (From Doré's *Paradiso*, by kind permission of Messrs. Cassell and Co., Ltd.)

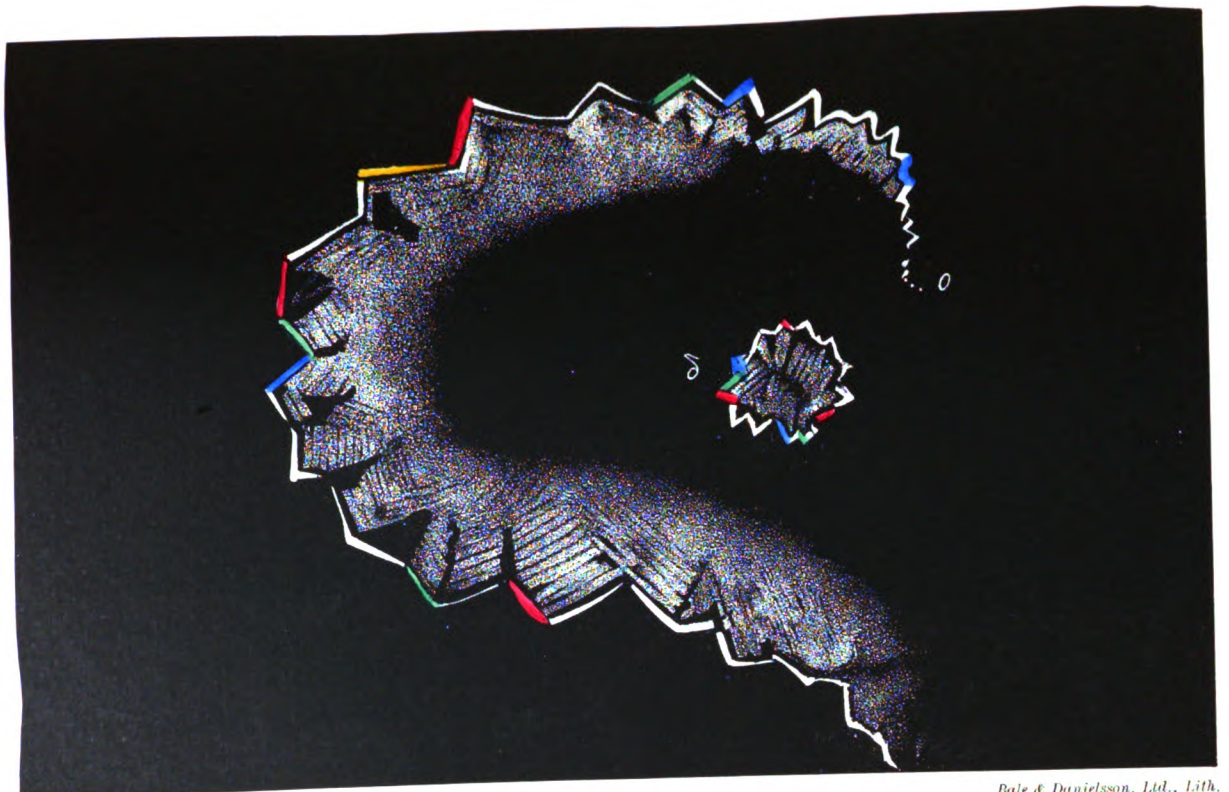
father and mother to look at them, but neither of them could see anything. A few years ago I got her to give me a written description of this occurrence, and I took it with me to a meeting of the British Medical Association at Portsmouth, where I read a paper on "Headaches." Since then I have laid it aside so carefully that I cannot find it, and consequently am unable to quote it verbatim. In his address at the British Association, Professor Rhys said that he considered the stories of fairies to be founded upon the existence of a small degenerate race. It is with the utmost diffidence that I dissent from so great an authority, but it seems to me that whilst the stories of brownies, *i. e.* the small supernatural household drudges of farmhouses in Scotland, may very well depend upon the existence of a few remnants of a degraded and degenerate race, yet some stories of the fairies belong to an entirely different class, although in others the character is mixed. In Scotland the fairies and the brownies are entirely different beings, but in Wales and Ireland they seem less sharply differentiated. It is noticeable that visions of the fairies, or little green folk, are very generally accompanied by jingling of bells, and this I regard as stimulation of the nerve-centres for hearing coincidently with that of the visual centres. The relation of the appearance of fairies and that of the Waldmädchen to epileptic states is, I think, indicated by the person who saw the fairies, like the man who saw the Waldmädchen, being carried off for a time, which seemed to him years, into some supernatural country, on his return from which he found himself exactly at the spot whence he had gone. It is, moreover, just between sleeping and waking condition that epilepsy so frequently occurs, and as Scott says:

> 'Twas between the dawning and the day,
> When the fairy king hath power,
> That I fell down in sinful fray,
> And 'twixt life and death was snatched away
> To the joyless elfin bower.

It may be incidentally remarked that Gustave Doré's pictures of long lines of people, as, for example, in his picture of Paola da Malatesta and Francesca de Rimini in his *Inferno*, have a striking similarity in form to the (*cf.* Plate III, figs. 1 and 2, with Plate IV) zigzags seen in sick headache; whilst Dante himself

appears to have seen something of this kind, for in his *Paradiso*, canto xviii, lines 70–72, he says, "So, within the lights the saintly creatures flying, sang, and made now D, now I, now L, figured in the air." Sick headaches are, perhaps, more frequent amongst highly sensitive members of civilised communities, but it is probable that they have existed at all times and amongst all peoples, and wherever they have been present they may have led to visions. Numerous examples have been found of skulls belonging to the Stone Age in which large holes have been bored with stone implements, and the patient has not only recovered, but has lived for a long time after the operation. This is shown by the edges of the bone not being sharp or rough, as they would be for some time after the operation, but smooth and bevelled by slow absorption after the wound had healed.([12]) Some authorities have supposed that these openings in the skull have been made for purposes of priestcraft, and that the priests, by pressing hard on the brain through the opening in the skull, were able to induce epileptic fits in the patient, and then announce that he was possessed by a spirit, and in a fit condition to give oracular responses. It is possible that the openings in the skulls may have subserved this purpose, but to any sufferer from sick headache the first idea that suggests itself is that the holes were made at the request of the sufferers in order to "let the headache out," for when the pain of headache becomes almost unbearably severe, an instinctive desire sometimes arises either to strike the place violently in the hope of relieving the pain, or to wish that some operation could be done to remove the pain; and some of the South Sea Islanders actually make a hole in the skull for this purpose.([13])

Perhaps the hallucinations that are of the most practical importance are those of hearing, where patients are told by voices inaudible to others that they must do certain things, sometimes of the most gruesome nature, and their obedience to such voices may lead them to commit the most horrible crimes. In the case of the inmates of a lunatic asylum, the dangers which might arise from any such hallucinations of hearing can be carefully guarded against; but when persons, otherwise apparently perfectly sane, are subject to them, the risk which they may cause is considerable. Sometimes such hallucinations of hearing may be beneficial instead of harmful, the individual



Bale & Danielsson, Ltd., Lith.

Visual appearance which sometimes precedes a sick headache.

After HUBERT AIRY.

To illustrate Sir LAUDER BRUNTON'S paper.

being told to do certain things which are right and proper. In some cases such hallucinations appear to have had the most wide-reaching effect—as, for example, in the case of Mohammed, who began dating his mission as the "prophet of God" from a vision of an angel who spoke to him and announced his prophetic mission. The attack in which this occurred appears to have been curious, because it began with a flood of light succeeded by unconsciousness, after which the vision was seen. It occurred in the night, so that no one was able to say whether the vision was accompanied by any convulsion; but he was liable to attacks of definite epilepsy, so that his biographer says that "he would be seized with a violent trembling, followed by a kind of swoon, or rather convulsion, during which perspiration streamed from his forehead in the coldest weather, he would lie with his eyes closed, foaming at the mouth and bellowing like a camel." It is curious to speculate what the fate of the world might have been if bromide of potassium had been known in the days of Mohammed, for the free use of this substance might not only have checked his fits, but removed the visions by which they were accompanied. In sick headache, as in epilepsy, bromide of potassium is very useful. I find that a combination of it with salicylate of soda is more useful still, and forms a very efficient remedy both for the prevention and arrest of the migraine. Numerous other drugs, such as caffeine antipyrine, phenacetine, arrest headaches. All the mental faculties are no doubt greatly modified by the condition of the intestines, and everybody knows that headaches are apt to be produced by constipation; while an attack of migraine may often be warded off by a blue pill and a black draught.

All the phenomena I have been describing of the most part are of a morbid nature. It is quite true that some of the most remarkable men in the world's history have been epileptics, but I do not think that Julius Cæsar, Napoleon, or Mohammed were great because they were epileptics. As a rule, epilepsy tends to destroy mental power rather than to increase it, and the curious lethargy which Napoleon exhibited at the Battle of Leipzig, and which there led to his defeat and consequent ruin, is probably rather to be ascribed to his epileptic tendency than to the indigestible bun which is said to have led to the disaster. Julius Cæsar and Napoleon were great men, not because of their epilepsy, but in spite of it;

and the visions of Mohammed alone would not have given him his extraordinary power over his countrymen and over the then known world had it not been that they were backed up by extraordinary mental power and energy in the intervals between his fits. It is only since the main part of this paper was written that I have become aware that the views I have expressed regarding Samson and Mohammed are considered by some not only irreligious in themselves but calculated to wound the religious feelings of others. Nothing could be further from my intention. The part played in the history of the nations or in the history of the world by these two men is altogether unaffected by the question whether they were subject to nervous disease or not. The point in question is simply *how* the great Ruler of All has been pleased to produce certain effects, and no more concerns the question of His rulership than a discussion as to whether the *Koran* was written on the blade-bones of a sheep or on the finest vellum, or whether the *Marseillaise* was written with a steel or quill pen. Instead of such an investigation being irreligious, it seems to me that research is clearly indicated as a duty by the words in Psalm cxi, 2, "The works of the Lord are great, sought out of all them that have pleasure therein."

(1) Read at the General Meeting of the Medico-Psychological Association, November 21st 1901.—(2) For definitions, *vide* Baldwin's *Dictionary of Philosophy and Psychology*. Macmillan: New York and London, 1901.—(3) Davey, "Transference of Special Sense," *Journal of Physiological Medicine and Mental Pathology*, vol. vii, part 1.—(4) Hooper's *Physician's Vade Mecum*, 7th edit., p. 115. Edited by Wm. Augustus Guy and John Harley. London, 1864.—(5) *Munsey's Magazine*, Nov., 1901, p. 216.—(6) "Inhibition, Central and Peripheral," 'West Riding Asylum Reports,' *Nature*, xxvii, 1883, pp. 419-422, 436-439, 467-468, 485-487.—(7) Weir Mitchell, "The Relations of Pain to Weather," *Amer. Journ. of Med. Sci.*, April, 1877.—(8) Tatham Thompson.—(9) H. Head, Goulstonian Lecture for 1901. *Brain*, part iii (1901), p. 352. Macmillan: London and New York.—(10) E. H. Clarke, *Visions: a Study of False Sight*. Houghton, Osgood, and Co.: Boston, 1878.—(11) *Vide* especially Hughlings Jackson, *Lancet*, Aug. 14, 1875, etc.—(12) Lucas Championnière, *Étude historique et clinique sur la Trépanation du Crâne: la Trépanation guidée par les Localisations cérébrales*, p. 2. Paris, 1878.—(13) Lucas-Championnière, *op. cit.*, p. 6.

Discussion

At the General Meeting, London, November 21st, 1901.

Dr. Savage said that he had looked forward with a great deal of interest to the paper, but he feared he had regarded it from a different standpoint. It was rather a rude shock to him to have to look upon fairies as the outcome of epileptic or migrainous hallucinations. He still rather liked to regard them, not quite from this sensory point of view, but from the standpoint of a combination of this view

with his own wishes and feelings. What Sir Lauder Brunton had said about the limitation of one's senses he regarded as all-important. He thought of what Sir Samuel Wilks used to say when going through the wards of Bethlem Hospital:—"How do you know that these hallucinated people are not speaking the truth, and that it is not due to your ignorance that you deny that there are voices and visions?" He thought the explanation given by Sir Lauder Brunton of some of the telepathic experiences mentioned was altogether satisfactory. It seemed to him, Dr. Savage, that there were certain men who moved in harmony with certain others, and in certain relationships. The epileptic conditions, and conditions of the organs of sense one could not help admitting, but that they were at the foundation of all the observed phenomena he was disinclined at present to believe. There were certain other relations, one of which Sir Lauder Brunton spoke of, namely, unconscious keeping or marking of time. Most people possessed that power, but some more than others. There were one or two conditions which he was surprised Sir Lauder Brunton had not spoken of as being origins of those fancies, *e. g.* dream conditions. One was constantly encountering people who would narrate what might be fairy tales. They might choose to call them delusions, or to say they were hallucinations, but they were graphic descriptions of what these people had seen. They had been dream conditions, and there was an interesting connection with epileptic dream states, in which similar impressions were produced.

Coming to hallucinations, Dr. Savage said he could not help thinking of 'Æsop's Fables.' He had been in the habit of telling students that he had never yet come across an Æsop's fable which he had not seen represented in the wards of the hospital. Another cause of many of those fairy tales, very important from the mental standpoint, was the receptivity of the undeveloped mind, the tendency to explain. He often thought of what Sir William Gull said many years ago, "It is the wise man that investigates, it is the savage that explains." It was the state of mind which was ready to explain. The rain-maker and the rain-explainer came long before the meteorologist; so also the myth-maker came long before the man who recognised hallucinations of one kind and another. The environment and the constitution of individuals and the catastrophies of Nature had given rise to fairy tales.

He could only add that the subject which had been brought forward by Sir Lauder Brunton was one of extreme interest; and it was possible in the time at their disposal to touch on only a few of the many sides it presented.

Dr. MERCIER said that he never remembered a more interesting paper being read before any society. The extraordinary way in which Sir Lauder Brunton had suggested explanations for inexplicable things was most interesting. He agreed with Professor Clifford Allbutt as to the impermissibility, in the eyes of science, of appealing to the supernatural until all possible explanations from the natural had been exhausted. Sir Lauder Brunton had shown, not, perhaps, in every case satisfactorily, that there was a possible explanation, according to the known laws of physical nature, of those occurrences which seemed to us occult, mysterious, and inexplicable. That was a service which he thought science could not over-estimate. There would always remain and always must remain, a region in which we must fail to explain, and in which we must fail to bring phenomena under known laws, *i. e.* laws of uniform sequence. But so long as we were in this world our task was to reduce that region as much as possible, and it was because Sir Lauder Brunton had enabled them to see the way in which a very large portion of that region might be reclaimed from the unfathomable sea of the inexplicable that his discourse was so very valuable to the members of the Society.

Mr. ALFRED NUTT said that it was exceedingly interesting to him, as a member of the Folk-lore Society for twenty years, and as, he trusted, a scientific student of all the phenomena which were grouped together under the heading of folk-lore, to find a man of science also engaged in investigating those phenomena, who had undoubtedly succeeded in throwing a great deal of light upon them. The members of the Folk-lore Society were accustomed to approach those phenomena from the historical rather than from the psychological side, and he thought that was the tendency of the majority of the students of folk-lore, but it was a tendency against which he had always, both by word and, as far as possible, in his own investigations, endeavoured to protest. He would

have been glad if Sir Lauder Brunton had paid a little more attention to what might be termed the collective hallucinations rather than the individual ones, because it was really the collectivity or grouping of those hallucinations which gave them their interest. The fact that those hallucinations were found practically all over the world and at all periods of history was one of great importance, and the great problem with students of folk-lore had always been to determine why it was that those phenomena were alike. Why was it that the Babylonian priest, whose words could be traced back nearly five thousand years, the Finnish enchanter, the wise man of Ireland or of the Scottish peasantry, the "medicine-man" of the Red Indian, and the wizard in South Africa employed almost entirely the same methods to produce the same results, and not only employed the same methods, but did, to a very large extent, arrive at the same results? If he might venture to make a suggestion, he would ask Sir Lauder Brunton to specially investigate hallucinations from that point of view, and in any explanation of hallucinations to recollect it was not the hallucination of an individual being, *e.g.* the lady whose retina had a defect which caused her to see a goat. That may have been the explanation, but why was it that nearly the whole world over the particular supernatural power, being, or evil thing so frequently assumed the form of a goat? It did so in antiquity, it did so throughout the mediæval ages, and it did so still in the minds of the peasantry, who were subject to those ideas. It was impossible that any such cause as was suggested—and probably rightly suggested in the case of that lady—was valid throughout. There must be some other law at work, and that law, to a great extent, was the "law of convention." It was wonderful when once an idea had been set in circulation how it contrived to dominate the perceptions of mankind. A man would see a thing because someone else had seen it in the same way, and he unconsciously expected that it was so. One might also mention the divining rod, to which Sir Lauder Brunton had referred. The curious fact was not that some people were capable of detecting water underground, which he could quite understand, but why were they only capable of detecting water with the rod in their hand? Many of the "dowsers" were conscientious men, and the majority believed that there was some mysterious capability in the rod, and unless they had a rod of a particular form, and made of special wood, they could not detect the water. Those men would fail when going over the land without a rod, but when the rod was put into their hands they would find water. The curious point was why a Somersetshire or Irish half-educated peasant, who had no book knowledge of those things, should almost instinctively resort to the same practices and the same means that his divining forbears resorted to a thousand years ago. In reality it would be found that there had been a tradition which had been handed down completely independent of the usual modes and vehicles of culture, independent of the school, or the schoolmaster, or the priest, or the doctor, and one could find very often the peasantry still in possession of such a tradition, which was really almost as old as the world.

Finally, he said he would like to enter one word of protest, lest some gentlemen in the room, who were not quite familiar with those studies, might think it was held among folk-lorists generally, against the conclusion that there was a historic basis for a belief in the fairy world. He believed that the historical realistic element rested on the very smallest grounds. The fairy belief could not be explained by certain historical conditions which obtained in these isles, because a belief in fairies was prevalent all over the world,—amongst the tall races, among the short races, the dark races, and the fair races, and in all stages and conditions of culture. Though that belief might plausibly be explained on an hypothesis about the races inhabiting these islands, that hypothesis could not apply when they were found in Polynesia or amongst the Indians of America. As a matter of fact, the ancient belief in these islands was not that the fairies were a small race. The oldest accounts we possessed of fairy tales were found in ancient Irish literature, and there the fairies were beings of the same shape and stature as men, only more beautiful and more magnificent than ordinary men. The fairy queen who carried off Thomas Godiva was shown as in every way having the same stature as ordinary women. He would ask his hearers, as men of science, to believe it was possible to study subjects which seemed so little susceptible of scientific study as fairies in a truly scientific spirit. They, in the Folk-lore Society, had been trying to do it, and he believed that they had succeeded in throwing light on a considerable number of

those questions. Personally, he thanked Sir Lauder Brunton heartily for a most enjoyable afternoon.

Dr. ROBERT JONES said the truth probably lay between the two extremes. The historical record had been touched upon, and, on the other hand, was the view that fairies were nothing but the results of headaches, practically delirious nonsense, according to Sir Lauder Brunton. The untutored mind and children in all ages had a strong regard for the great forces of Nature; the sea, great waterfalls and whirlpools had a personification allotted to them, and it was pretty to see these exemplified among children. In one's own nursery one had seen the children playing at horses and trains, and at anything, indeed, which possessed power. He had very little to say on the fairy aspect of the question; they who were members of that Society were more experienced with the hallucinatory aspect. Sir Lauder Brunton had referred to the fact that hallucinations were often connected with the association of ideas, in support of which he quoted the incident referring to the lemons and oranges. The experience of those whose work lay in asylums led them to endorse what Sir Lauder stated. For instance, he, Dr. Jones, had never yet come across a deaf mute who had hallucinations of hearing. Hallucinations could not be a new creation. He had also a number of blind persons under care, and among those who were congenitally blind he had never found one with hallucinations of sight. It was also interesting that these abnormal features had relation to the psychopathic tendency, as in the case of the student referred to by Sir Lauder. One found that if there were an hallucination it was often connected with a psychopathic history. Those of us who dwelt in asylums were living with people whose friends and relations were also more or less affected. On visiting days in asylums one knew almost instinctively which friends belonged to particular patients; they had the same mental condition, the same sympathies; they often denied their friends' delusions, and not infrequently shared them. He had read a good many folk-lore books, and expected to hear that afternoon more about the ideal and spiritual aspect than Sir Lauder Brunton had given in his material and scientific explanation. The fact that the ancient Greeks personified the brute forces of Nature was to be seen in the Elgin marbles in the British Museum, as exemplified in the amazons and centaurs of the metopes. As men became able to satisfy themselves in regard to the apparently supernatural, and the laws of Nature, such as gravity, etc., became more understood, these things disappeared, and a natural and satisfactory explanation was arrived at. It was very picturesque to feel, when wandering through the woods, that there were lovely nymphs of the groves and fairies of the brooks, mountains, and grassy meadows. In Vortigern's Valley, in North Wales, where he went a few months back, a place which was almost shut in from all outside habitation, with a bay opening into the sea and an almost precipitous background of rocks, when coming up a winding path one called out, the echo—a Nature spirit—was at once thrown back. In the unlettered and untutored time of man, what was more reasonable than the belief that it was one's friends who answered from the spirit world? It was a picturesque conception, but it could not now be accepted. This reference to spiritual beings as the cause of Nature led up to what was called *medical mysticism*. The age of exorcising the maniac had gone by with us, but it had not yet passed away in the East. Recently some of those present had been members of a committee for establishing a hospital for the insane in Lebanon, and they had it on the word of Mr. Waldmeyer that the treatment of the insane and the epileptic in that country was repulsively cruel and inhuman. The poor victim was taken to a cave, and was beaten until, after writhing in pain, he passed into a slumber, the result of pure exhaustion, but which the priests attributed to expulsion of the evil spirit. In that medical mysticism, which is the assumption of an *a priori* immaterial force, being, or power called Life, and a deduction from this, which cannot be verified, that a *spirit* is able by its own order or thought to subdue external realities, and that mind acts upon matter from the outside, it is concluded that some influence, some occult power, does act upon the human organism. We know how fear paralyses, and how certain other states of emotion might influence the circulatory, digestive, and other systems, hence the possibility of curing disease by a *mode of thought* is suggested. It was a satisfaction to feel that at the present day we were more enlightened than our remote ancestors, and more able to understand the laws governing the great forces in Nature, such as those of gravity, heat, growth, and decay, and that the idea of

spirits, good or bad, had disappeared in the light of modern research and knowledge, of which Sir Lauder Brunton was so exemplary and so brilliant an exponent.

Sir LAUDER BRUNTON, in reply, said he had to thank the President and all who were present for their kindness in listening to an address which he felt had been too long. On account of this feeling he had shortened it a good deal, otherwise he would have taken up some of the questions which Mr. Nutt had raised. He was glad to find that Dr. Savage and Dr. Mercier agreed with him in thinking that however much could be explained by ordinary laws, there was still something which could not yet be so explained. No doubt they would gradually increase the boundaries of the known, but there was still a very considerable residue which to us was unknown. Examples of that were very numerous, and more especially those examples which would come under the head of second sight or prevision. There were a number of those which he was absolutely unable to explain, or to get the very slightest idea as to how they came about. They might hope that by-and-by those would be explained. Mr. Nutt had asked why the same methods had been employed all over the world, and with the same results. He, Sir Lauder Brunton, supposed one reason was that headaches and mental disturbance could be brought on by the same methods all over the world. He believed that primitive men were subject to headaches just as we are now. It was true there was no direct evidence of that fact, but those who had suffered from migraine knew that there was an awful pain about the temporal region, and one sometimes thought, "I do wish I could let this headache out." In the skulls which had been discovered belonging to the Stone Age, some had a hole in the temporal region. The men of that time had evidently drilled their heads with stone implements, and the patients had recovered, because the edges of the hole were completely smoothed off, showing that the scalp had healed over, and the bone had undergone gradual absorption. He believed that those men had a scar there, not because the priests of that age knew anything about the Rolandic area, or because they were able, by pressure on the proper spot, to bring on the fits, but because the poor creatures had a pain in their head, and had a hole drilled to let that pain out. And if one assumed that those men had headaches, he thought it was very likely that they had visions also. If they had "sick headaches," they probably had the visions which preceded sick headaches, because their eyes were built upon the same plan as ours. And although in many of them there might be no subretinal hæmorrhage, yet they were liable to inflammation of nerves, just as we were; and they might also get, either from exposure to cold or from injury, inflammation of the Gasserian ganglion. They might also get inflammation in the choroid, and then they would see visions, just like Dr. Tatham Thompson's patient did, who saw visions because of choroiditis. Or, like Dr. Head's case, those men might have had inflammation of the Gasserian ganglion. He fancied that was the reason people saw the same kind of visions the whole world over. The retinal vessels, he supposed, were arranged in primitive man in much the same way as in civilized races, and that the same formation of the retinal vessels, which limited the scotoma in Dr. Thompson's case, and gave it the form of a goat, might have occurred in the ancient Greeks and in other races. No doubt cases of collective hallucinations were exceedingly interesting. In his paper he had mentioned one of those juggling feats which were shown in India, where a man exhibited a pole up which a boy appeared to climb, and when the boy had climbed to the top he disappeared into empty air. It was said that when a photograph was attempted to be taken of the boy he was never there. But the juggler had suggested to the people that he was there, and they were convinced that they saw the boy, though he was not there. Those collective hallucinations were of the same type as that of the man who went to Trafalgar Square and looked on the old lion and said "Its tail wags;" others looked and replied, "Yes, it wags;" but, of course, it did not. Those collective hallucinations and the influence they had exerted in the world's history was one of the most interesting problems that anyone could tackle. But it was very difficult, and he had neither the time nor the ability to attempt it. He would be very glad if someone would take up the history of Peter the Hermit, and the history of Savonarola, and set out how much of their influence was due to hypnotic suggestion. By that means an enormous service to history would be accomplished. He granted that, as Dr. Robert Jones had said, the truth probably lay between the

two extremes. He had tried to present one side of the subject, and there would be many to put the other side. Perhaps they would put it so strongly that he would not be able to resist the evidences brought against him. He again thanked all most heartily for the interest shown in his address.

Hospital Ideals in the Care of the Insane: a Statement of Certain Methods in Use at the Stirling District Asylum, Larbert. By GEORGE M. ROBERTSON, M.B., F.R.C.P.Edin., Medical Superintendent.

PRELIMINARY.

BEFORE giving a description of the particular methods of caring for the insane in use here, to which attention is to be drawn, I consider a statement of the general principles underlying these methods a necessary preliminary, in order to place the reader in touch, if not in sympathy, with my motives, and to enlighten him as to my objects.

The dominating principle is the desire to make the asylum a medical institution, worked on the same medical principles and with the same nursing ideals as our great general hospitals, which are acknowledged to be the most perfect result of modern humanitarianism and medical science.

To give full effect to this *dominating principle*, there are not only many things to be done in our asylums, but much to be undone, for asylum treatment of the insane, to its great misfortune, has a "past." No doubt its most repulsive horrors—chains, cruel violence, and systematic neglect,—have gone, never more to return, but much of the past is not dead; traditional ideas of dealing with the insane still exist, handed down from one generation to another, and the acceptance of the modern principles of non-restraint, humanity, and medical ideals in the treatment of the insane by the medical officers, and the best class of attendants and nurses, has not abolished traditional practices among the general mass of asylum officials. We have assumed too readily that the mass was leavened with these ideas, the pinch of which we never, but they constantly, feel; we have flattered ourselves much too soon that by our efforts the insane had become emancipated.

Prison Features and Defective Care at Night.

The asylum, only yesterday as time goes, traced its origin to the old Tolbooth, and neither in its construction nor in its administration has it yet emancipated itself from the prison and from prison life. The practice of building numerous cells, which we have recently re-christened with the more pleasant name of "single rooms," is directly adopted from its prison prototype. The practice of confining patients in these cells by day, which is steadily being abolished, and by night, which is in process of reduction, is also a relic of this origin. If, however, we are to live up to the hospital ideal I have laid down, we must determine to reduce compulsory incarceration, by night as well as by day, to the same extent as mechanical restraint has been reduced in asylums, that is, practically abolished, and only used in most exceptional cases. Instead of a lock and key and shuttered cell, we must adopt the strictly medical methods of continuous personal supervision at night by employing one or more nurses or attendants in all cases showing active symptoms. If insanity be a disease, it must be treated in a medical spirit, and it must be treated at night not by incarceration, but by personal supervision, and with as efficient supervision as by day. It is, then, a first necessity to increase the night staff in asylums. In the past the want of this staff has interfered most materially with the welfare of our patients, and as compared with hospitals we are, with respect to night supervision and treatment, most shamefully behindhand. The "abuse of single rooms" resulting from this, to which Dr. Elkins in particular has directed attention, can only in this manner be abolished, a reform in asylum administration which, in my deliberate opinion, ranks in importance with those associated with the names of Pinel, Tuke, and Connolly.

Roughness.

There are, however, other practices in asylums, also inherited from the past, which are more difficult to eradicate. That violence is habitually practised towards the insane in asylums we all know is certainly not the case, though the fact that brutal

assaults are occasionally committed cannot be denied in the face of the evidence that exists. But short of this, my information and experience have convinced me that a great deal of unnecessary force or roughness, not amounting to actual violence, is employed. This only rarely culminates in a really grave assault, which then proves a blessing in disguise, as it is difficult to hide traces of it from the medical authorities, and an example is frequently made of the offender. I do not altogether blame attendants for this immediate recourse to forceful methods, because they come to the asylum ignorant of the management of the insane, and inherit the traditions of the evil past to which I have alluded. They are, perhaps, not even consciously severe or harsh, as they themselves have been accustomed all their lives to give and receive knocks, but that it is a failing, especially of male attendants, and causes more anxiety than any other, will be admitted by every one. If physical violence be absent from the female side, roughness of speech and behaviour towards patients is present on both sides, and patients, instead of being coaxed and led, are only too frequently driven and ordered about. This is a very important point, for it is my belief, after the clearest demonstration, that the greater part of the excitement, violence, and troublesomeness of patients is artificially created and continued, and I have not only seen this artificial excitement produced, but I have seen it eliminated. We all recognise a phase among epileptics in which the patient is exceedingly irritable, and has to be most tactfully manipulated. In many other cases of insanity there exists a similar though not so aggravated condition, in which the patient is not really so much excited as excitable, and it is then possible, by irritating conduct or an exciting environment, to keep up the symptoms of excitement, which not only is injurious to the patient but adds greatly and unnecessarily to the work and anxieties of the nurses and attendants. The practical point, however, for us with our medical ideals is this: that those in charge of our insane patients should possess a maximum of sympathy, gentleness, and patience, that the patients should be even more kindly treated than if sane, just as a labouring man in hospital is treated with as much consideration as if he were a prince, and with an attention he never received when well. In my opinion the most satisfactory method that has yet been

devised for attaining these objects on the male side is the employment of female nurses, and the extent to which they may be employed and their usefulness have exceeded all anticipations. On the female side, the appointment of a number of assistant matrons to supervise the nurses and to do duty *within the wards and among the patients* appears to meet the difficulties. These assistant matrons should be well paid and well treated, and enjoy considerable prestige and authority, and, in my opinion, suitable candidates for these posts can be selected from the ranks of the great army of trained hospital nurses.

Unreliable Supervision of Staff and Non-reporting of Offences.

If anyone doubt the truth of the previous statements because he seldom or never receives reports of roughness, let me enlighten him why it is that the charge nurse or attendant, who for eleven hours out of twelve is the responsible official present, so seldom reports one of his or her subordinates for roughness or even violence towards patients. Not many months ago I asked an excellent and kind attendant, who, on being promoted elsewhere, was leaving me next day, to tell me honestly if, during the many years he had been in the asylum, he had seen attendants abusing patients, and his immediate reply was "Many a time," and he added, "Many a time have I interfered and prevented them from abusing them too." I then asked him how many he had reported, and he replied he had never done it. He said, "I could not do it for the other attendants. Just consider my position, doctor; I would not have had the life of a dog with them had I done it." This confession is not an exceptional one, nor, to my certain knowledge, does it refer to a state of matters existing in one asylum alone. Superintendents have overlooked this failing of human nature, which has been fully recognised by our Army officers, that it is next to impossible for a charge attendant or nurse to maintain strict discipline, particularly in the sense of reporting his or her subordinates, if when on duty or off duty he or she be regarded as a social equal and treated in a familiar and friendly way by subordinates. In the Army, if a man be selected from the ranks for a non-commissioned post, he is informed that he must cut himself off from all previous friendships among the private

soldiers, and if, for example, a new corporal be seen by an officer coming out of a public house with a private, he would, on his return to barracks, be placed under arrest and be reprimanded. Under these conditions authority is maintained, and the offences of subordinates are reported; under the conditions usually existing in asylums, it is a wrench far too great to expect of human nature for a senior attendant to report one of his intimate friends. Moreover, not only is it contrary to human nature, but it is against traditional practice and public opinion, and should a man or woman be so mean as to go against his order, he would be ostracised by his fellows. Not only is this prohibitory power exercised over attendants and nurses, but by questionable means over patients as well, and frequently the only evidence available is either that of a dement, who is too stupid to be terrorised or to give a clear statement, or of a patient with an animus against the attendants, and whose word, therefore, cannot be implicitly trusted. That irregularities go on in asylums which are never reported, and that it is next to impossible under present arrangements to bring these clearly home to the offenders, there is ample evidence, which I might detail were it not superfluous to do so.

The remedy is hard to find; it is possible that the higher ideals of duty that are steadily advancing over the asylums of the country may in time effect the desired changes, as has already taken place in our large general hospitals, but in the meantime the constant presence in the wards of responsible officials, such as the assistant matrons already mentioned, appears the most direct remedy.

Men as Sick Nurses.

If any evidence were needed in addition to the defective care of the insane at night to indicate how far behind that of general hospitals medical practice in asylums is, the fact that in almost all asylums the sick and the infirm on the male side are nursed by men would demonstrate it sufficiently. If we are to be influenced by the highest medical ideals, it is necessary that these defects should be remedied, and as woman has proved herself to be instinctively peculiarly fitted for nursing duties and attendance on the helpless, and as women of refinement have not hestitated to perform the meanest offices of a

nurse among adult men, there is no real obstacle to the employment of women in the male sick and infirm wards. And, as a matter of course, if sick-nursing by women is desirable by day, it is just as necessary and desirable by night. Every credit is due to the male attendants in the hospitals and sick wards who have in the past performed duties which were unnatural and irksome to them, but for the sake of their patients, no one, least of all themselves, will object to see all sick, aged, and infirm men ministered to and nursed by women under the direction of trained hospital nurses. The last particular, a trained hospital nurse, is, I consider, absolutely necessary if we aim at high ideals, and the hospital of a large asylum without a certificated nurse at its head is as retrograde an arrangement as would be that of the asylum with a layman as the superintendent of it.

The Personnel.

Finally, in bringing an asylum into line with a good general hospital, it is impossible to overlook the class of women that enter the latter as nurses, and were the average *personnel* of asylums similar, possibly some of the defects I have mentioned would not exist. No one can have a higher opinion of a good asylum nurse than I have, and I have known not a few, and I consider the qualifications of mind, of heart, and of body needed for an asylum nurse infinitely greater than for a hospital nurse, just as disease of the mind is more complex than disease of the body, and, when acute, includes the latter. When it is considered that a good mental nurse must be healthy of mind and healthy of body, intelligent and active; that she must be sympathetic and conscientious, able to control herself with firmness and others with kindness; that she must be submissive to orders yet ready to act on emergency; and when it is considered that her duties are often irksome and trying, it must be admitted that any woman of whom it can be said that she is a good asylum nurse has thereby extensive testimony borne to her excellence as a member of society. Yet she receives less appreciation from the public than a hospital nurse, or than she deserves. It must be admitted, however, that while the standard of hospital nursing is high, that of asylums, though rapidly improving, is below the

medical ideal. There is no doubt that improvement is taking place, and I have found no means of raising the ideals and the ambitions of asylum nurses, of increasing their self-respect, and of improving the quality of their work equal to that of employing hospital nurses to work in the wards among them. It has directly inspired several to complete their training in hospitals, and I consider the double training absolutely necessary for a skilled mental nurse, and for the higher posts in an asylum. The treatment and the nursing of insanity is merely a particular branch of the great stem of general medicine; it involves not a superficial, but a most exact knowledge of general disease, and one can no more be a skilled mental physician without studying general medicine than a skilled mental nurse without studying general nursing. A great deal of general nursing may be "picked up" in an asylum, but this can never take the place of a regular training in a large general hospital, though the lectures and examinations for the Certificates for Proficiency in Mental Nursing have done incalculable good in their own way. I believe that the employment of hospital nurses in asylums will go a long way to carrying out the dominating principle I have mentioned, that of approximating the asylum to the general hospital, not only as regards the methods employed and the quality of the work done, but as regards the *personnel* of the staff, by familiarising the class of women who go to hospitals with the idea of going to asylums as well.

The introductory portion of this paper being now concluded, I pass on to describe the special features of the care of the insane in this asylum, which are intended to remedy the defects described, and which enable the hospital ideals to be carried out.

NIGHT NURSING.

Increase of Staff and a Night Superintendent; Continuous Supervision in Dormitories; Abolition of Solitary Confinement (the Single Room System).

The obvious principle underlying the treatment of the insane at night is that the supervision and care exercised over

them should not then deteriorate or cease, as frequently happens at present, but, allowing for the altered circumstances, should be as efficient as that by day, which at present is fairly satisfactory. All those patients who, owing to the existence of the active signs of insanity, need personal supervision by day, also need it at night, and among these are included the excited, the noisy, the irritable, the dirty, the dangerous, the suicidal, the sick, the infirm, and all epileptics. Owing to the fact that the vast majority of patients sleep, and that no administrative or domestic work is done at night, the staff does not need to be anything like so large as that by day. The night staff in this asylum, containing 690 patients, and 250 admissions annually, numbers twenty, and is one third of the day staff, and the proportion to the patients is as one to thirty-five nearly. With this staff the principle laid down is carried out, that of giving as efficient care and supervision to the patients by night as they receive by day. No patient is allowed to be noisy, untidy, destructive, or dirty, if personal attention by nurses can prevent it; all insane habits are checked at night in the same manner as is done in asylums by day; and excited patients are under the continuous personal supervision of nurses or attendants, as is usually the case in all asylums by day. Of course night brings its own responsibilities. By day, the nurse strives to occupy the patient, attends to the amount of food taken, etc.; by night, in addition to the more general duties, there is the special duty of inducing, if possible, the patient to sleep, if he or she be sleepless.

It is the experience in hospitals, as well as in asylums for the poor, that immediate personal supervision by day is only possible, having regard to economy, when a considerable number of patients are gathered together in one ward or room, the proper size of which varies with the class of patients to be attended to, and in this ward one nurse or a certain number of nurses can supervise a certain number of patients. It would be impossible to do so with the same staff were every patient in a different room. By night, of course, the very same condition holds good; it would be impossible to supervise patients, except with an enormous staff, if all occupied separate rooms, so it is necessary, if patients are to be efficiently supervised at night, that this must be done in

associated dormitories. Dormitories at night merely take the place of day rooms by day; the patients are classified in them according to their symptoms and the amount of supervision they require, on principles, not the same, but analogous to those by day, and night nurses are placed in charge instead of day nurses, the duties they perform being practically similar. Now, those who have not tried this system of night supervision, who continue to lock up noisy, excited, and troublesome cases in solitary confinement in single rooms, according to the traditional asylum practice, may state that at night there is one condition that modifies the whole situation, and that is the necessity for peace and quietness, that the sleep of many may not be disturbed by the noise and excitement of one, and that to fulfil this important condition it is necessary to weed out all disturbing elements and place them apart in single rooms. To such I would say that the real reason why in the past patients were locked up in single rooms was the fact that the night staff was inadequate to deal with them in any other way, and I would point out that Dr. Elkins has demonstrated that the remedy usually adopted for dealing with noisy and excited patients perpetuates and intensifies instead of cures the trouble they seek to relieve. Nothing is worse for most of these cases than solitary confinement without personal supervision, and continuous supervision and personal control by a full and alert staff at night will enormously reduce noisiness, if not abolish it altogether. The experience of Dr. Elkins has been confirmed by Dr. Middlemass, Dr. John Macpherson, Dr. Keay, Dr. Marr, and myself.

With regard to the admission dormitory, though the more efficient supervision there tends to reduce noise, it must be admitted by all of us that this dormitory, owing to recent acute cases, occasionally tends to become noisy. To overcome this difficulty, and that other patients should not suffer, I have opened, when necessary, as at present on the female side, an "extra admission dormitory," and have placed here the three or four cases inclined to be noisy and troublesome under the charge of two nurses; I have also occasionally to place a noisy case under the charge of a special nurse in a single room. With these precautions the admission dormitories are now habitually very quiet. Dr. Clouston, who, in this matter, may be accepted as an unprejudiced witness,

visited at night the worst class of patients in this asylum, and found patients who had been for years noisy and violent under the old single room system, quiet and asleep, and the dormitory system of supervision working in a thoroughly satisfactory manner.(1)

Even, however, if there were more noise and excitement, which there is not, and even if patients had greater difficulty in sleeping, which is not the case, the system is one to be adopted solely for the reason that, if loyally carried out, it abolishes the "abuse of single rooms." I do not wish to express myself too strongly on this subject, for fear of wounding the feelings of those who still use single rooms at night for locking up patients who, instead of solitary confinement, need much more the constant attention of a nurse. I would state, therefore, that the rooted abhorrence and aversion I have to the use of mechanical restraint is not greater than that I have for the use of incarceration in single rooms, for the former abuse was abolished nearly two generations ago, whereas I have seen the injurious and degrading effects on the patients of the latter as well as its demoralising effects on the staff. It would be foolish to assert that neither should ever be used, but I assert as my deliberate conviction that it is not only better treatment, but a mere act of justice to the insane, that solitary confinement should be used with as great hesitation as mechanical restraint, that is to say, practically abolished as a regular method of so-called "medical treatment," and only reserved for the most urgent cases. Incarceration in single rooms is not used at all in this asylum, and the door of every single room is left standing open at night. The patients occupying them are all sensible, clean, and trustworthy patients, and if for greater privacy they desire the door shut, a handle to open the door is placed inside; the rooms also are all in process of being furnished as bedrooms, with pictures, dressing tables, mirrors, etc. Two years ago in Glasgow at the Divisional Meeting I stated that in my opinion if an asylum were supplied with one sixteenth of its accommodation as single rooms it would prove ample, and that with a proper night staff it could be managed perfectly well with one thirty-second, or

(1) Dr. Clouston, who was present at the reading of the paper, was appealed to in order that he might corroborate these facts, and I am indebted to him for the frank and even generous statement he made (see page 282).

three per 100. My views were then received with incredulity, but that they were not Utopian in character these more recent results fully confirm. Thus, two years ago, so much was solitary confinement of all troublesome cases considered an integral part of the management of the insane, that no one would have believed such an event as its practical abolition within the realms of possibility, just as in Connolly's day most asylum officials declared the abolition of mechanical restraint an utter impossibility. Yet both have been effected.

Sometimes the explanation is offered, when methods are in use in one asylum that apparently fail in another, that the patients in certain districts are more amenable to authority than those in others. It is possible this is occasionally true, so it must be borne in mind that the district this asylum supplies accommodation for contains some of the most vicious, drunken, and criminal areas in all Scotland, with a large proportion of miners, ironworkers, riveters, and dock labourers, so that with patients coming from an agricultural district similar results should be easier to obtain. I must not omit in dealing with this point to refer to the treatment by day of all acute and excited cases in bed, according to the principles of Dr. Magnan, Dr. Whitcombe, Sir J. Batty Tuke, and others. This is, on the whole, a better principle of treatment for these cases, and much safer than the older method in more general use, and it conforms more closely to the general hospital methods and to medical feelings. It is surprising how quickly acute cases get over the tendency of struggling to get out of bed ; and the use of "alitment" or treatment in bed by day renders the supervision of these cases in bed in dormitories at night a comparatively easy matter—much easier than it would otherwise be. To those who consider that "alitment" by day and dormitory supervision at night present insuperable difficulties, I refer them to the results obtained by Dr. Magnan, which must carry conviction to every open mind. He admits into the Asylum of Ste. Anne, which is the distributing centre for all the asylums of Paris, over 3000 recent cases yearly. All these cases, if acute, are treated in bed in dormitories under supervision, and he never uses seclusion in single rooms by day or by night on account of acute excitement. There is only one other objection to this system that I am aware of, namely, that drugging by sedatives is increased, but with regard to this the facts do not

bear out the contention. It is difficult to establish a normal standard of the use of sedatives. Dr. Elkins gives the statistics of his practice with dormitory supervision, and it is very low. I also believe my practice to be below the average, though I believe in the therapeutic value of sedatives, and as the amount used is now strictly noted, my statistics will also be available. In any case the objection that an increase in the habitual use of sedatives is necessary may be ignored, once the system is in full operation, as the evidence, such as it is, points if anything the other way.

With regard to the details of the system adopted here, I may state that every dormitory in the asylum, with the exception of three on each side, containing together thirty-four patients, is under the supervision of a nurse or attendant, and seven dormitories have two nurses or attendants in each. Those dormitories in which there are no nurses, like all the single rooms, have their doors open, and so every patient in the asylum can go directly to a nurse or an attendant, and none are in solitary or associated confinement. Nearly a half of the patients are under constant observation, and more than three fourths are under almost constant observation, for the time now spent in visiting the single rooms, during which some patients lose their supervision, is short compared with the past practice, for it is a mere walk round, as all the wet, dirty, and restless cases are in the dormitories. I may mention that there are four double dormitories in the asylum with folding doors, each holding eighty beds, which are occupied by quiet working patients, and their great size—perhaps too great—renders night supervision of this large number easy.

To keep this system working in perfect order, there is a night superintendent, as in a general hospital, who inspects the whole asylum four times each night. She is a trained hospital nurse, who receives £52 a year, and to give her high prestige and authority in the asylum she is treated as an important official, and dines with the matrons. She takes rank as an assistant matron, and receives her orders every night from the matrons and assistant doctor of each side, and reports to them next morning; she is not independent of the matrons, as stated by Dr. Keay in a recent paper.(8) During the night, however, she is the responsible official, is acting matron, in fact, and, except in extreme emergency, no changes are made, no

draughts are given, and the doctors are not disturbed, without consulting her. Her principal duty is to see that the staff is awake, attentive, and doing its duty to the patients, and that there are no irregularities. Her experience of the slipshod discipline and the elementary character of a great part of asylum night nursing would be both entertaining and profitable to detail, but she merely confirms the statements made on these points by Dr. Elkins and Dr. Keay. The old night staff had grown so accustomed to getting rid of patients into single rooms whenever they became troublesome and required attention, that it took badly at first to the increased work entailed by the adoption of hospital methods. This system as here described has been in operation for more than a year ; it has worked smoothly and satisfactorily, and it has been a source of the greatest comfort to myself to feel that a capable and really reliable official was on duty during the hours of darkness.

THE MALE SIDE.

Employment of Female Nurses and of a Matron.

The special features of the administration of the male side of this asylum, to which I desire to direct your attention, are the large number of female nurses engaged in looking after male patients, and the fact that the head of this department is a trained hospital nurse, instead of a head attendant, as is usually the case. The employment of female nurses to attend to those suffering from acute bodily illness, and from the malnutrition accompanying many forms of acute mental disease, brings the treatment of the insane sick into line with that of the sick in our general hospitals. There is for this class of cases a ward in our hospital with twelve beds and twelve side rooms, and it is managed by four nurses during the day, and by two nurses at night. The matron of the male department, who has no duties to perform in the kitchen or laundry, can give, on that account, great personal supervision to the sick ward, and as she is a trained hospital nurse, the management of the ward, the nursing of the sick, and the training of the nurses, quite conform to that of a similar ward in a general hospital. The difficulties that arise are solved on similar principles. For example, if a suicidal patient at night wishes to attend to the calls of nature, it would be

exceedingly unpleasant for the nurse to accompany him to the w.c.; but this is not necessary, for the solution of the difficulty that at once occurs to a hospital nurse is to make him use a night stool and place screens around him. Another class of patients who are on a similar footing to the sick are the paralysed, the aged, and the infirm, and these are nursed in a special infirm ward containing twenty-three beds, with twelve side rooms, by a staff of four nurses by day, supervised by an assistant matron, who is also a trained hospital nurse, and by a staff of two nurses at night. The nursing in these wards is infinitely better than could be done by men, and the immediate supervision of trained hospital nurses brings it up to the highest possible level. In addition to these cases, who are more or less on the sick list, fifty other cases not confined to bed, including imbeciles, epileptics, and dements, who are unable to walk round the grounds, and who need considerable attention, are, with a sprinkling of workers and parole patients, under the charge of four more nurses, working under the supervision of the assistant matron already referred to. Lastly, besides those cases immediately under the personal charge of female nurses, the assistant matron has immediate access through an open door to the ward containing the chronic excited cases, and the matron gives personal supervision to the acute admissions and the suicidal cases, which, in addition to the sick, are treated in the hospital in an open day room. During the day, out of a total staff of thirty, there are altogether thirteen female nurses on the male side, and the head of the male side is likewise a woman. At night, out of a staff of ten on the male side, four are nurses, and the night superintendent is a woman, a trained hospital nurse. Out of forty-two persons engaged by night and by day in the care and supervision of the male patients in this asylum, nineteen, or practically one half, are women, three being trained hospital nurses.

Now, what are the advantages and disadvantages of this system? In the first place, it is certain that the sick and infirm are well nursed; bedsores are almost abolished, and the expenditure on cotton wool and methylated spirits has gone up proportionately; it is also quite obvious to those who have noted the transition, that those imbecile and feeble folk who have to be fed and cleaned and kept tidy receive

greater attention than formerly, for this is work that comes naturally to women, but is most irksome to men; lastly, the treatment accorded to over 100 patients, a third of the total number, and these consisting of all the most trying patients in the asylum, excluding the very excited, being in the hands of women, is of a gentle and persuasive character. The newly admitted acute and the chronic excited patients are under the charge of men, but are also indirectly under the influence of women, and even this limited supervision has greatly affected the conduct of the attendants towards these patients, and tended to the use of less force than formerly. The treatment of all the patients, therefore, who give cause for anxiety in asylums is beneficially affected by the presence of women, and it has to be noted that the only class of male patients not closely supervised by women are the quiet working patients, numbering about 180, who all live in a separate block, of whom nearly a half are on parole, and many of whom are well able to look after themselves in any surroundings.

That women should be able to do so much and so well in an asylum has surprised all who have watched the system grow. An intermediate stage between the present and the old system was a period when the male side was under the charge of a married couple, Mr. and Mrs. Macrae, now superintendent and matron of Haddington Asylum. They were able to initiate changes and to effect such improvements in the manners and habits of the patients, as have greatly facilitated the employment of nurses and the gradual extension of the system to its present maximum limits and hospital character. I have known it said by some that the male side of their asylums could never be managed by women, and one has come to regard this as a delicate compliment on the orderliness of this asylum, seeing that there is no difficulty here. It has also been insinuated that the male side of an asylum was not the proper sphere for women; but as it was said forty years ago that no respectable woman would be a nurse in a general hospital for adults, especially in the wards for adult men, one can obtain comfort from the thought that the former opinion is possibly no more true than the latter was. The men are very easily managed by the nurses, and the nurses, such as know both sides, say they prefer it to the female side, and the assistant matrons, who in rotation work on both sides of the

asylum, say that there is no doubt whatever that the male side is much easier to manage than the female. It undoubtedly gives satisfaction to the female relations of patients, and no argument is more powerful in allaying the anxieties of a mother or wife as to roughness than the existence of female nurses. Although the system has been in operation for over two years, I have no accident to record, no assault to describe, no scandal to report.

I have now one or two observations to record which may prove of value to others. (*a*) In the first place, the thin edge of the system, the employment of two or three women to assist in a male hospital, though of some, is not of great nursing value. Women will not perform many acts necessary in sick nursing in the presence of sane persons of the opposite sex, but will quite readily do them if left entirely to themselves. Such women then cannot do much nursing, but engage themselves almost entirely in the kitchen and scullery or in doing housemaid's work. To introduce effective nursing the place, large or small, must be handed over entirely to women.

(*b*) If nurses are employed by day in sick wards they should also be employed at night, and, of course, never singly. Not only is the work improved by this arrangement, but otherwise, the men and the women will not report to one another much of what they should, when they go off and on duty respectively.

(*c*) Nurses will perform all the operations needed in nursing if the sick or feeble person be confined to bed, but they object to attend to men inclined to soil themselves, if they are up and walking about with their clothes on. If it is not considered necessary to keep such persons in bed, they must go to a w.c., where they can be attended to in certain respects by a male attendant, especially charged with the care of these cases.

(*d*) Nurses cannot be expected to remain in dormitories when a number of demented patients are undressing themselves, or when they are getting up, though when dressed these patients may be placed under their charge by day. Attendants are needed for supervision at these times, and must therefore be drawn from other parts of the asylum.

(*e*) Bathing must be done by male attendants.

(*f*) Lastly, it is necessary to have in the dormitories a large number of folding screens, as in hospitals, so that the utmost decency be maintained. That the system may shipwreck on

many a rock such as this there is no doubt, unless care be taken, but that, on the other hand, it can prove a complete success, Miss Wise's administration of the male side of this institution clearly proves.

In carrying out the medical ideals I have advocated, I presume it is unnecessary to refer to the great advantage accruing from the fact that the head of the male side is a trained hospital nurse. As an indication of the high estimation in which she is held in the nursing world, I may state that she was second in the recent appointment of matron to the Royal Sick Children's Hospital in Edinburgh. I mention this fact as a guarantee of the class of woman who can hold such a post as matron of the male side of an asylum and as an index of the quality of the nursing on the male side. She also holds the Nursing Certificate, and has had considerable asylum experience. She has been treated with uniform courtesy and deference by the male staff; her orders have been respected, and no appointment I have ever made has produced less jealousy or ill-feeling. While the good resulting from this appointment to an immeasurable degree outweighs the evil, it is well to face up certain drawbacks. It is (*a*) impossible for the matron of the male department to be present at the weekly bath; (*b*) it is impossible for her to be present when the patients are just going to bed or just getting up; (*c*) a good male head attendant can be in closer touch with his men, and influence them for good, more especially in their hours off duty. These difficulties might be got over to some extent by appointing a male assistant, as was done here at first, but that plan has now been superseded, and the charge attendants are held responsible for their respective wards. It is true that all their other work is closely supervised, while these points referred to are left to the occasional inspection of the medical officers alone. This may be considered a weakness in the system, but it is not one that wrecks a scheme presenting so many other advantages.

Female Side.

The System of Assistant Matrons.

The principal feature of the day nursing on the female side of this asylum is the employment of hospital nurses as

assistant matrons, who are placed in charge of the various wards. Judging by their expressed opinions and practice, the majority of the medical superintendents in Scotland consider it to be to the advantage of asylum nursing to have a matron who is a trained hospital nurse. While coinciding with this view, I consider it to be of infinitely greater advantage and importance to have those in charge of our female wards trained hospital nurses, for while the duties of a matron must be mainly administrative, those of a nurse in charge of wards are almost entirely connected with the patients and their welfare. It has been said by some that hospital nurses never get into asylum ways, but my experience—which, I believe, has not been surpassed by any other person—has been quite the contrary. I have been simply astounded at the rapidity with which they make themselves at home and mistresses of their wards. In so far, however, as asylum ways run contrary to the tone, or short of the medical ideals of a hospital, the statement may be true, and it is an excellent reason for introducing them. I have stated that the inherited traditions of the past lie like an incubus on the present management of the insane. We must break with this past, and no method of breaking with it is better than that of employing as responsible head of a ward, a trained nurse with pure hospital ideals, who insists on the work being done in conformity with her principles. My whole object, as those who have followed me must see, is to bring asylum practice into line with that of general hospitals, and if the hospital nurses I employ do not take to certain asylum ways, but, on the other hand, introduce hospital ways, my object is in process of being attained. Of course, it is obvious that hospital nurses come to an asylum absolutely ignorant of much special knowledge that is essential for the management of the insane. They must for a short time be carefully supervised and coached by the matron and the medical officers, but if there are other hospital nurses in the asylum, they learn their special duties from one another very quickly and without any trouble. In order to get full benefit from this infusion of fresh blood, it is an important point to encourage these nurses to ask questions and to offer original suggestions. The remarks of an intelligent observer with an open mind are always interesting, and occasionally their ideas contain suggestions of the utmost value.

I consider my indebtedness to the nurses I have trained to be very great indeed. It has been said that the ordinary asylum nurses object to having these hospital nurses, who do not know a tithe of what they do, placed over their heads; but if discretion be used in their introduction actual experience does not confirm this. The hospital nurses I have appointed as assistant matrons have all been able women, who have been most carefully selected, and they are usually older than the average asylum nurse. These facts, in conjunction with the prestige attaching to a hospital training, have at once given them great authority and have commanded respect. The fact that they are treated differently, dine at a separate table, are called assistant matrons, and also openly aspire to and obtain asylum matronships elsewhere, places them beyond competition; and the asylum nurses are, therefore, not jealous of their authority, whereas when one of themselves is placed in authority there is always some jealousy and ill-feeling created. It increases their pride in their work to have the assistant matron working at the same duties as themselves, and it has directly inspired many of them with the idea of completing their training in a hospital. An indication, perhaps of great value, as to its popularity, has been the fact that there have been fewer changes among the nurses since the system was introduced.

An impression has gone abroad that the assistant matrons interfere with the pay and promotion of the ordinary asylum nurses, but this is not so. Nurses get their annual increments of pay, their pay for special duties, and their pay for promotion, as formerly, and they get promoted into charge nurses as formerly. The assistant matron's appointment is a new creation, additional to all the others in the ward, and to say that it interfered with the pay and promotion of the ordinary nurses would be as legitimate as to say that the appointment of a lieutenant to a company interfered with the pay and promotion of the rank and file. It interferes with the nurses to this extent only, that whereas the matron formerly merely passed through the ward, she now leaves a deputy to be always present to see her orders carried out, to prevent roughness, to report misdemeanours, and to set a high ideal of work and duty. It is possible, human nature being what it is, that an old charge nurse would object to the

presence of this deputy matron, and would call her supervision interference; but recognising this point, I have always waited till the old charge left before I introduced the new assistant matron, and the new charge nurse has always signalised her promotion by being exceedingly pleasant all round.

It is well to be considerate of the vested interests of the staff, but there is a more important consideration than this, and that is the interests of the patients, a point which most critics of this system appear to overlook. I am convinced that by the employment of this system of assistant matrons most of the evils I have mentioned in the introduction of this paper, as they exist on the female side, tend to disappear. To disperse these evils two agents were needed on the female side: first, *a higher ideal of work*, and this is now supplied by the hospital trained nurse, who is a tangible example within the wards; in the second place, *reliable supervision*. In the past the charge nurse was supreme, but as she was one of themselves she had deficient authority over the asylum nurses, and perhaps sympathised with them. The result was poor discipline, and offences, even serious ones, were seldom reported.

Under the system of assistant matrons responsible for the wards, and working in them, more and better work is done, and misdemeanours, which have as a consequence become much fewer, are loyally reported. I may state, in conclusion, that there are three assistant matrons on the female side, and one on the male side, and the night superintendent also ranks as one. There are thus five assistant matrons in this asylum, all certificated hospital nurses. They are all engaged at £40 per annum for a period of two years, during which time they take the Nursing Certificate, and are trained in every ward, and in all the duties of asylum management. They all aspire to become asylum matrons, and judging by the success of five predecessors, they should all obtain the object of their desires in course of time.

Conclusion.

In concluding this paper I am conscious that much expressed in it will jar upon the feelings of many who are greatly my seniors, and for whom I have respect and reverence. It is inevitable, from the nature of the subject, that this must be so, however guardedly my observations and opinions are

expressed, for it criticises hallowed traditions and shakes fixed beliefs. To have one's formed habits and established ways of thought thus upset, or if not actually upset at least disturbed, is not a pleasing experience. I am quite ready to admit, however, that I may be wrong in the methods I have adopted to overcome difficulties, but I submit that they are an honest and a carefully thought out effort to rectify the evils that exist. I admit that it may be by other methods that these evils will finally be overcome, and I am prepared to adopt any method that offers a hope of amelioration. I, however, assert that the evils I point out are not imaginary, but are very real, and my observations are supported by many friends who do not agree with all the remedies I have adopted. If the reader, therefore, discovers defects in any new departure I have adopted, let him temper his criticism with a consideration of the means he himself is prepared to adopt to remedy the existing deficiencies of asylum treatment.

The ideal I have set is a simple and a tangible one, that of treating the insane in an asylum strictly according to hospital and purely medical methods. It is not a new one, the idea is constantly on our lips. Some years ago Sir James Crichton Browne and others proposed to build a new asylum for the insane in London, and to start it from the beginning on purely hospital lines; it is at present proposed to open wards in the Royal Infirmary of Edinburgh for the treatment of incipient and transient forms of insanity. It has been my object, by the methods I have described, to abolish, as far as possible, features peculiar to asylums, and shown to be injurious or unnecessary, to elevate the standard of nursing and duty to that of the general hospital, and to make an asylum for the insane in reality a hospital for the treatment of a special disease run on hospital lines under the supervision of fully trained hospital nurses. The more nearly this object is attained the less difference will there be between an asylum and a general hospital, and the more nearly will the asylum and the care of the insane be to a state of ideal perfection, for, as I have already said, the great general hospital is the most perfect embodiment of the practical efforts of humanitarianism and medical science at present known to us.

(8) I desire here to express in other respects my concurrence in theory and in actual practice with the principles laid down by Dr. Keay.

Discussion

At the Scottish Divisional Meeting at Larbert, 29th November, 1901.

Dr. Clouston said that, as he had been called upon, he had very great pleasure in expressing their indebtedness to Dr. Robertson for having asked them to come there, and for having taken the trouble to describe in his paper the system in operation in that asylum. He was quite certain that none of them were too old to learn, and that any man who devoted himself so enthusiastically to the advance of asylum work as Dr. Robertson had done, and resolutely made an attempt to get over its weak points, would have their support. He thought that when a man came before his brethren and described the results of what he had done, and introduced a new system, whether they agreed or did not agree absolutely with him, it was quite certain that they would be all the better for having heard the paper. In regard to the paper, one might say that, in the first place, it would be a poor compliment to Dr. Robertson if they were simply laudatory, and said that it was all very good, that they agreed with all they had heard, and not make any criticism. He thought it would be also far from complimentary if they did not ask him some questions. The key-note Dr. Robertson had struck was that, as they now nursed sickness in general hospitals by the best methods, the insane should have the benefit of the same methods. One of the results of the new system had been that they had developed an extraordinarily perfect hospital administration, and that we saw crowding into hospitals some of the most educated women and the best brains of the female sex to nurse the sick. Dr. Robertson had said, "Let us imitate this system, and let us carry out the same thing in our hospitals." He thought that in regard to these principles they were absolutely at one, and that they should certainly carry them out in hospitals for the insane. He thought, however, that Dr. Robertson had passed over certain of the obvious differences between the symptoms of the insane man and those of the sane man suffering from pneumonia or typhoid fever. Taking, for instance, the putting of patients to bed, they knew perfectly well that many insane people did not require to be put to bed for the same reasons that a pneumonic patient required to be put to bed. The sick man in the hospital must go to bed; his sickness absolutely requires it. The sickness of the insane man presupposes no such thing, and they all knew that in a vast number of these cases the higher brain was evolving an amount of morbid energy which found an outlet in walking and talking, and in various other ways of that kind. They naturally asked if it was not contrary to the ordinary instincts of reasonableness and physiology to put all these patients to bed. How was that morbid energy to find a safe and a physiological outlet? He did not agree with Magnan's routine treatment; and he had heard that there was often a perfect pandemonium in his wards. It was a perfect scandal seeing patients running about in a half-naked condition, and pretending to be kept in bed when they were not in bed. He was quoting from a man who saw it lately. He believed that a considerable number of their patients should be put to bed, a larger number than was so treated formerly, but he drew the line in certain cases, and he said that it was bad physiology and bad therapeutics to bottle up motor energising in all cases. Passing to the question of the employment of women in male wards, they all knew that women had unquestionably the instincts of nursing to a greater degree than the male sex, and on that point he was inclined to agree to a very large extent with Dr. Robertson; yet they must not shut their eyes to the fact that men ruled men best, and women governed women best as a general rule, and that questions of danger and decency came in and had to be provided against. He would say there, and with great pleasure, that he had spent part of the night going about the wards of the asylum in which they were met along with Dr. Robertson, and he was impressed deeply with the quietude and with the practical success of the system which he saw in operation. They had lately transferred a number of their patients from Morningside, because they had not room for them. They were taken chiefly from the chronic cases. Dr. Robertson had the bad luck to get one or two of the worst patients in Morningside. He was beyond measure astonished and exceedingly pleased to find a woman

who, when in Morningside, was a homicidal dangerous inmate, and a most objectionable woman, and when there never slept out of a single room, lying calmly and sweetly asleep in one of these big observatory dormitories. He thought that Dr. Robertson had carried out the system more perfectly than even Dr. Elkins, and he had carried it out in a way to benefit his patients in a very high degree. In regard to the employment of women in the male side of the house, he thought that was all a question of degree. He said they had all done more or less what Dr. Robertson had done, but he had done it in a much more systematic way than most of them had done. He would point out, however, that under the name of hospital nursing Dr. Robertson was establishing a very aristocratic system. He knew that they would all like that every nurse and every attendant should be a conscientious, kindly, refined, duty-doing, and duty-loving person. He thought that they had all been trying to secure such a staff. Dr. Robertson takes a woman from a general hospital, a person of superior social standard, and puts her in charge of every ward. He asked if Dr. Robertson would tell him whether that added to the self-respect of the ordinary asylum nurses or not. He would point out to Dr. Robertson that he was running the risk of having the head of the ward highly qualified and doing her best, but with all the other nurses in a position that was disheartening and even lowering. Dr. Robertson had said that this was no practical objection, and he was extremely glad to hear it; but for himself he would rather raise and train his old nurses as a principle than put a hospital nurse over each ward. His ideal was not Dr. Robertson's ideal in that matter. The nursing in a general hospital and that in an asylum differed in many ways, and he often found first-rate hospital nurses most incompetent in consultation practice. Looking to the future, he would rather go in for the idea of raising all asylum nurses up to a high level. Taking a hospital nurse and putting her in that position did not eliminate her original sin; she was still a woman, and it was to be presumed she had all the evils and good qualities of womankind. They must keep in mind the large number of persons they needed for their service, and that in those circumstances it was better to pick the best of a numerous class than have to take the second-best of a less numerous one. Dr. Robertson had made an appeal to him personally, and he would make an appeal to Dr. Robertson and ask him whether the women's hospital at Morningside could have been conducted better in any one way than Mrs. Findlay had conducted it for the last twenty-eight years. He therefore thought that they might get what Dr. Robertson wishes to attain without going about it in the way that he does. He would much prefer to place in charge of many of his wards women of the right sort promoted from the ranks. Let them send the fittest of their present nurses for a short hospital training, and let them get into their hospitals some fully trained general nurses, so as to combine the strong points of both systems. He could not sit down without expressing his sense of the great benefit he had derived from hearing Dr. Robertson's paper and seeing his results. An enthusiast will make any system work, and by experiment and by running risks their department had in the past benefited incalculably. Dr. Robertson had perhaps put on his colours a little too vividly, but he was well aware that faults in asylum administration did exist. He was not there to deny that, and he thought that every man who endeavoured earnestly and honestly as Dr. Robertson had done to diminish these faults was doing a great service to the insane, and for that they owed him gratitude and admiration. (Hear, hear, and applause.)

Dr. YELLOWLEES thought that the world owed a great deal to its enthusiasts, and that it was well that some enthusiasts had so much wisdom in their enthusiasm as Dr. Robertson's paper had shown. He agreed with much of what he had said, but some things he would be disposed to question. Dr. Robertson had first of all condemned single rooms with an emphasis which was quite unreasonable. He thought that a single room was more frequently a privilege to a good patient than a place of confinement for a bad one. He knew that a vast majority of his single rooms were so regarded. Of course, single rooms could be abused, but he was astonished to hear them condemned as Dr. Robertson had condemned them when he said that he regarded the use of a single room in the same light as he regarded mechanical restraint. He thought that was going over the line and quite unreasonable. He knew that there were many patients who were certainly quieter and

better when they were in single rooms than when they were in dormitories. Certain patients had the feeling that they were annoyed and tormented in a dormitory, and he thought that they should have single rooms, and should not be made to sleep where they were uncomfortable. He did not think that Dr. Robertson should glorify himself so much on the fact that he never put a patient in a single room. He scarcely knew what to speak about next, as the paper touched on so many questions. He quite recognised the need for improved nursing, but he thought that Dr. Robertson's remarks on present-day nursing were unjustly severe, though he had softened them towards the end. They all knew that some of their attendants were black sheep, but it was unfair to condemn them all as nurses, and to take women in their places, as if women had the monopoly of humanity and kindness. He thought that was going much too far. As to the value of women nurses in certain male wards there was no question. He adopted that system in Glamorgan, and regretted that he had not been able to use it in Gartnavel.

As to the treatment of maniacal cases by rest in bed, or by abundant exercise, he thought there were both classes of cases, and it would not do to make an absolute rule. He had of late years used the bed treatment much more than in former days, and he thought that on the whole a great proportion of the patients were better for being in bed in the early stages than if allowed to run about and exhaust themselves by needless expenditure of nerve energy. All depended on the wisdom of selecting the right treatment in the right case.

He said that he must emphasise what Dr. Clouston had said about the idea which seemed to have taken possession of Dr. Robertson, that the mere fact of "hospital training" creates the very superior female officers whom he values so much. He had no such reverence for mere hospital training as Dr. Robertson had. It was not the fact of hospital training which secured successful nursing here; it was the fact that Dr. Robertson took infinite care in selecting good women who did their duty admirably when hospital trained, and would have done it still better if asylum trained. It was all nonsense to suppose that the mere hospital training did it. He knew a good many hospital nurses to whom he could not entrust a patient at all. Hospital nurses and asylum nurses were entirely different. The hospital nurse must strictly obey orders and be observant, careful, and kind; the asylum nurse must be all this and much more: she must control the violent, and calm the excited, and cheer the depressed; her conduct and conversation are potent for good or ill to her patient, and she may at any moment have to cope with emergencies demanding the utmost care and judgment. This is far better and higher work than ordinary sick nursing, and gives greatly superior training, though it may well be supplemented afterwards by some training in the nursing of bodily illness. (Applause.)

Dr. RORIE said that he had nothing to add to what had fallen from Dr. Clouston and Dr. Yellowlees as to how much they were indebted to Dr. Robertson for his paper. Referring to the use of single rooms in the treatment of violent patients, he said that during the last twelve years he had not had any cases of seclusion of patients during the day. He had a very strong feeling that the seclusion of these patients had a marked effect in demoralising the condition of the patients and in prolonging the state of excitement. He said that he had these acute maniacal cases treated in the dormitories, and he found that the association with other patients and the supervision entailed shortened the period of excitement. With regard to the question of night supervision, he had changed that also to a very considerable extent. On the female side, where there are about 240 patients, he had seven night nurses, and there had been a very marked improvement in the reduction of the number of cases that required to have separate rooms for themselves during the night. He said that he had no experience of female nurses on the male side of the house, but from what he had heard and what he had seen elsewhere he was satisfied that the introduction of that system was bound to have a very efficient result. He thought that the ideal standard which they should set before them in the treatment of the insane was that which existed for the treatment of bodily diseases in the best general hospitals. He found that the system of putting newly admitted patients for a week or ten days to bed had a beneficial effect in regard to their future progress.

Dr. MARR referred to the satisfactory results which had been obtained at Lenzie by adopting the plan of keeping the noisy patients in an associated dormi-

tory at night. His experience had caused him to form the opinion that it was desirable to appoint a nurse, who had been trained in a general hospital, to act as supervisor of the night nurses. He approved of treating all patients, on admission, in bed, and certain patients, particularly cases of acute melancholia, benefited by resting in bed for a considerable time.

Sir JOHN SIBBALD, who was presiding, said that, in his opinion, no more interesting subject had been brought before this Association. He quite agreed with Dr. Clouston and Dr. Yellowlees in their appreciation of the valuable results which should accrue from the efforts of an enthusiast imbued with Dr. Robertson's ideas. He said that he was strongly inclined to hold the view that Dr. Robertson was right, and that they would all come to think very much in that direction if they had not done so already.

Dr. KEAY said that he would like to express to Dr. Robertson thanks for his paper, which he thought was a most valuable one. Without going into details he would say that they were all agreed about the necessity for giving up locking our noisy and troublesome patients in single rooms during the night. He thought there was no need to discuss that. As to the value of female nurses on the male side he could speak from their experience at Inverness during the past three and a half years, during which time their male sick wards and their male admission wards had been entirely under the charge of women. He thought that Dr. Robertson had mentioned, in regard to that matter, a very important point, and that was that they should be entirely under the charge of women, and that male attendants should have nothing to do with them. When he opened the new wards on the male side and proposed to put women in charge of them his idea was to put a trained hospital nurse with asylum experience in charge of each sick ward, and give her male attendants to work under her as orderlies; but here he met with opposition at once. The nurses objected to having male attendants to assist them, and explained the reason to him. There were many duties which a nurse had to attend to in the case of insane men that she would not do assisted by or in the presence of male attendants, and she was quite willing to undertake all the duties simply with the help of women. He took the advice and placed the wards entirely under the care of women, and the thing had gone on for over three years without any difficulty at all. He thought that Dr. Robertson was right in a great deal of what he said about the faults of attendants. That was a matter in which he was afraid they had been slack. He thought that it was not of much use to increase the night staff by putting on a great many more night nurses and night attendants if they did not have these nurses and attendants properly looked after. He thought that was the difficulty, and they might appoint head night nurses and head night attendants from their asylum staff without, after all, obtaining proper supervision and efficiency. He found that one attendant or nurse would not report another. On the contrary, they shielded one another, even though the patients suffered. He thought that what they wanted in charge of the night staff was what Dr. Robertson called a night matron to supervise the whole night staff of the asylum. He thought that nothing else than that would be successful, for the male as well as for the female wards. There was one matter on which he must say that he did not quite agree with Dr. Robertson, and that was his plan of having hospital-trained women without asylum experience as assistant matrons to have charge of wards. What was to become of their asylum nurses and attendants if that was carried out fully? There was nothing before them; they had no promotion to look forward to. They would simply remain ordinary asylum nurses and attendants, and had nothing to hope for beyond that. He did not see why asylum nurses and attendants, if they were of the right material to begin with, and if they were properly trained, should not be capable of doing all that was required. He did not see any advantage in having hospital-trained women in charge of the ordinary chronic asylum wards. He would again thank Dr. Robertson for the most instructive paper that he had given.

Dr. BRUCE thought that this was one of the most interesting papers that they had had at these sectional meetings for many a year. He only wished that in the sectional meetings in the future they would have papers as interesting. He said that the time was very short now, and that he must confine his remarks largely to criticism of points on which they did not agree. From the small experience that he had had he thought that Dr. Robertson was right in most of his details. In

the nursing of sick people, even where there were noisy cases, the proper person to have charge of these people was a woman. He thought it was not a man's duty to be in the sick room. The majority of the men abhorred the work and did not do it properly. Until they had their hospital wards in charge of nurses he did not think they would have any satisfaction in working them. When he went to the asylum at Murthly there were four nurses in charge of the men's sick ward and hospital, and they discharged their duties admirably. Men who were troublesome and dangerous in charge of male attendants when taken and looked after by women often became quite quiet and did everything they were told. With regard to night duty he thought also that Dr. Robertson had probably struck a fairly sound note. He did not know whether he would have a woman in charge of the night staff. He thought it would be a very good method, but there were certain difficulties in his way at Murthly. He had gone on many occasions round the wards, and he could not tell how many night attendants he had found asleep on duty. If he found them asleep on duty once he could not tell how many times they had been asleep before that and never reported. He found on one occasion three men asleep on duty out of a night staff of four men. The only man who was awake—and he presumed he could not sleep—was the man who visited the wards. He believed that some one in a better social status was absolutely necessary for the night supervision of asylums. There were two points upon which he did not agree with Dr. Robertson. First, that three single rooms per hundred patients was sufficient. He would go a good deal further than that, and say one to ten was the proper proportion. The other point which he thought Dr. Robertson was off the line was when he put hospital nurses in charge of his nurses. He had had a year's experience of that, and he had cleared out the hospital nurses and put a good matron in charge of the whole house, and he had never had any bother since. He found when he cleared these hospital nurses out that the junior nurses were very ignorant. He understood that the hospital nurses were to teach the asylum nurses certain nursing duties, but he found that they did not do so. Those who were directly under the hospital nurses had picked up what they did know by simply watching very carefully, and he asked them individually how much they had learned from Miss So-and-so. They said that they were not taught anything, and from the examination he made he was perfectly certain that they were not benefited by the system. The truth was that the hospital nurse gained her knowledge by a considerable amount of trouble, and she did not care to pass that knowledge on to some one else for nothing. Since they got rid of the hospital nurses two of the junior nurses had developed sufficiently to be made charges. He did not know a better nurse than the girl who was in charge of the hospital now. She showed no signs of being a good nurse under the hospital nurse system. He really thought that on that point if they wanted to advance they would have to improve the asylum nurses as a whole.

Dr. CARLYLE JOHNSTONE said that they all agreed with Dr. Robertson in the main. He did not think that there was anything revolutionary in the principles which he advocated. They had been working on the same lines for the last two or three generations, though some of them, owing to structural conditions or other difficulties, were still unable to carry out their views in full detail. There were many interesting minor points in the paper, but, after all, these were not of vital importance. They need not quarrel over the question of "hospital" nurses, for that was merely a question of names. What they all believed in was that the attendants on the insane should be *nurses* in the best and widest sense of the term. An asylum attendant was much the better for being a hospital-trained nurse, but a hospital-trained nurse was of little use in an asylum until she understood the special requirements of the insane and possessed the necessary qualifications for dealing with them. As to the question of single room *versus* dormitory, he did not think that there was any special virtue in a dormitory or any special vice in a single room. The essential thing was that the patient should receive the care and treatment which was suitable to his particular requirements. Sometimes this could be best attained in a single room and sometimes in a dormitory. No doubt all of them had been guilty of the abuse of single rooms, and they had most of them found out that they did not require nearly so many of these rooms as had once been considered necessary; but it appeared to him that there might

also be an abuse of the dormitory, and that it was both unreasonable and cruel to insist on all cases being treated in associated dormitories. Seclusion, that was to say placing the patient in a room apart from others, was not merely a justifiable means of treatment, but a very proper and necessary one in many cases. One did not need to be a doctor to appreciate the truth of this. As Hezekiah in his sickness turned his face toward the wall, so it had, from all time, been the natural desire of those who were distressed or troubled in mind to find a refuge in solitude from the importunities of their fellows. Dr. Robertson might say that these poor sufferers did not know what was good for them, but he imagined that Dr. Robertson himself would prefer single room treatment to dormitory treatment in his own case. With reference to Dr. Robertson's practice of putting a "hospital" nurse in a ward as a sort of supervisor over the charge nurse, he feared that this would lead to difficulties, and that it was not calculated to raise the standard and the efficiency of the under nurses. At the same time he quite approved of having a certain proportion of hospital-trained nurses in charge of certain large sections of the institution, provided, as he had said, that these hospital nurses were given a thorough training in the special requirements of the insane, without which they were likely to be more ornamental than useful. He wished to repeat, what he had urged in season and out of season, that one of their most important duties as guardians of the interests of the insane was the systematic practical training of their staffs, and this not merely by lecturing and exhortation, but by the continual methodical demonstration and practice of everything that was embraced within the general nurse's handicraft, so that from the humblest "attendant" to the most superior "hospital nurse," it should be apparent to every member of the staff that they were all engaged in *nursing sick folk*. He felt bound to add that the description which Dr. Robertson had given of the ill-treatment of the insane under somewhat old-fashioned conditions was, in his opinion, an exaggerated one, and he must say that if abuses existed such as had been described, then he should be more inclined to lay the blame on the superintendent than on the attendant; and he would suggest that, if these abuses were to be removed, a more revolutionary change was called for than the mere introduction of hospital nurses.

Dr. TURNBULL agreed in the main with what had been said by the other members. In regard to the nursing of asylum male patients suffering from bodily infirmity or sickness by female nurses, he thought they were now all agreed that it is a very desirable step and a perfectly practicable one. In Fife they had passed through the same experience which Dr. Robertson and Dr. Keay had referred to. Structural peculiarity in the buildings had made it impossible to introduce female nursing on the male side as early as he would have liked, but when a new hospital block was erected advantage was taken of it to place the male sick room in the centre of the building, where it could be easily reached from the female side. He had at first intended to have one or more male attendants also in the sick room, but the nurses, while willing and anxious to do the work, had a strong feeling against undertaking it in association with attendants. He had, therefore, made the experiment of putting the sick room entirely under female charge, and in his opinion it had proved an unqualified success, good both for the patients and for the staff. He had been struck with the very small proportion of cases requiring sick-room treatment that had to be kept out on account of the female nurses being there. Often they were free altogether for long periods from any case of that kind, and even over a series of years he had found that the proportion of such patients was certainly not more than 5 per cent. In the Fife asylum the senile cases were generally placed in the sick-room, and in asylums where the population was so large as to require separate wards for senile and sick cases he thought there would be no serious difficulty in placing the senile ward as well as the sick room under female charge, as Dr. Robertson had done in Larbert asylum. In regard to dormitory observation at night he agreed with Dr. Robertson as to its great value, but thought that certain details should be kept in view. Like all of them he had felt that patients placed in single rooms were apt to be neglected and to fall into bad habits, and about ten years ago he introduced an observation dormitory for chronic cases with a nurse on duty in it all night, and a number of cases that had formerly been constantly in single rooms were placed in it. He remembered well the difficulty he had in

persuading some of the older officials that such a step was possible; but the dormitory had been kept in regular use, and the patients much improved thereby. In the observation dormitory for recent admissions it should be kept in mind that sometimes one troublesome patient would interfere with the sleep of all the others in the room, and the mere fact that nurses were there and were necessarily moving about at times seemed to have to some extent a disturbing effect on certain patients. At any rate he had several times noticed that convalescent patients were very grateful when they were removed from the observation dormitory, and passed on to a room or dormitory in which there was not the same amount of movement going on at night. He believed that the practical value of dormitories lay entirely in the fact that supervision of a large number of patients was more conveniently carried out and more likely to be kept up steadily there, but thought that certain other requirements were better met by single rooms, and that the latter were properly adopted if the supervision of patients in them was still kept up to the desired standard. For instance, there is a distinct class of patients who are unduly irascible and quarrelsome, who (as it were) respond too actively and in a morbid way under ordinary sources of irritation. He thought that these cases, both for their own sakes and for the sake of the other patients, were distinctly better when placed in single rooms, and by making suitable arrangements it was quite possible to have them in rooms by themselves, and still to keep up all the supervision that is desirable.

Dr. FARQUHARSON said that he had come there to learn something about the methods of Scottish asylums. He had listened with great interest and a good deal of profit to Dr. Robertson's excellent paper, and also to the very valuable discussion which had followed it. He agreed with many of the points mentioned by Dr. Robertson, and so many of the speakers had gone over them in turn that there was very little left for him to say. The asylum of which he had charge was a building of not very recent date, and, owing to its construction, was not altogether adapted for putting female nurses in charge of the male sick wards, but it certainly seemed to him a very proper thing to do if the circumstances permitted of it. He hoped that in course of time he would be able to do it. With regard to the question of keeping patients in seclusion, he might say that during the three years he had been a superintendent it had very rarely been necessary to seclude a patient in the daytime. At night they had certainly a very large number of single rooms occupied, but the majority of these rooms were really a privilege for the better conducted patients. A few of them were used for troublesome cases, but the majority of such cases were kept under observation in dormitories where there were nurses all night.

Dr. ROBERTSON said he had to thank them very much for the manner in which they had received his paper, and also for the criticism that had been offered. He had great pleasure in receiving them that day in the Stirling District Asylum, and he thanked them for coming in such numbers, there being representatives present from most of the asylums in Scotland. As had been pointed out by others, he thought there was probably not very much difference between his point of view and that of some of the speakers who, however, had criticised the details of the paper. The details were quite a matter of secondary consideration, and it was important that on broad principles they were more or less at one. Owing to the short time at his disposal there were only two points that he could refer to. One was the question of the assistant matrons. He could see perfectly well that the feeling of the meeting was against the employment of hospital nurses on the female side, and he deplored this greatly from his desire to see improvement taking place in asylum nursing. Some thought that it created a class, and in that way had a tendency to lower the status of the ordinary asylum nurse. He might say that his aim, object, and intention in the introduction of these nurses was to benefit the insane and to improve the position of the asylum nurse. He had no intention whatever of lowering them. He was, moreover, perfectly certain that the system had elevated the ideals of the nurses, and it had increased their self-respect to have working beside them nurses who had completed their hospital training. In no respect had he found, after five years' experience, that it had acted disadvantageously. Others had said that it would stop all promotion, but it does not; there is absolutely no change from what took place in the past. The only appointment that was probably more definitely kept back from them was the

appointment of matron. He would like to know how many medical superintendents present had appointed matrons from the ordinary asylum staff. He doubted if in recent years there were more than one or two who had ever done so, therefore no appointment had been kept away from the asylum nurses by his system. It had encouraged them to nobler efforts and to complete their training in general hospitals, and as a matter of fact a number of nurses who had come in contact with these hospital nurses had, after obtaining their nursing certificate, gone and completed their training in the general hospitals. He had no doubt that some of these would come back to the asylums to fill the higher posts. He simply made these statements to prove that his idea in appointing these assistant matrons was to improve asylum nursing and to raise the position of the present asylum nurse, and he believed that the results justified his actions.

In the second place, with regard to the use of single rooms, he had demonstrated that the confinement of patients in them at night was no longer a necessity in asylums, however advisable it might be in exceptional cases. He had stated that 3 per cent. of single rooms was ample to meet the requirements of all these exceptional cases, though the existence of a much larger percentage was of value as bedrooms for privileged quiet cases, and for the treatment of special diseases as erysipelas and consumption. He quite agreed with Dr. Johnstone as to the benefit certain cases received from the quiet seclusion of a single room, but if these cases needed supervision a special nurse should be present, and he was quite opposed to the practice prevailing at present of locking up the patient. The system of locking up patients in seclusion was liable to great abuses, and he had found it almost impossible to check these abuses except by totally abolishing the system. On one occasion, many years ago, after acting, as he thought, with great care, he had ordered a girl suffering from adolescent mania to be confined in the padded room. She was kept there for several days, as every day, during his visit, he received graphic accounts from the nurses of her violence and excitement, till one nurse came to him secretly, and informed him that the reports he was receiving of the frightful violence of the patient were quite untrue. Here was a patient under this system of seclusion suffering unfair and most improper treatment under his eyes, and, but for an accident, it would not have been discovered. He would not deny that locking up patients in solitary confinement, as defended by Dr. Yellowlees, had not occasional advantages—at one time superintendents pled strenuously for the retention of even mechanical restraint and strait waistcoats on account of their usefulness,—but any systems such as these, liable to gross abuse, were better abolished, and it was absolutely certain, from his results, that solitary confinement, especially at night, was greatly abused at the present time. To save the nurses trouble and the asylum expense, patients were being systematically locked up at night who should be under the constant supervision of nurses. He had very gratefully to thank Dr. Clouston for the statement he had made with regard to the system of night nursing. It would go very far towards establishing the system, and extending the belief in its merits, which, however, appear to be now recognised in Scotland.

The employment of women on the male side had met with their expressed or tacit approval, and he would not delay them by referring to it. He was sorry that his remarks had prolonged the discussion, as the time at their disposal was so insufficient.

Some further Remarks upon Night Nursing and Supervision in Asylums. By FRANK ASHBY ELKINS, M.D., Medical Superintendent, Metropolitan Asylum, Leavesden.

A PAPER upon the subject of "Night Nursing and Supervision in Asylums," by Dr. Middlemass and the writer, was

read at the Annual Meeting of this Association in 1899, in which the practices pursued and the results obtained at the Sunderland Asylum during a period of four years were fully dealt with, and it was advocated—

1. That the night arrangements in asylums be closely approximated to those which exist in general hospitals.

2. That all acute, noisy, dirty, and destructive patients be placed at night in dormitories under constant supervision, and be removed only when it is evident that they have ceased to require such special care.

It is not claimed that what was attempted and done at Sunderland Asylum was any new departure in asylum management, for it was known that in the minds of asylum medical officers there was dissatisfaction with the nursing and supervision of the insane at night, and it was also known that in a number of asylums the advantages of having a larger night staff were realised, and in some cases acted upon.

Dr. Middlemass will say what further there is to be said respecting Sunderland Asylum, whilst it is proposed in this paper to raise points for discussion in describing the night nursing and supervising arrangements at the Metropolitan Asylum, Leavesden, where all the patients, without exception, sleep under constant night supervision.

It is not advocated that in every asylum there ought to be continuous supervision and nursing of every patient during the night. That is a matter to be settled by the medical superintendents of the respective asylums, and largely depends, it is presumed, upon the class of patients housed, and the kind of sleeping accommodation provided.

Leavesden is believed to be the only public asylum where a nurse is placed at night in charge of every ward and dormitory, but this is considered both justifiable and necessary under the circumstances now to be described.

The metropolis supplies Leavesden Asylum with the most miscellaneous collection of human wreckage which, it is probable, has ever been accumulated in an asylum.

No patient under sixteen years of age is admitted, so that no children are found in the wards, and patients dangerous to themselves or others are not supposed to be admitted, although, during the two years 1900 and 1901, thirty-five such cases were transferred to the London City and London County

Asylums, the Leavesden staff not being sufficiently numerous to deal with suicidal and dangerous patients.

The bodily state of the admissions is shown in the following table, which deals with the two years 1900 and 1901 :

	M.	F.	Total.
In good bodily health and condition .	2	0	2
In average bodily health and condition .	13	1	14
In indifferent bodily health and condition	40	27	67
In weak bodily health	66	94	160
In very weak bodily health and exhausted condition	38	41	79
	159	163	322

The weak and very weak include all patients suffering from physical disease, including epilepsy. It is rare to admit a man or woman capable of doing any work, and many of those admitted can only be treated in an infirmary ward.

The workhouses of London and their lunatic wards send numbers of restless, broken-down senile cases, many epileptics, general paralytic men and women who have not exhibited the classical symptoms of the disease, and are therefore not readily diagnosed by the workhouse medical officers, demented drunkards in an exhausted state after years of drinking, imbeciles and idiots of all kinds, cases of circular insanity and recurrent mania, paralytic and other nervous cases, patients with advanced bodily disease and some mental symptoms superadded, crippled and deformed people with minds full of suspicions, cranks and delusional cases, odd cases which cannot be included, without an act of mental reservation, in any of the tables prepared by the wisdom of this Association, and a small proportion of possibly curable cases, among which may be mentioned some alcoholic cases, some climacteric cases, and some other cases of mania, melancholia, and stupor. The London City and London County Asylums send some of their dements and oddest patients, certifying them incurable, harmless, and suitable for Leavesden.

Out of a population of 1780 patients, about 350 are suffering from tuberculosis, whilst 400 more are in the infirmary wards, making a total sick of about 750, whilst many more aged and feeble are in the ordinary wards. There are nearly

400 epileptic patients in the asylum, some of whom are treated in the infirmary wards and some in the ordinary wards.

Such, then, is the character of the population which has to be dealt with at Leavesden.

Turning now to the sleeping accommodation provided, the following table supplies the information:

No. of ward.	Character of ward.	Single rooms.	No. of patients.
F. I.	Ordinary infirmary	4	54
F. I *a.*	Tubercular infirmary	4	39
F. I *b.*	„ „	4	39
M. II.	Ordinary infirmary	4	54
M. II *a.*	Tubercular infirmary	4	39
M. II *b.*	„ „	4	39
F. III.	Admission ward	0	50
F. III *a.*	Ordinary infirmary	0	50
F. III *b.*	„ „	0	50
M. IV.	Admission ward	0	50
M. IV *a.*	Ordinary infirmary	0	50
M. IV *b.*	„ „	0	50
F. V *a.*	Dormitory	0	75
F. V *b.*	„	0	75
M. VI *a.*	„	0	75
M. VI *b.*	„	0	75
F. VII *a.*	„	0	75
F. VII *b.*	„	0	75
M. VIII *a.*	„	0	75
M. VIII *b.*	„	0	75
F. IX *a.*	„	0	75
F. IX *b.*	„	0	75
M. X *a.*	„	0	75
M. X *b.*	„	0	75
F. XI *a.*	Tubercular dormitory	0	60
F. XI *b.*	„ „	0	60
M. XII *a.*	„ „	3	43
M. XII *b.*	„ „	3	43
F. XV *a.*	Dormitory	0	55
F. XV *b.*	„	0	55
		30	1780

Besides the attendant or nurse in charge, there is at least one other sleeping within call in a room off the ward or dormitory.

It must be explained that until recently the population numbered 2000, but on account of the high prevalence of tuberculosis, and the necessity of giving a greater amount of air space per head, especially to those affected with tubercular disease, the Asylums Committee of the Metropolitan Board reduced the accommodation provided to 1780 beds, the advanced tubercular cases having 100 square feet of floor space by day and by night, the incipient tubercular cases having 60 square feet of floor space by night and 30 square feet of floor space by day, the ordinary infirm and sick cases having 850 cubic feet by day and night, and ordinary cases having 500 cubic feet by night and 300 cubic feet by day. The above figures are not ideal by any means, but economic and other considerations had to be thought of in apportioning the amount of air space to be given to each patient.

It may be said at once that dormitories and infirmary wards to accommodate such large numbers are a mistake, because of the difficulty of supervising and nursing each individual in them, but experience teaches that an asylum containing only small dormitories, small infirmary wards, and numerous single rooms, is equally a mistake for rate-paid patients, because proper supervision and nursing, both by day and by night, can only be obtained at great expense, by means of a very large staff. These remarks, of course, do not apply to asylums for the reception of private patients.

As to the number of patients that can be looked after at night by one nurse, it is suggested that in a ward for acute, feeble, and sick patients, the limit should be placed at twenty-five, whilst in a dormitory for quiet patients, requiring raising on account of their habits or attention during a fit, the number might be about forty or fifty.

At Leavesden Asylum there are but thirty single rooms, some of which are padded, and all of which open off the wards, the doors being left open at night to facilitate inspection by the night attendants. They may be regarded as privilege rooms, because they are occupied by trusted patients, many of whom help in the work of the ward. Some years ago these rooms, in common with similar rooms in some other asylums,

were inhabited at night by restless, noisy, troublesome, dirty, and destructive patients. Under such circumstances no real efforts could be made to find out the causes of the restlessness, sleeplessness, and noisiness ; and all these and other bad habits became confirmed, instead of any attempts being made towards amelioration or cure ; no efforts could be made to cure destructive habits, and it came to be regarded as necessary for such patients to tear up a certain amount of bed and body clothing every night ; no efforts could be put forth to cure wet and dirty habits, and in the morning urine and fæces were smeared all over the floor and bespattered the walls, whilst the odour of the rooms occupied by such patients was inexpressibly nasty. No efforts worth mentioning were made to nurse and care for the single room patient during the night, and under such circumstances it was little wonder that he generally became worse mentally and bodily. The evil did not stop with the unfortunate victim, for often, by his shouts and by thumping at the door and shutters of his room, he kept many of the patients in the adjoining wards awake all night.

Nocturnal seclusion may occasionally be a necessity, as day seclusion sometimes is ; but it is urged that this method of treatment, like mechanical restraint, should be used most sparingly, and only on medical order. Nocturnal seclusion is, of course, justifiable in the case of homicidal patients, and perhaps in a few other rare instances, but even in these cases most careful arrangements should be made for their comfort, supervision, and nursing during the night. The more experience one has of proper night nursing, the less necessity there is found for nocturnal seclusion, and at Leavesden Asylum during the last three years not a single patient has needed to be secluded on the male side, whilst on the female side, during the last two years, since the system described above has been in operation, only one homicidal patient has been so secluded. Experience, too, has taught that whilst among the newly admitted there is little or no difficulty in nursing them in a dormitory at night, yet among those long accustomed to be secluded at night it takes a considerable time and much patient nursing before confirmed habits of noisiness, dirtiness, and destructiveness can be corrected, and such patients are very apt to relapse from time to time into their former evil ways.

In general hospitals there are side rooms off the wards with one, two, or three beds in each for cases of meningitis, apoplexy, and the like, where extra nursing and attention are needed by day and by night. This arrangement might very well be copied in asylums, some side rooms being attached to the infirmary wards. When, as would usually happen, the side room was only used by ordinary patients, then the door would be left open, and the nurse stationed in the ward would be able to give the room a general supervision; but when the room was used for the purpose for which it was built, then a special nurse would be placed in charge, and the door communicating with the ward, if necessary, shut. This, it is suggested, is a suitable arrangement in the case of specially suicidal patients, restless, feeble, senile patients, troublesome general paralytics, the dying, and other cases which readily occur to one's mind.

It is suggested that if modern asylums had followed the type of Leavesden Asylum, reducing the size of the wards, and adding side rooms to the infirmary wards, the Commissioners in Lunacy would not have needed to comment upon the great and hardly justifiable expense entailed in the erection and administration of new asylums for rate-paid patients.

The night staff at Leavesden numbers thirty-five officials. On the female side there is one head night nurse, who is the supervising officer; one charge night nurse, who usually acts as an ordinary night nurse, but when the head night nurse is on leave, takes over that official's duty; and seventeen ordinary night nurses. On the male side, the staff includes one head night attendant, one charge night attendant, and fourteen ordinary night attendants. As there are thirty infirmary wards and dormitories in the asylum, each under supervision, it will be seen that one attendant and two nurses act as reliefs. Occasionally, owing to sick or emergency leave of the night staff, or owing to the necessity of closely watching suicidal or other special cases, it is necessary to draw upon the day staff for further help. Exclusive of the supervising officers, the proportion of night staff to patients is about one to fifty-four, and this, it will be seen, is not an extravagant proportion.

As to the books kept by the night staff, a description of what is done on the male side will suffice, as on both sides similar books are kept, except that on the male side the

records are printed on blue paper, whilst on the female side white paper is used. The following are the printed headings in each ordinary night attendant's book :

No. of patients sleeping in ward.

Date.

No. of ward.

Wet and dirty.—Here are given the names of those actually wet and dirty during the night.

List of soiled linen, etc.—Verified and signed in the morning by the charge day attendant.

Having fits.—Names ; numbers of fits.

Restless and noisy.—Names.

Sick and requiring special attention.—Names.

Sleeping in single rooms.—Names.

Temperature.

Having stimulants.—With amount given.

Temperature of ward.—Taken twice during the night.

Complaints as to heating of ward.

Other matters requiring special reports, such as deaths, accidents, officers' visits, wet mattresses, reports of special cases, etc.

In the morning the head night attendant examines each night attendant's book, to see that it is properly kept, and then initials it.

In order that there may be continuity of treatment, the charge day attendant reads the night report every morning, and when, in the evening, the charge day attendant hands over his patients, together with the medicines and extras required during the night, he fills up a simple book of four columns :

Requiring medicine and extras.—Names.

Newly admitted.—Names.

Requiring special attention.—Names.

Remarks.

Bearing in mind that the head night attendant is a supervising officer, his night report is made as simple as possible, so that his time may not be unnecessarily taken up by bookkeeping. He reports only the important events to be found recorded, and all unimportant details can be sought for, if required, in the ordinary night attendant's book. The head night attendant's book, when open, presents two sides, one almost blank, and giving him a very free discretion, headed *Special observations*, and the other having the following headings :

The time when each round of visits was started.—As a rule, he pays five visits to the infirmary wards and four to the ordinary wards during the night, in no particular order, and the times of these visits are also recorded in the ordinary night attendant's book.

Temperatures of the wards.

No. of patients wet and dirty in each ward.

No. of wet and dirty articles in each ward.

No. of patients having fits.

Officers visiting the wards.

Patients taking medicine and stimulants.

He also has to answer in writing two questions every morning:

Have the duties of the night attendants been satisfactorily performed?

Have any omissions in the checking occurred, and why?

These books are very simple, answer their purpose well, and are easily kept, although a description of them on paper makes them seem somewhat complicated.

If we except a general but real supervision on the part of the medical superintendent, the assistant medical officers, the matron, and the other chief officers, upon whom does good night nursing and supervision depend? It mainly depends on having a really trustworthy supervising officer, who can be depended upon to report without fear and favour, who can be relied upon to act wisely in emergency, and who has training in mental and bodily sick nursing. Such an officer, occupying a position of real trust and responsibility, should have generous remuneration, an assured position, and comfortable quarters. Dr. Robertson, of Stirling District Asylum, and Dr. Keay, of Inverness District Asylum, advocate that the supervising officer should be a hospital trained nurse. In the *Asylum News*, a periodical so ably conducted by Dr. Shuttleworth, and which, it is pleasant to note, is now accorded a welcome in most asylums, appears an interesting paper on "Asylum Nursing," read last year at the International Congress of Nurses, held at Buffalo, U.S.A., and contributed by Mrs. P. C. Chapman, formerly successively matron of Leavesden and of Claybury Asylums. In this paper Mrs. Chapman argues, with great force, that the hospital trained nurse cannot regard herself as having had a complete training for her profession as a

general nurse unless she has had some experience in mental nursing, and equally it is insisted that the asylum nurse should go through a course of training on the general lines of a hospital nurse. These views are certainly correct, for when, in 1899, an epidemic of enteric fever, enteritis, and pneumonia occurred at Leavesden Asylum, and eighteen hospital trained nurses were temporarily placed upon the staff, it was possible to observe the effects of a lack of training in mental nursing. The experience showed that the average hospital trained nurse was not so expert in preventing bedsores in the insane sick as the asylum trained nurse, and, as might be expected, she was not so tactful and efficient in the management of the insane sick. Failing to manage her patient properly, she was very apt to fly to such extreme remedies as restraint and seclusion, and would like to have tied the patient in bed when he was restless, or put him into a single room if he were a little noisy. There was also a tendency to run away if the patient talked a little nonsense, and if, as unfortunately sometimes happened, the patient was not very decent in his manner or conversation, some hospital trained nurses were apt to be thrown into a panic. These observations, however, prove what might be expected: that the hospital trained nurse must get proper training in mental nursing before she can be considered thoroughly competent and reliable enough to nurse the insane sick. It is suggested that the best head night nurses and attendants are those who have had asylum experience, and have been trained on hospital lines.

The efforts of the head night attendant should be seconded by observant and trained night attendants, and in order to keep such it is pleaded that their status and pay should be that of charge attendants, instead of ranking them with ordinary attendants, as is done at most asylums. It is better to allow all the male night attendants to live outside the asylum, giving an allowance in lieu of board, lodging, and washing, as is done at Leavesden, where shortly there are to be erected twenty-two cottages for the married attendants, a class which ought to be encouraged to stay. It is unfair, too, to expect the night nurses to sleep in the asylum within earshot of noise of all kinds, and it is pleasant to announce that a nurses' home will shortly be erected at Leavesden for all the night, and a portion of the female day staff.

And now, in order to raise a point for discussion, a thorny subject is touched upon: the nursing of sick and infirm male patients by female nurses. The subject has been so fully dealt with by others that no attempt will be made to advance the arguments for and against the introduction of female nurses into male sick and infirm wards, but it is prophesied that before long, in most asylums, the male sick and infirm patients will be nursed by female nurses. At Leavesden Asylum the principle has already been in part adopted, for a superintendent nurse, who holds both the nursing certificate of this Association and a hospital certificate, is in charge of the nursing of the six male infirmary wards during the daytime. For various reasons nothing further has as yet been done. One reason is, that as the Metropolitan Board are about to open a large asylum at Tooting Bec especially for the reception of the sick and infirm, it is suggested that this class of patient is likely to largely decrease at Leavesden. In this belief all do not share, and it is still to be feared that Tooting Bec Asylum will quickly be filled with a helpless and hopeless population, leaving Leavesden in much the same state as before, although a temporary relief may be experienced. If, as is believed, Tooting Bec Asylum is to be managed on hospital lines, there may, and it is trusted will be, an example of what can be done in this direction, and Leavesden, if these views be correct, will, it is hoped, soon follow in the wake by having female nurses in the male infirmary and sick wards. Every one agrees that there are certain sick and infirm male cases which cannot be nursed by women, but those who have really tried the experiment soon find how very exceptional these cases are. It is contended that the advantage of female nursing for the large majority of male sick and infirm patients is conclusively proved; and at Leavesden there would not be the least hesitation in placing female nurses in charge, both by day and by night, with a feeling of confidence that the very best was being done for the patients concerned.

It may be remarked that a mixture of male and female nurses in a ward is not advocated.

There does not seem to be any authentic record as to who first suggested the use of the "tell-tale" clock, but the circumstances surrounding its introduction and early history may easily be imagined. Given an untrustworthy person sent on

duty where little or no supervision of him was possible, the problem to be solved was: By what means could it be proved that he really was or was not on duty during the hours and at the times expected of him? For answer came the introduction of the "tell-tale" clock, at first, no doubt, a simple mechanism, but gradually increasing in complexity as means were discovered to circumvent its records, until at last was evolved that highly ingenious contrivance at present in use, whose records, however, may still be rendered void by those who set themselves to the task, because the human mind is more subtle than any instrument.

In every asylum which boasts a past, many stories have been handed down of the misdoings of the notoriously unreliable night watch, the forerunner of the asylum night nurse. The duty of the night watch was to stay as much as possible near those patients most in need of watching, to visit the other patients at intervals, not to absent himself from the sphere of his labours, and under no circumstances to go to sleep. He also did certain other duties, but mainly his function was to watch, and not to nurse the patients committed to his care. It may be imagined how the medical officers then in charge of asylums welcomed a contrivance of the nature of a "tell-tale" clock as some sort of check upon such an official; but it is difficult to understand why universally in English asylums, where there are, or ought to be, competent night nurses and attendants, and above all a trustworthy supervising officer, such instruments should still be insisted upon as necessary.

Dr. Keay, in a recent paper, writes: "It is hard to see what information can be obtained from the record of a 'tell-tale' clock further than that an attendant was in a certain place in the asylum at a certain hour, and that when there he devoted a certain amount of attention to the clock. Without further information showing what attention he gave to the patients, I do not know that the knowledge regarding his movements is of any particular value. He may cuff the ears of a restless patient, but the 'tell-tale' clock looking on is reticent on the subject. 'Tell-tale' clocks are a bad substitute for effective supervision of the night staff. Let us have this effective supervision, and such contrivances will disappear as being out of date, and no longer required." At Leavesden, where the "tell-tale" clocks were already placed, they are still in use, but

as every ward door has glass panels, as the nurses and attendants placed in charge of the wards are regarded as trustworthy, and are kept occupied by their nursing duties, and as, moreover, there are reliable supervising officers, it was not thought necessary to make additions to the "tell-tale" clocks when the night staff was recently increased.

It is not proposed in this paper to take up at any length the treatment from the medical and nursing points of view of those troublesome symptoms of mental disease, most noticeable during the night, such as noisiness, restlessness, violence, excitement, destructiveness, wet and dirty habits, and sleeplessness. The subject is large enough for a separate paper, and is ripe for full discussion in connection with the question of night nursing and supervision of the insane. Each individual case of noisiness, restlessness, violence, excitement, destructiveness, wet and dirty habits, and sleeplessness should be considered individually and on its own merits. It may be objected that it is a matter of only treating symptoms, but nevertheless it is advisable to approach all such cases in the same way as one approaches a case of pneumonia or a case of tuberculosis of the lungs,—with the intention of using every possible means for the amelioration or cure of the condition. It goes without saying, that in all such cases a most careful physical examination should be made, the treatment of the bodily state being all-important. No one, for instance, will deny that loaded bowels and dyspepsia are accountable for many of the bad symptoms mentioned above. A real interest in the case and steady determined effort will work wonders. Every aspect of the case should be studied, even the history of the case before admission being found useful, for in at least one case, that of a middle-aged man, who was constantly noisy at night, it was found that he had been a night-worker and a day-sleeper nearly all his life. A consideration, too, of the diet is very important, for every medical officer of an asylum is acquainted with the senile maniac who suffers from boulimia, sleeps after all his meals, and keeps every one awake at night in his ward unless he is brought under proper medical and nursing treatment. The importance of recording early symptoms, and thus having the chance of warding off attacks, cannot be too much insisted upon, and the night nurses should be specially instructed to be on the watch for certain symptoms

which vary in different patients. Every night nurse should be taught all the known nursing artifices for inducing sleep, because if a patient can be made to sleep a great many acute symptoms are obviated. Wet and dirty habits, except in cases of paralysis and other actual diseases, can nearly all be cured if proper means be taken. A noisy patient moved from one ward to another under the care of a different nurse often ceases to be troublesome. A wet day, when patients cannot get out of doors, results in a restless night for some, and no one denies that exercise and fresh air are the best of soporific agents. Since paths have been made round the asylum estate at Leavesden the patients have been quieter at night. The importance of tubercular patients living as much as possible in the open air is now insisted upon by all medical men, and as the tubercular insane include many patients suffering from delusions of suspicion and unseen agency, and liable to excitement, the result of belief in these delusions, the necessity of having shelters, as at Leavesden, in the gardens used by such patients so that they may be out of doors almost regardless of the weather, is self-evident. Such shelters, it is claimed, amongst other good effects, diminish excitement and increase the sleep of insane patients.

What, it may be asked, are the advantages which have accrued at Leavesden by this larger amount of night nursing and supervision?

The dangers from such unlooked-for, but not altogether rare occurrences as fires, unexpected fits, apoplexies, and other sudden illnesses, suicides in patients not regarded as suicidal, assaults, and even homicides are minimised. Compared with their former state, the quietude of the wards and dormitories is a constant marvel, even to those officers accustomed to visit them. Of course there are noisy patients at times in the dormitories and sick rooms or it would not be an asylum for the insane, but the condition of affairs may be described as similar to that of a sleepy village, whose quietude is occasionally disturbed by the brawls of a midnight reveller, whose doings afford a topic of conversation for the next day. In the same number of the *Journal of Mental Science* which contains the paper by Dr. Middlemass and the writer upon "Night Nursing and Supervision in Asylums," there is also a criticism, and the opinion is expressed that "the unreasoning mania of

epilepsy, the monotonous verbigeration of the idiot, the long-winded orations of the general paralytic, even the stertorous breathing of the apoplectic, are surely out of place in dormitories where some poor soul may be struggling for sleep and sanity." At Leavesden the "poor soul" could retire to rest in nearly every one of the thirty wards and dormitories almost sure of not being disturbed during the night, and at Sunderland Asylum the careful statistics of Dr. Middlemass prove the comparative quietude of properly supervised wards. At Leavesden there is a large number of epileptics, and it is claimed that the night nursing, combined with medical treatment and proper day nursing, has reduced the number of cases of unreasoning mania of epilepsy, whilst it is urged that if such a case do occur, nocturnal seclusion is the worst treatment that can be adopted. At Leavesden there are a considerable number of idiots and imbeciles, and some of them are noisy at night occasionally, but there has been no experience of idiots who occupy their nights in monotonous verbigeration, and keep their fellow-patients awake night after night, yet it is not doubted that such cases can be produced by long-continued neglect. During an experience extending over seven years at Sunderland and Leavesden, it has never been necessary to place a general paralytic in day or night seclusion, and it must be remembered that at Sunderland general paralysis is so common that for a time, at least, every fifth admission suffered from the disease. A side room and a special nurse should certainly be the prescription for the critic's last example—the apoplectic. Here, again, it is necessary to repeat what was written in 1899: "We readily and without reserve grant that the system is not a specific warranted to be applicable to and to cure every case without exception; but, on the other hand, we would emphatically state that the cases to which it is not applicable are altogether exceptional."

Another good result has been that the wet and dirty patients have been largely reformed, many becoming quite clean who formerly wetted and dirtied their beds every night. This aspect of the subject was so fully dealt with in the previous paper that it is proposed to present only a table of results obtained at Leavesden, which, bearing in mind the class housed, is considered most satisfactory:

	1900.		1901.	
	Males.	Females.	Males.	Females.
Average number of faulty patients per night during the year	18·49	36	13·05	30·98
Average number of dirty articles per night during the year	64·96	112·84	46·16	82·14
Total number of soiled mattresses both day and night during the year . .	44	33	27	20

When a mattress is found to be wetted or soiled, a special inquiry is held as to the cause, and as to whether the nursing is to blame. It may be interesting to record the results of these inquiries during the year 1901. In sixteen cases the waterproof sheets were waterproof only in name, for liquids passed through them; in seventeen cases the nurses forgot to place the sheet under the patient; in seven cases patients became dirty in habits who had hitherto been clean, and there were no waterproof sheets on their beds; in two cases inexperienced nurses were unable to manage patients, and wet mattresses resulted; in two cases the waterproof sheet became disarranged; in one case a patient, objecting to the waterproof sheet on the bed, removed it without being seen, and afterwards soiled her mattress; in one case diarrhœa in a quiet patient was the cause; and in the last case a patient deliberately emptied his chamber utensil into his bed on recovering from a fit.

With the exception of those of confirmed bad habits, destructive patients no longer constantly tear up their bed and body clothes at night, although a certain amount of destruction still takes place.

Both at Sunderland and at Leavesden, besides the betterment of the patients' state at night, it is maintained that the good nights now generally enjoyed by the worst patients have secured for them better general health, an amelioration of their mental condition, and, what is very important for them and others, quieter days. Patients who are subject to attacks of sleeplessness can be specially watched and treated, and it is not doubted that attacks of noisiness, excitement, and violence

can be warded off by the observation of early symptoms. Sleeping draughts are rarely given, and then only for definite medical reasons, and the Sunderland statistics show how very few draughts are given or needed in properly supervised wards. It is certainly bad practice to give sleeping draughts to patients in single rooms, in order that others lying in adjoining wards shall get sleep.

In conclusion it may be objected that what is possible with the Leavesden patients is impossible with the patients at other asylums, and one can only plead an opposite opinion as the result of fourteen years' experience among very different classes of the insane in widely separated parts of the country.

The opinions now ventured are the outcome of experience, not only at Leavesden, but at Greenock, Edinburgh, and Sunderland.

Discussion

At the General Meeting at Cheadle, February 14th, 1902.

Dr. Middlemass said that the experiences he gave in the paper read about three years ago, to which Dr. Elkins had referred, had been fully confirmed since then. He had seen no reason to modify those statements, and the same system was still in force in Sunderland. So far as he had been able to gather from the criticism of his paper there was no question but that the treatment they advocated with regard to wet, dirty, and destructive patients was a satisfactory one. The only point upon which there was a great difference of opinion was with regard to the dormitory treatment of noisy patients, and this, he fancied, would always be a matter regarding which there would be opposing views. He thought that the more they endeavoured to treat patients on the lines indicated the less noisiness would occur. Of course they were quite ready to acknowledge there were exceptional cases, where, in spite of the nursing and attendance at night, patients were noisy; but he thought if they persevered with the treatment of such patients in an open dormitory, they would in the end succeed in getting them to be as quiet as their neighbours. He had said there were exceptional cases, and he had one or two patients whom he had tried in an open dormitory, and he had found it necessary occasionally to place them in a single room at night. Occasionally they were better in a single room. After some time he tried them in a dormitory again, and, as a rule, found they were quiet there. He thought they should persevere with that plan, and should not be discouraged by exceptional cases. But if they wanted their night nursing to be a success on the lines laid down they must pay a good deal of attention to it. Something more was necessary than to simply give instructions to the chief night attendants. Personally, he made a point of constantly visiting the dormitories, of going through them three or four nights every week, and seeing for himself how things were, noting all the cases that were noisy, endeavouring to discover, if he could, the reason for this condition, and trying, as far as possible, to combat it.

Dr. George Robertson sent the following contribution, which was read in his absence:

It gives me great pleasure to accede to Dr. Elkins' request to add to his paper a short statement of my experience and of my opinions of the system of night nursing of the insane which he advocates.

It is now some years since Dr. Elkins, then Medical Superintendent of the Sunderland Asylum, opened my eyes to the gross abuses connected with the use of single rooms at night, and to the success with which most of those patients

whom we had got into the habit of calling "single room patients" had been treated by him in dormitories under supervision. That some of the most troublesome and disgusting manifestations of insanity took place in single rooms at night was, of course, obvious to me and every one else; but I had come to accept these results as inevitable in the course of insanity in all large asylums. My conscience was, however, touched by Dr. Elkins' statements and results, and I decided at once to devote my attention to the habits of those "single room cases." The most obvious change in methods that the new treatment involved was the placing of the patients in associated dormitories instead of in single rooms, and so the old and new methods of treatment were familiarly described as the "single room system" and the "dormitory system." These names led on the part of opponents to a magnification of the virtues—some real—of seclusion in single rooms, and to a misunderstanding of the true principles of the new treatment. Dormitory treatment is *not* the essential part of the new system, but increased supervision and attention to the insane at night. As a matter of course, complete supervision and attention cannot be given if those patients most needing it are separately locked up in single rooms, and so in our pauper asylums, as in our general hospitals, to have good supervision along with economy it becomes necessary to collect patients, classified with care, in dormitories. Could a nurse or attendant be supplied to every patient, and more than one where it was necessary, then the patients might be left in their single rooms. This, however, is an unattainable ideal. It appears absolutely ridiculous and indefensible from a medical point of view that patients should be carefully supervised by day, checked in all insane tendencies, and encouraged in habits of cleanliness, good order, and decency, and when night comes that these patients should be shut up alone in dark cells, and for want of constant supervision to allow all the good of the day to be undone at night. To make the supervision by night equal to that by day, which, of course, is the true medical ideal of night nursing, it is necessary to increase greatly the numbers of the night staff. As by far the most of the patients sleep, and no domestic work is done, it has been found in the Stirling District Asylum that a night staff one third that of the day staff is sufficient to carry out the principle mentioned. There are twenty night nurses and attendants on the night staff of the asylum, which contains nearly 700 patients, and there is a night superintendent, a trained hospital nurse, who inspects the whole asylum and sees that the night staff is doing its work. Every patient showing active manifestations of insanity is under immediate and constant supervision of a nurse or attendant in a dormitory, and as a definite proof of this statement I record the fact that not one patient has been locked up in a single room at night for six months, and with a few unimportant exceptions not for eighteen months. The single rooms are all occupied by privileged sensible patients, and are being furnished as private bedrooms. In my asylum, therefore, the old single room system for the old class of single room patients has been absolutely abolished. I find a few single rooms still occasionally useful for exceptional cases, especially of noise, under special nurses, but if they were all abolished I would not be seriously hampered.

Those who have not tried this system may imagine that the single room patients now under supervision in dormitories would create a pandemonium, but after a fortnight or a month the old chronics—who prove far more intractable than recent cases—get broken in, and finally settle down and become quieter and more orderly. The system is a perfect and demonstrable success, and those who have not tried it themselves, but who yet, by arguments deduced from past experience, can prove to their own satisfaction that it *must* be a failure, I ask to suspend their final judgment until they see the system in practice. Three years ago Drs. Elkins and Middlemass read a paper in London on this subject recording golden truths, but with one exception none of those who spoke recognised the epoch-making change that they (Drs. Elkins and Middlemass) had initiated, namely, the abolition of the abuses of single rooms, the greatest reform that has taken place since the day of Connolly. The seed they sowed has, however, borne fruit, and this was demonstrated in a notable manner at the last meeting of the Scottish Division of the Association, which was held at the Stirling District Asylum. The subject formed an important part of the paper read there, and at this representative gathering, which was the largest one ever held in Scotland, not one member spoke in opposition to the new system of night supervision in dormitories, while those who

had adopted it spoke strongly in its favour. Dr. Keay, of Inverness, stated he understood that the system was now so universally accepted in Scotland that he did not consider there was any need to bring it forward for discussion; Dr. Marr, of Lenzie, stated that he had found that the dormitory for noisy patients, though it gave much trouble when first established, was now almost as quiet as any other dormitory; and Dr. Clouston stated that he had spent a part of the night going round the Stirling District Asylum, and recorded the fact with great pleasure that "he was impressed deeply with the quietude and with the success of the system which he saw in operation. Not only that, but they had transferred a number of their patients from Morningside, and Dr. Robertson had had the bad luck to get two or three of the most evil characters from Morningside. He was beyond measure astonished and exceedingly pleased to find a woman who was in Morningside a homicidal dangerous inmate, and a most objectionable woman, who was never out of a single room, lying calmly and sweetly asleep in one of those big dormitories."

The system, in Scotland at all events, is no longer either in the experimental stage or on trial, but is established in many asylums, and is apparently accepted in principle by all. In Paris it has been practised by Dr. Magnan for many years. The system is most earnestly recommended to those who have not yet adopted it, and the writer again records his opinion that the removal of the abuses connected with the single room system is the greatest advance that has taken place in the care of the insane since the day of Connolly.

Mr. RHODES said that if the paper proved one thing more than another it proved the doctrine he had preached, that the workhouse was not the place for imbeciles, and that they should be treated separately, as he was glad to say the Manchester and Chorlton Asylum Board were going to treat them. As to the treatment of epileptics, he thought that the time was coming when they should follow the example of the United States. He approved of employing female nurses on the male side, and he considered that asylum nurses should be better paid. He thought that there should be a definite system for training attendants and a recognised standard of efficiency; also that a register of attendants should be kept.

Dr. HAYES NEWINGTON pointed out that they had a standard qualification and a register of their own of those who had passed it, and one of the duties of the Council was to sit in judgment on holders thereof if occasion arose. He thought that it was impossible to have anything like a reliable general register of attendants, and an imperfect register was an extremely dangerous thing.

Dr. YELLOWLEES said he was very glad that Dr. Elkins began his paper by saying that he disclaimed anything like a new discovery, because he was somewhat at a loss to know why it had been so much talked about and so prominently brought before them. He did not know where those fearful places were that had been described. He could not understand it, and when he looked back at the night work in his own asylum he found he had exactly the proportion of night nurses which had been advocated. It seemed somewhat extraordinary that they should have been told of these things as if they had been utterly forgetful, and had not had sense enough to see them. He had no respect for a superintendent who did not see when a patient was better separate, and he thought it was too late in the day for them to discuss and promulgate this question as if they had not hitherto appreciated it. He was glad that Dr. Elkins had made the disclaimer, but he thought the rest of his paper did not seem quite consistent with the exordium. Surely the whole thing might be summed up in an intelligent appreciation of their patients' needs and an earnest desire to meet those needs in the best way they could. No two superintendents would meet them in the same way. For example, in going over this admirable asylum they had seen that nurses were sleeping in the dormitories. He was afraid that would now be utterly condemned. He knew that Dr. Robertson was the apostle of night nursing with female nurses everywhere, and he knew that the hospital trained nurse was declared by some to be the salvation of the insane. He did not agree with that altogether. He thought a good asylum nurse was a better nurse than a trained hospital nurse, had far higher work to do, and could do it better, and those of them who had seen insane patients under the care of ordinary nurses knew that there was no more helpless being than that precious hospital nurse. She was a being whose highest function was to observe closely and to obey; if she watched her patient's symptoms and obeyed the

physician's orders kindly she did her duty. An asylum nurse must use her own judgment and act upon her discretion; everything she did concerned her patient's welfare. She had a far higher function and more difficult work to do than the hospital trained nurse; but on the other hand he admitted that the hospital training was a great addition, though he contended that in the asylum infirmaries nurses might be admirably trained. The great principle of Dr. Elkins' paper was that they were to be wise, considerate, and kind in their care of patients during the night as well as during the day. It was a great relief to him to find that through all the years he was a superintendent he had been doing what had recently been proclaimed as if it were a new discovery.

Dr. MOULD said he should like to say a word with reference to nurses sleeping in dormitories. It was not done in large dormitories, but only where there were not more than four patients, who were carefully selected, and whose cases were simply of a nervous character. The nurses were an immense relief to the nervous patients with whom they slept. If they did not have those nurses in those small dormitories, then the night nurses must go in, and that was very disturbing to those unfortunate patients who could not sleep. He thought it was a most excellent plan to select nurses to sleep with those simply nervous patients. For more than thirty-five years it had been their custom to have all wet and dirty cases in dormitories.

Dr. STANLEY GILL concurred in Dr. Mould's views as to the desirability of nurses sleeping with patients in dormitories.

The Bearing of Recent Research in the Posterior Root Ganglia upon the New Theories concerning the Ætiology of Tabes dorsalis. By R. G. ROWS, M.D., Pathologist to the County Asylum, Whittingham.[1]

DR. ORR has shown you the normal cells of the posterior root ganglia and the changes which they undergo in general paralysis of the insane, and we have thought that it would be of some interest briefly to follow the subject a little further, and to see what is the modern view of the degenerative changes in the cells of the posterior root ganglia and in the nerve-fibres of the spinal cord in general paralysis and in tabes dorsalis.

Until the last few years it was held that the initial lesion, which led to the degenerative changes in the fibres of the posterior columns of the cord, was to be found in the cells of the posterior root ganglia, and marked changes, such as destruction of the Nissl bodies, displacement of the nucleus, and shrinkage of the cell-body, were described. Sir William Gowers, in his article on tabes in his *Diseases of the Nervous System*, said the ganglia were generally normal, and he suggested that the degenerative changes in the nervous

system probably depended on some chemical substance, the product of the syphilitic organism.

In 1898 Juliusberger and Meyer published a paper in which they said they found no lesion in the cells of the posterior root ganglia in tabes. In August of last year Marinesco published an article in *La Presse médicale* on the lesions in the cells of the posterior root ganglia in tabes.

He first described the types of cells met with in the normal ganglia, and then went on to mention the changes seen in these cells in tabes, such as destruction of the Nissl bodies, changes in the nucleus, such as diminished volume and diffuse staining, and changes in the volume of the cell-body. These last, however, he mentioned as being more usually a sign of imperfect fixation than a sign of any pathological condition.

Dr. Orr also has referred to the great importance of employing suitable fixatives in order to avoid this shrinkage. You will see that these changes described by Marinesco in the ganglion cells in tabes are very similar to those which we have found in these cells in general paralysis; but it is interesting, from the point of view of their importance as the primary cause of the nerve lesions in the cord, to note that he (Marinesco) says that a breaking down of the Nissl bodies and the above-mentioned lesions of the nucleus are very common in morbid conditions of the spinal ganglia, and also that he found nothing which could be considered as peculiar to tabes. He then went on to discuss the question of the relation between the changes found in these cells and the degeneration of the fibres of the posterior columns of the spinal cord, and he said that, considering the inconstancy of these changes and the differences which exist between the intensity of the degeneration of the fibres in the cord and the relatively slight lesions found in the cells of the posterior root ganglia, it can be definitely affirmed that the degeneration of the fibres of the posterior columns of the cord is not dependent on an initial lesion of these cells.

Nor are the changes in these cells secondary to a lesion of their central processes, because it has been shown experimentally by Lugaro and others that section of the central process of these cells, that is of the posterior root fibres, does not cause a degenerative change in them.

Both these degenerative changes must be considered as

results of the same cause, *viz.* the presence of toxic agents in the blood, which interfere with the nutrition of the cells and of the fibres, and produce the degenerative changes familiar to you all.

Recent research, then, shows that the hypothesis which places the primary lesion in the cells of the posterior root ganglia, and considers the nerve-fibre degeneration as secondary to this, must be laid aside.

Sciuti, of Naples, however, has enunciated another hypothesis in an article on the pathological anatomy of tabes, which was published in the end of last year.

He agreed with the view just mentioned that the changes in the cells of the posterior root ganglia are too slight and too inconstant to be the cause of the nerve-fibre degeneration in the cord. He also gave an analysis of the fibre degenerations which have been met with in the cord in cases of tabes, which showed that other tracts of fibres besides the posterior columns have often been found diseased. This analysis proved that there were cases of simple tabes in which the posterior columns were alone affected, but in "combined tabes," where some other degeneration besides that of the posterior columns existed, every other tract of fibres in the cord had been associated with the posterior columns; it may have been the lateral columns in one case, the antero-lateral tract in another case, and so on. He also mentioned one case in which the tract of fibres called Burdach's column was healthy in the lumbar region, yet the continuation of these same fibres in the cervical region, where they form the column of Goll, was extensively diseased, thus showing that the same bundle of fibres may be healthy in one region of the cord and diseased in another. Moreover, in the affected tracts it is very common to find many healthy fibres scattered through them, although, of course, in prolonged chronic cases the sclerosis may be complete.

The fibres of the posterior and anterior roots have shown the same capricious behaviour, being healthy in some cases and much diseased in others.

These are some of the facts on which he has founded the following hypothesis: that "the degeneration of tabes consists of changes in fibres which have started with some defect, and which degenerate under the influence of some stimulus;"

and the lesions which are found on examination will depend on the situation of the fibres which have been injured by this congenital or acquired lesion, which fibres will, in later life, degenerate if they are attacked by some poison such as syphilis, alcohol, pellagra, etc.

On the other hand, there is the hypothesis that these fibre degenerations are secondary to a morbid change in the vessel walls. This hypothesis has been advocated by Dr. Chalmers Watson, in a paper published in the *British Medical Journal* of June last. In this paper he expressed the opinion that in tabes and other allied diseases of the nervous system the lesion in the vessel wall was primary, and the fibre degeneration secondary to it.

Dr. Buzzard has published some cases in which he considered the vascular lesion was primary, but he does not say that it is so in all.

Sciuti, in his case, described marked changes in the walls of the vessels, but he did not attach so much importance to them as to say they were the cause of the fibre degeneration.

Seeing that both the fibre degeneration and the vascular change are due to the same toxic agent, it must be extremely difficult to decide whether the fibre or the vessel wall is first attacked, or whether both are attacked simultaneously.

In any case there can be no doubt that the morbid changes in the vessels must play an important *rôle* in the advancement of the disease, if not in its causation.

In general paralysis we find the same fibre degenerations and vascular changes, and, in this disease, Dr. Ford Robertson considers that the vascular changes are primary, and that the degeneration of the capillary walls is the primary cause of the nerve-lesions seen in the cerebral cortex.

There are other conditions however, *viz.* the acute insanities, in which the nerve-lesion is almost certainly primary. We may say, then, that these are the two views about which, at the present time, opinion is divided; but whatever the seat of the primary lesion may be, we must, in any attempt to explain the degenerations met with, also take into account what Sciuti has spoken of as "defect of the nerve-fibre," and what Dr. Ford Robertson has termed "reactivity of the tissues."

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(1) This paper was read at a general meeting of the Medico-Psychological Association at Cheadle on February 14th, 1902, and was preceded by a lantern demonstration, given by Dr. David Orr, of the normal histological appearances of the nerve-cells in the posterior root ganglia of the dog and of the human subject, and the degenerative phases of the latter in general paralysis of the insane.

A Flaw in the English Lunacy Law.

By ERNEST W. WHITE, M.B.Lond., M.R.C.P., Resident Physician and Superintendent, City of London Asylum.

THE following case shows the necessity for reform in the legal procedure connected with the admission of private patients :—E. E. S—, a lady patient, was admitted on October 26th last, upon the order of a justice of the peace who had not seen her, and upon the medical certificate of her regular medical attendant, and the second certificate of a neighbouring practitioner. Within the statutory period after admission she signed a request to be seen and examined by a judicial authority, under 53 and 54 Vict., cap. 5, sec. 8 (2). On November 2nd I made a return to the Commissioners in Lunacy stating—" She was insane, suffering from melancholia ; had a dejected appearance and nervous manner, with delusions of unworthiness ; said ' God would never forgive her her sins ' ; was agitated, restless, and dissatisfied," etc. On November 5th she was seen and examined by a local county justice of the peace, who, in the face of these three certificates, and a note in the case book by Dr. Patterson, reported that he did not consider the patient insane. In consequence of this report she was removed by her brother on November 26th, the Commissioners in Lunacy, who apparently, under 53 and 54 Vict., cap. 5. sec. 8 (3), had no option in the matter, having requested him to take this step. I may add we considered her probably suicidal, and when she left I wrote her ordinary medical

attendant advising him to watch her, and have her placed under fresh certificates, but she declined to see him again. On the night of December 9th (that is, less than fourteen days after leaving the asylum) E. E. S— committed suicide on the permanent way of the Great Northern Railway in North London. Thus a report by a young and inexperienced justice of the peace outweighs the opinions of two experts, the family medical attendant, who had watched the case for months, and a fourth medical man, who signed the second certificate on admission. Surely this life was sacrificed through a defect in lunacy law!

Mental Conditions resulting in Homicide. By G. T. REVINGTON, M.D., Resident Physician and Governor, Central Asylum, Dundrum.[1]

IT is with great diffidence that I venture to address you to-day. I have not made any scientific discovery, and in my own opinion it is great presumption to open a discussion on a subject of which I am merely a student, and on which my studies have not yet enabled me to form definite theories.

I had not much difficulty in making choice of a subject. You will all agree with me that mental conditions resulting in homicidal acts are very interesting.

In nine and a quarter years I have admitted forty-nine men charged with murder or manslaughter. I am not dealing with female murderers, as these cases are mostly cases of infanticide, and are of a totally different nature. I have included one case of attempted homicide, not in order to make a half-century of cases, but because the case is one of extreme interest, and throws a bright light on homicidal conditions.

The difficulties of investigating these homicidal conditions are very great. Generally the witness who knows the murderer best is his victim, and thus the most important evidence is lost.

I do not propose to trouble you with statistics, but I may point out, parenthetically, that wives are the commonest victims, then children, then parents and sisters, but (and I am afraid will be a great shock to you) I have as yet met no person

homicidal enough to kill his mother-in-law. Possibly such cases are considered by indulgent juries as justifiable homicide, and do not come under my care.

Another great difficulty is the shipwreck of the home that a homicide causes. The children are scattered far and wide, my letters of inquiry are unanswered, the patients are not visited, and in many cases I neither hear nor see a single soul who knows anything of the case.

But the greatest disadvantage of all is that I do not get these cases under my care until months after the crime. The homicidal fire has died out, and I have to study what I may call a mental cinder.

There is worse to follow. These homicidal cases do not benefit in prison. For one thing, they are supervised in a painfully ostentatious manner, as they are dreaded, and they are doctored by the habitual criminal. There is not, I imagine, much joy among convicts over one sinner that repenteth, but there is considerable joy over one sinner that escapes the fatal noose.

Every convict takes the homicide in hand, and each has a specific receipt for cheating the hangman.

I need not detain you further, gentlemen, on these points; I am sure you will agree that these cases should be placed under expert supervision while awaiting trial. You will agree, also, that the absence of the essential witnesses, the absence of visits from relatives, and the length of time that elapses between the crime and curative treatment are formidable obstacles to scientific study.

I take the case of attempted homicide first, as it is thoroughly worked out, owing to the wonderful escape of the intended victim. M. M—, æt. 38, married, two children, profusely alcoholic, thoroughly syphilised, feels himself growing prematurely old, while his wife remains sprightly and attractive, becomes suspicious of her, watches for indications that she is tired of him and wants a change, as he says.

Next follow hallucinations of smell and taste; the patient searches the room for causes, finds vapours rising from the floor, thinks the flower-pots are watered with noxious chemicals.

I need not describe further. You all know the class of case, and I am sure you feel that you did not come to Cork to listen

to what you hear every day in your own wards. In fact, our worthy President might very well say, having regard to the fine asylum that he superintends, that bringing poisoning cases to Cork is like bringing coals to Newcastle.

Now if our patient's wife had placed her husband under Dr. Conolly Norman's care, nothing would have been heard of homicide, nor, I venture to say, would M. M— have been regarded as suffering from homicidal mania.

But the foolish wife becomes alarmed and goes secretly to an even more foolish member of our profession, and together they concoct a plan of campaign that is painfully comic, and leads to tragic results. The great idea is to treat M. M— without his knowing anything.

The results are serious. Even the secret visits to the doctor become matters of gossip, and lose nothing in the telling. M. M— is more than ever confirmed in his suspicions. He also tastes the medicine in his food, and his delusions of poisoning become certainties.

Can folly further go? It can indeed. Coming home to his supper M. M— finds two teapots on the hob, one for him and one for his wife and children. He is not allowed to touch the latter. Even a sane man might begin to doubt such a wife. He openly challenges his wife and accuses her of being a wanton, and wishing to get rid of him. She is terrified and refuses to sleep in the same room. Many a woman has thus driven the last nail into her coffin.

But the edifice of M. M—'s madness wants a final touch, and gets it. The wife invites a male friend to sleep in the house to protect her and the children. Even the soundest intellect might now stagger before such an array of damning evidence, and what chance has the alcoholised and syphilised brain of poor M. M—?

On the night of the attempted murder the watchful husband, supposed to be in bed, sees the male protector flit quietly from his wife's room. You will all remember that wonderful scene in Hamlet:

> "Now might I do it pat—
> And now I'll do it
> When he is drunk, asleep, or in his rage,
> Or in the incestuous pleasure of his bed;
> Then trip him that his heels may kick at heaven,
> And that his soul may be as damned and black
> As hell, whereto it goes."

Such were the thoughts of poor M. M—, though expressed in plainer but no less forcible language. Biding his time, he creeps to his wife's room with a hatchet.

The final result is that the wife recovers in a marvellous manner after every surgeon had given her up, the hatchet was buried in her brain, and M. M— spends the rest of his existence in that most unpleasant pleasure—the pleasure of His Majesty.

I have put this case so much from the patient's point of view that I must say that M. M— had really no cause for jealousy, and that his wife was a good though a misguided woman.

Now, gentlemen, have you not in your asylums many such cases? Do you regard them as suffering from homicidal mania? I am sure you do not.

I do not know whether your experience will agree with mine when I say that I have met many non-criminal delusional cases whose great regret was that they had not killed some one or other! I have heard them grind their teeth with fury when they thought of the opportunities they had lost!

Have you not many patients in whom the idea of revenge is predominant? Have you not many cases whose first action at liberty would be homicidal?

I have come to the deliberate conclusion that homicide is a potentiality in almost all cases of delusion and hallucination, and that whether the homicide occurs or does not occur is not so much a matter of a peculiar mental condition as a matter of environment, a matter of the length of time that elapses before safety is sought within the walls of the asylum.

I do not pretend to have investigated all my cases as closely as that of M. M—. I have done so as far as possible, but owing to the reasons already mentioned I cannot give you definite figures. I cannot say how many of my forty-nine cases come under the category, but I am convinced that if the loving wives, doting parents, and devoted sisters, victims of my homicidal patients, could speak they would tell us that they should have sent their murderer to an asylum months or even years before the crime was committed.

One fact that stands out before all others is the length of time that my homicidal patients were insane before they committed themselves. It is generally a question of years.

A considerable number have wandered from county to county, seeking refuge from persecution, wandered even from country to country,—a large number as far as America. Again I cannot give you definite figures owing to my information being so defective, and chiefly being founded on the statements of patients uncorroborated by other evidence.

Now if these cases had been originally or essentially homicidal the end would have come far sooner. It is absurd to call a case homicidal who, after five years' insanity, commits a murder. A large proportion of asylum inmates might commit murder if allowed to remain at large.

Proceeding to analyse my cases, I find one homicide due to epileptic frenzy, one to a similar condition occurring in general paralysis. These, of course, you will understand.

Five murders were committed by men suffering from congenital mental defect.

I have compared secondary dementia to a fire that has almost gone out, and congenital defect to a fire that has never been properly lit. To continue the simile, the act of murder in an imbecile is as if a parcel of gunpowder had got into the smouldering fire. An explosion results, but the fire does not light up. My congenital imbeciles may live to be as old as Methuselah, but I venture to say that they will never become homicidal.

In two cases the homicide was, so to speak, accidental. Both men wished to give a certain person a good drubbing, and went too far.

In another case a man attempted to rape an old woman of seventy, and incidentally, so to speak, killed her.

In one case a man, who had spent years in America amassing £200, committed murder to prevent himself being robbed.

In two cases patients heard a voice from God, saying, "To save yourself you must kill So-and-so."

In one, a thoughtful, very intelligent, and religious man, in dire distress, out of work and unable to get any, taunted to frenzy by the upbraidings of his wife's relations, deliberately killed his wife and two children. He was a man of very high character and sound morality, so much so that medical visitors refused to believe that such a man could have committed such a horrible crime. Yet this man often told me that it seemed

clear to him at the time that it was his duty to kill his entire family and then himself. He said that he could not explain how he could have taken such a point of view, but he always ended, "It was as clear to me as if it was written in the Bible." It is very hard for us, living in times of peace, to understand such a state of mind, but the men of Lucknow kept a last bullet for their wives, and the men at the Pekin Embassy were prepared to kill their womenfolk to prevent them falling into the hands of the Chinese.

My patient arrived at the same mental condition, but without the same dreadful reasons.

In two cases, at least, the murder was due to an illusion as distinguished from a true hallucination. In the first case, a man, whose delusions and hallucinations should have and did prompt him to kill his wife, sprang out of bed and killed his child, thinking it was a wild beast about to attack him. In the other case, a man whose father and family, including himself, had been visited and severely beaten by moonlighters, showed symptoms of insanity ever afterwards, and finally killed his father, mother, and two brothers; the house was described as shambles. When he was arrested he stated that he had killed some men who were attacking him.

Twelve cases I am unable to classify owing to want of information and the utterly demented condition of the patients when coming under my care.

The larger proportion of my fifty cases are now disposed of; the exact number I cannot give you, as so many cases must be reckoned as doubtful.

Before coming to consider the cases that might be regarded as homicidal, I may give you the following statistics, asking you to remember that I am giving you figures that represent cases definitely ascertained, and that I am convinced that such figures are in every case far below the true figures owing to want of information:

In ten cases a very definite history of insanity was obtained, this is equal to 20 per cent., and with fuller information the percentage might, perhaps, be doubled.

Ten of the fifty cases were actually under the influence of acute hallucinations at the time of the crime, ten of the cases were in a state of acute frenzy, the raving madness of the older authors. Five cases had been previously confined in other

asylums, and twelve cases were under the influence of alcohol at the moment of crime.

I have no doubt that all these figures are far below the truth, could it be ascertained.

I have detained you so long, gentlemen, that I fear I must leave the full discussion of these possible homicidal cases to a future occasion.

You will, of course, understand that the above figures overlap, and that many presented a history of insanity or drink, a personal history of drink, and were also in an acute frenzy and under the influence of hallucinations.

In one case I can point to a clear case of homicidal impulse. The patient was drinking and suffering from hallucinations. He graphically describes how he lay in his garden, hid amid the cabbages, listening to voices telling him that his nephew was plotting against him, intending to kill the entire family and get the farm. One day the nephew came to borrow some agricultural implement, which was stored in a loft. The patient procured a ladder, and held it steady, standing at the foot, with, unfortunately, a scythe in his hand. As the nephew descended the ladder an overwhelming impulse seized the patient, and he made a stroke with the scythe, almost decapitating his nephew and killing him on the spot.

I questioned the patient most carefully and many times as to the nature of the impulse. There was no definite idea of killing his nephew, no thought of preventing him from killing the family, it was an impulse to strike a blow, a wild whirling impulse to strike, regardless of consequences.

I have under my care at the present time three cases subject to similar impulses. These impulses occur at irregular intervals and result in assaults.

Previous to admission one of these men assaulted a policeman he had never seen before, attacking him with a scythe, and wounding him severely. Another killed a fellow-patient in a district asylum without any provocation, and the third was an ordinary case committed for larceny, who did not develop impulses for some years.

Now these are four cases of pure impulse, but after careful study of the conditions I am forced to the conclusion that there is, strictly speaking, no evidence that the impulse is homicidal. There is no attempt to get hold of some implement, the blow

is not aimed at a vital part, it is a blow of the fist, or even of the open hand. I have spent many hours trying to elicit the exact idea that was in the patient's mind when he struck the blow. In one case this is easy, the patient becomes quite calm in a few hours. When asked why he struck his victim, he says, "I don't know, I had no reason, I know I was wrong, but I could not help it." I have taken great trouble to find out whether there was the vaguest wish to hurt any one or any definite sensation of satisfaction at having struck the blow. The answer is always in the negative. The other two cases are much more difficult. After each assault they are, of course, placed in seclusion and visited by the medical officer on duty. They are always sulky and sullen, decline to answer questions, refuse to meet one's eye, and hide their heads under the bed-clothes. Their faces are flushed, the brain is evidently working at high pressure, and their self-control is on the point of breaking. One is reminded of a horse that is about to bolt, and is hard held. These two patients always utter short, abusive, and threatening sentences, and express a great desire to be alone, and, undoubtedly, if I did not prudently clear out, there would be a sudden mad rush, and some one might get hurt. I have frequently delayed longer than usual, and asked further questions with the view of studying the mental state. The result is that the patient's excitement increases rapidly, the limbs quiver, the body bends like a wild beast's for the final spring. Well, then, gentlemen, it is time to go. As the door is shut I often say, "There is an exact picture of the mental condition that results in homicide." This interesting condition lasts for weeks and even months,—in one instance for five months,—and during this period I could, at any time, have created a homicidal mental condition.

But this is a sort of mental vivisection which I am sure you will agree with me should not be practised, even in the interests of science.

Even for the sake of making my paper less uninteresting I dare not try experiments by giving these patients opportunities of using implements or weapons,—I might not be here to-day if I did. But can any one doubt that these patients would use any weapon that happened to be in their hands? and then the verdict would be homicidal mania.

After all, mental degenerations may be regarded as rever-

sions to the type of our savage ancestors. The carnivora are not mammacidal, they kill to eat.

The impulse to strike that these four cases feel may, perhaps, be best compared to the wild rush of nerve-force which hurls the tiger on the bullock's neck.

And now, gentlemen, I will conclude by briefly referring to the remaining classes of mental condition, the eight cases of acute frenzy, the twelve cases of alcoholic influence, the ten cases of acute hallucinations, and ten cases in which there was undoubtedly an absolute break in the mental continuity—a mental blank. These latter remember a certain action at a definite time, and their next recollection is their arrest, or they may not, as they say, come to themselves until they have been some time in prison.

Of course, a large number of patients claim to have been in the condition of mental blankness, or rather of separate mental existence, but in only ten cases am I satisfied that this was so. These forty cases represent only twenty-seven individuals, three cases having been in a state of acute frenzy, mental blankness, and under the influence of drink, two cases having been under the influence both of drink and hallucination, and six of the twelve alcoholics were undoubtedly in a state of mental blankness, and two at least of the alcoholics having been in a state of acute frenzy, though not under the influence of hallucinations.

This disposes of the twenty-seven individuals. The ten hallucination cases I cannot regard as homicidal, for I believe that any hallucination case is a potential murderer, and if not under treatment would sooner or later become one. I do not forget those rare cases in which exceptional men recognise that they suffer from hallucinations, and can be regarded as sane.

I recollect that my friend, Dr. Savage, had one such case under his care, and discharged him as sane.

Of my twelve alcoholic cases, in nine mental disease undoubtedly caused the recourse to drink, in one case acute alcoholism, and in two pronounced chronic alcoholism caused the crimes.

I do not think that much will be gained from the study of advanced alcoholism. I have formed my opinion entirely from the study of a few cases of early alcoholism I have met in

private practice, and I have also formed the habit of studying certain of my friends, who, I regret to say, are slightly alcoholic without in the least knowing that they are so.

Now what is the one prominent change which I have observed in early, slight, but habitual alcoholism?

It is a slight loss of self-control, a shortening of temper; in a word, a certain explosiveness. The patient's mental balance seems to be hung on a hair trigger, trivial things that would not have ruffled the sunny surface of his good temper now cause deep submarine explosions. The poor wives and children of alcoholics will bear me out in this. I often compare alcohol to the fulminate of mercury which explodes the comparatively harmless material which fills the shell.

In nine of my alcoholic homicides drink was the result of mental disease, not its cause. I do not believe that the forms of mental disease due to alcohol are more homicidal than diseases due to other causes, but I believe that the effect of alcohol on a diseased brain is to increase the danger of explosion, to increase the tendency to homicidal action.

To conclude, I have not referred you to a host of foreign writers, whose dicta seem to gain in dignity because written in unknown tongues. I have told you a plain unvarnished tale of my humble studies. I have read what I fear is a sketchy, diffuse, and discursive paper, and I leave you to draw your own conclusions. My own I will sum up in a word.

I believe that my homicidal cases do not suffer from any peculiar forms of mental disease. I believe that most of them are not criminals in any sense of the word; I maintain that the crime is, in practically all my cases, an accident in the mental disease, not its essential or its typical outcome. I am convinced that you have all under your care hundreds of potential homicidal patients. That they did not commit murder is, in my opinion, a lucky accident due, shall I say? to the grace of God, or to the caution of timorous and unloving relatives.

None of my cases lead me to believe in such a thing as homicidal mania, a ravenous lust for blood, a brutalised craving to take life simply for the sake of taking life. I believe that ordinary motives such as jealousy, misery, acute fear, acting on morbidly active emotional conditions, are

responsible for the lengthy list of murders which I have brought under your notice.

I have attempted to enter into the inner temple of my patients' minds—I fear I cannot call it a holy of holies—and to tell you what I found there, and I say definitely that it is not the homicidal idea that dwells there.

(1) A paper prepared for the Annual Meeting of the Medico-Psychological Association held at Cork, July, 1901.

Clinical Notes and Cases.

An Abnormal Brain of Excessive Weight. By JOHN SUTCLIFFE, M.R.C.S., L.R.C.P., Assistant Medical Officer, Manchester Royal Lunatic Hospital, Cheadle; with Pathological Report by SHERIDAN DELEPINE, M.B., Professor of Pathology and Director of the Pathological and Public Health Laboratories in the Owens College, Manchester.

MR. B—, an accountant æt. 37, was admitted into this hospital on February 6th, 1900, suffering from epileptic mania. That there was insanity or other diseases of the nervous system in his family history was denied, but his brother was said to be very eccentric and to take too much to drink. There was also a suspicion that another brother died of some mental or nervous disease. The patient was married at 21, and his wife had had four children—no miscarriages; the eldest and third are alive and in good health, æt. respectively 16 and 12; the second died at 2½ years and the fourth at four months, both in convulsions. He was always excitable and masterful, and latterly had been very quarrelsome; he had always been a sober, steady, hard-working man and a good and kind husband and father. He had built up a good business as an accountant and estate agent. He had had good bodily health generally until five years ago, when he had an ischio-rectal abscess followed by a fistula, which was cured by operation. When he was a boy a brick fell on his head and caused a contused wound, the scar of which is about one and

a half inches long on the left side behind, and in which he often had a stabbing pain. He had his first fit when he was 22 years of age, and for some years had them every fourteen to twenty-one days. In a fit he usually turned round and fell down, was unconscious for about an hour, slept about ten minutes, and was then all right. Twelve years ago he was assaulted and knocked down. He was picked up insensible and bleeding from his mouth, nose, and ears; his eyes were "bloodshot" for some time afterwards; he was unconscious for three days, then resumed his business. Since this accident he suffered from very severe headaches, and the fits gradually grew longer in duration and more frequent, until at the time of his admission he had them daily, and sometimes several on one day. Often during the fits latterly he had passed water and occasionally fæces. He had left internal strabismus. There was no syphilis. This was the first attack of mania, and was of a week's duration. For the previous six or eight weeks he had been excited, quarrelsome, and extravagant, but had attended to his business. He had threatened suicide, and to kill his wife. On his admission he was in a state of epileptic mania, talked continuously, complained of everything, said his food was poisoned, accused his wife and daughter of immorality, and was very emotional. He said he had intense pain in his head and was sure there was something seriously wrong with it. The urine contained neither albumen nor sugar. The excitement passed off quickly and he was discharged recovered on the 21st. He had several epileptic attacks during his stay. He was admitted again on January 23rd, 1901, with very similar symptoms. During the time he was at home he had not been able to do much work. When the acute excitement passed off, which it did in a few days, it was found that he had loss of memory and was somewhat demented. In addition to the epileptic attacks, which were very frequent and in which he wetted himself, he had fits which simulated epileptic fits; he fell down carefully and did not wet himself. The delusions persisted, and he was always complaining. In April he said he was going blind, and on examination optic neuritis was discovered. The urine at this time had a specific gravity of 1022, no albumen, no sugar. The optic neuritis rapidly went on to atrophy, and by June he was quite blind. On the evening of July 20th he was heard

snoring loudly, and was found unconscious, sitting in his chair. He could not be roused; the temperature was 102°. Next morning he had regained consciousness; the temperature was 102°, the pulse 100, full and bounding, and the skin bathed in perspiration. In the evening he was drowsy but could be roused, answered when spoken to, and put out his tongue when asked to do so. The temperature was 105·8°, the pulse rapid, and the perspiration still very profuse. About six o'clock next morning (July 22nd) he again became comatose, and remained so until he died at 8.15 a.m. A *post-mortem* examination was made next day by Mr. P. G. Mould. There appeared to be nothing abnormal about the skull, and there was no sign that it had been fractured. The brain weighed 69 ounces, and was sent to the Pathological Laboratory at the Owens College for examination.

Professor Delépine made the following report:—Brain, cerebellum, pons, and medulla, weight 69 ounces. All the parts of the encephalon were enlarged, viz. brain, cerebellum, and pons. The enlargement was more marked on the left than on the right side in the case of the hemispheres and pons; with regard to the cerebellum the enlargement was more uniform, but the right half seemed to be somewhat larger than the left. In both hemispheres the frontal lobes were chiefly affected, then the parietal and temporo-sphenoidal. In these parts the convolutions were flattened and much broader than normal. Their consistence was not equal, some of the larger convolutions being somewhat softer than the convolutions least enlarged; but the difference was by no means clearly defined. Two convolutions were the seat of a very marked local enlargement, and were very soft, and even myxomatous to the feel. These convolutions were the left gyrus fornicatus and the marginal convolution. The gyrus fornicatus was affected specially in the neighbourhood of the genu of the corpus callosum; in that region it presented a well-defined swelling, measuring about one and a half inches in diameter, and situated almost exactly in front of the genu. Only those portions of the marginal convolution adjacent to the calloso-marginal fissure took part in the formation of that swelling. This swollen portion of the left hemisphere projected at least half an inch into the corresponding parts of the right hemisphere,

which were compressed by it. Although the swelling was sharply defined it did not obliterate the contour of the convolutions, which seemed simply enlarged. On section the white matter was found to be of the same consistence as the grey matter, and more transparent than normal, to a depth of nearly two inches from the surface. The callosal fibres passing through the soft patch were quite distinct, but more spread out than in the normal state. An enlargement of the gyrus fornicatus and slight softening was noticeable along the greater part of the length of the corpus callosum, but these features were not more marked than in several other of the external convolutions. Behind the swelling mentioned above, the white matter of the left centrum ovale was softened. In the right subthalamic region there was a small mass, having the appearances of grey matter; this caused almost complete obliteration of the descending horn of the left lateral ventricle. The grey matter of several of the external convolutions appeared on section to be much altered, being hardly distinguishable from the subjacent white matter. Generally speaking, the grey matter was thinner and the white matter more abundant than in a normal brain. The white matter was in certain parts more white and opaque than usual, in others it had, on the contrary, a brownish colour. There was no marked congestion of any part of the brain. The ventricles were not enlarged, with the exception of a portion of the descending horn in the right lateral ventricle, which was slightly dilated.

Microscopical Examination.

(A) *Ascending frontal convolution and part of superior frontal convolution.*—General increase of neuroglia; neuroglia cells generally few; number of nerve-cells diminished; among the cells of the pyramidal layer there are some which are clearly degenerated; beneath the layer of large pyramidal cells some excessively large ganglion-cells are present (giant-cells of Betz); these seem to be larger and more numerous than in the normal brain.

(B). *Gyrus fornicatus in front of genu.*—Normal structure of convolution undistinguishable, owing to considerable increase

FIG. I.—Side view of the left side of the Brain.

FIG. II.—Frontal section immediately in front of the genu of the Corpus Callosum.

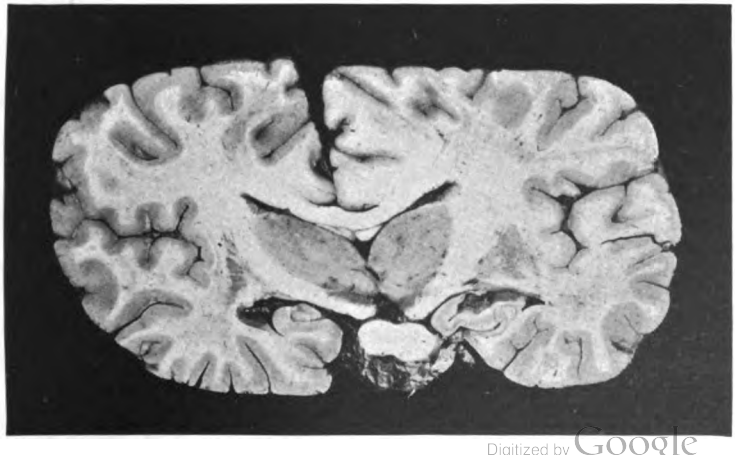

FIG. III.—Frontal section at the level of the anterior part of the Pons Varolii.

of neuroglia cells, which are separated by a small amount of fibrillated matrix (myxoglioma).

CONCLUSION.

So-called *hypertrophy of the brain*, really a diffuse increase of neuroglia (NEUROGLIASIS) with localised gliomatous masses, having the characters of a myxomatous glioma. The general distribution of this lesion suggests the possibility of it being the result of some congenital defect.

A Case of Tumour of the Frontal Lobes of the Cerebrum in which Sleep was a Marked Symptom.

By THOMAS PHILIP COWEN, M.D., County Asylum, Prestwich, Manchester.

THIS case, which was otherwise an ordinary one of tumour of the frontal lobes, presented as the most marked symptom persistent sleep.

This condition of sleepiness was first noticed about two months after his admission to the asylum, and which persisted to the end, some six months later.

The patient was constantly asleep, both day and night, and had to be kept in bed, as he was apt to fall and to hurt himself.

The sleep appeared to be quite a natural one, even up to the end, and the appearance of the patient was that of a person overwhelmed by fatigue.

It was quite easy to awaken him, and then he would answer fairly rationally for a minute or so, but then his attention waned, and he would fall fast asleep again.

Even when being fed it was difficult to keep him awake, except by constant stimulation.

With the exception of optic neuritis, no other symptoms of nervous disorder were noticed.

I have seen a good many cases of frontal tumour, but persistent sleep as a prominent symptom is new to me, and therefore I think the case worthy of notice.

M. D—, male, æt. 36, married, a policeman, was admitted to the County Asylum, Prestwich, on June 28th, 1901, suffering from melancholia. His previous health had been good up to quite recently, when he had a severe attack of influenza, which was followed by severe neuralgia of the face and head. He had done his duty as a police officer up to three weeks before admission. There was a gradual onset of depression for about eleven days before admission.

On admission.—He is a fine stout man. Has a dejected aspect and is very emotional; says "he does not know what will become of him;" does not complain of any pain in any part; his thoracic and abdominal viscera are normal; he shows no signs of organic disease of the nervous system, and his pupils are equal and react well to light. Knee-jerks and other reflexes are normal.

July 11th.—He became restless and excitable at night, complaining of constant slight pain in front of head. In the daytime he is dull and is often asleep.

August 15th.—He has ceased complaining of headache; is now always asleep, both night and day; falls asleep, even at meal times, and tends to hurt himself as he falls out of his chair when asleep. He can be awakened, but falls asleep again directly.

September 15th.—There is no change mentally; is still always asleep. When disturbed he is able to give a good account of himself, but has lost the power of prolonged attention, and is apt to be very forgetful of what has been said the moment before. No paralysis, pupils equal, rather wide, and react badly to light. Knee-jerks rather brisk.

November 7th.—In same condition, but now is apt to make to and fro movements of the right hand, even when asleep, but these he can arrest when told to do so, and they are probably functional. He has marked optic neuritis in both eyes, especially marked in the left. He is wet and dirty in his habits, probably from inattention. There is no squint or affection of facial muscles. No vomiting has occurred. No paresis of arms or legs, and he can sit up when told to do so.

January 7th, 1902.—No further change mentally. Is now quite blind. He says, in broad daylight, that "it is quite dark, and that he could see me if I lighted a candle." Pupils are wide and do not react to light. The knee-jerks are now absent.

February 2nd.—He is at times rather restless, and tries to get up, saying, "I want my clothes, as I have to go on duty." He is still dull and sleepy for the most part, and it is more difficult to awaken him, but when he is fully awake he still shows a very fair intelligence, and even gives smart answers; but this he cannot keep up, and falls speedily into a heavy sleep again. No fresh nervous symptoms. The swelling of the left optic disc is subsiding, leaving the outer half clear, which is of a chalky whiteness.

February 6th.—His heart began to fail rather suddenly, and he died at 7.40 p.m. He had no fit of any sort. His temperature rose for the first time shortly before death to 103°.

At the *post-mortem* a large tumour of a sarcomatous nature was found. This tumour had grown from the membranes, and had infiltrated both frontal lobes on their under surfaces to a depth of about three inches.

Occasional Notes.

The Proposed Psychiatric Clinique in Edinburgh.

The establishment of a psychiatric clinique in connection with the Edinburgh Royal Infirmary has been strongly recommended to the managers of that institution at a recent meeting of the Edinburgh Medico-Chirurgical Society. The meeting was a very representative one, the discussion being initiated by Sir John Sibbald, and the motion moved by Sir John Batty Tuke.

The treatment of mental in association with other diseases in general hospitals is probably one of the most important steps that can be taken to aid in the prevention of insanity. The incipient stage of mental disorder is that in which all authorities agree in describing it as most curable, but at the present time it is the stage that receives the least attention, and in which there is little or no provision for its treatment. The existing condition, indeed, has been likened to that which would obtain in eye diseases if no special treatment could be obtained until the patient was qualified by total blindness for admission to the Ophthalmic Hospital.

The public prejudice against insanity and the fear of the asylum can only be overcome by teaching the people to associate mental with other diseases in the general hospitals, and not with the asylum or poorhouse lunatic ward.

Steps in this direction have already been made by establishing out-patient departments at St. Thomas's Hospital, the Charing Cross Hospital, and at the Sheffield Infirmary. Other London hospitals are preparing to follow in this track.

The treatment of mental disease in a general hospital is not a new departure. In the thirteenth century a department of the large general hospital in Cairo was set apart for the treatment of mental disease. Mahommedans, indeed, have always recognised insanity as disease ; it was the Christian idea of evil possession that led to insanity being regarded as something quite different from ordinary bodily affliction, and this resulted in the abominations of treatment which persisted through the Dark Ages almost to our own times. Christian

communities have, indeed, large amends to make for the evil inflicted through all these ages on the insane throughout Christendom, and they should be frankly reminded of the fact.

Psychiatric cliniques have long been established on the Continent, and would have been still in existence at Guy's Hospital in London, but that the clinique there was strangled by the red tape of legal procedure.

A correspondent in the *Lancet* has suggested that these psychiatric wards, if established, should be placed under the care of a general physician.

The ignorance of mental diseases in the general body of the profession could not be better illustrated than by this suggestion. Would it be possible that any medical man could be found so totally unacquainted with diseases of the eye, for example, as to suggest that the eye wards should be placed under a general surgeon?

The abuse of the alienist physician by his fellow-workers has been of long duration, and in the past may have had some justification, but in the present day we can point to a large proportion of active scientific workers, and a large output of scientific work, rapidly increasing.

On the other hand, the records of our case books would furnish material giving very little encouragement to the suggestion of placing the psychiatric clinique under the general physician, and any attempt of this kind must be vigorously opposed by the specialty.

That the recommendation of the Medico-Chirurgical Society will bear fruit is therefore most earnestly to be desired. The managers of the Edinburgh Infirmary have it in their power to become the pioneers in a procedure which is certain to be widely followed, and which will be evidence of the progressive spirit which has always been so prominent in Scotland generally, but especially in its capital. Edinburgh, by setting this example of progress, will add an additional claim to the title of "Modern Athens."

Private Insane Patients.

The contrast in the stated number of private patients in the three kingdoms has long been a striking one, and the causes of the difference are worthy of consideration by all who are interested in the treatment of the insane. Probably the same causes are at work in all parts, and we propose to leave Ireland out of the question and to seek out their true nature by a comparison of England and Scotland

In Scotland in 1860 the proportion of private to total number of patients was about 1 in 6, and has fallen to about 1 in 7 in 1900, *viz.* 2214 in 15,475. In England the same fall has occurred, but in increased ratio, *viz.* from 1 in 8 in 1859 to about 1 in 12 in 1902.

The census returns in regard to the housing of the people and the income tax statistics both show that there is a considerably larger proportion of well-to-do persons in England than in Scotland. The expectation from this would be that there would also be a larger proportion of private patients and not the reverse, as the figures given above show.

Dr. Clouston, in adverting to this question in his 1900 report, states as a curious social fact that "the moderately well-off Scotsman supports his insane relations without letting them fall on the rates in twice the proportion that the Englishman does, etc." It is the case certainly that the proportion of private patients to total patients was on January 1st, 1901, 1 to 6·98 in Scotland and 1 to 12·05 in England; also that private patients were on the same date in proportion to pauper patients as 1 to 5·98 in Scotland and 1 to 10·95 in England, but, to our mind, these figures do not warrant Dr. Clouston's reading of them. From those given below it will be seen that the proportion of private patients to population in Scotland is getting on for twice as much as it is in England, while the proportion of pauper patients is almost identical. It might be equally well assumed that both nations desire to be independent of the rates, but that Scotland has relatively twice as many private patients to whom she can do her duty. Further, we find that about 1 in 41 Englishmen and 1 in 44 Scotsmen are in receipt of relief in one shape or another. We are therefore driven to the conclusion that the difference in private

lunacy statistics is due to circumstances rather than to individual or racial habit.

	Population, April 1, 1901.	Pauper patients, Jan. 1, 1901.	Private patients, Jan. 1, 1901.	Total patients, Jan. 1, 1901.
England . .	32,526,000	98,223	8947	107,920
Ratios to population . . .	—	1 to 331	1 to 3635	1 to 301
Scotland . .	4,472,000	13,261	2214	15,475
Ratios to population . . .	—	1 to 337	1 to 2019	1 to 288

What are the circumstances? To begin with, we find that in each of the Royal Hospitals at Dundee, Edinburgh, and Montrose there is a special or district rate for private patients actually, and in one instance substantially, lower than the pauper rate for the district. We do not suppose that this fact has a very far-reaching influence on the proportions in question, but it must be discounted. Then at most of the district asylums private patients are admitted at pauper rates, or for a sum but little above. Until recently such a system was almost unknown in England. Then there can be no question that in the middle of last century the Royal Asylum in Scotland offered accommodation for patients just above pauper condition to a far greater extent relatively than could be found in England, and for that deserves all honour. The tendency to keep up that class of accommodation still exists, for has not Gartnavel totally excluded paupers in favour of such cases? and is not Morningside eager to get rid of its City paupers for the same reason? The true solution of the question seems to lie chiefly in the amount of accommodation thus available, and it can be summed up thus: Given accommodation for private cases who without it would go on the pauper list, occupants will be certainly and quickly found. The truth of this has been shown not only at Gartnavel, but also in England. The accommodation specially provided at Dorchester, Claybury, and Stone for private patients apart from others is full and overflowing, and the increase of private patients in each of the London County Asylums since they have been admitted on payment of the bare maintenance rate, though

small at present, points the same way. Yet again, the transfer from pauper to private classes yearly and increasingly exceeds those from private to pauper; in fact, it may be confidently said that if a *quid pro quo* is given many will make a slight extra effort to have their friends ranked as private patients, who would not feel justified in finding an additional four or five shillings per week for nothing.

Another question arises: whether for the class of patients just above those last described as much is done by the Registered Hospitals in England as is done by the Royal Asylums of Scotland. Our impression is that in relation to numbers there is less scope in England, but it is hard to say so certainly without the actual figures of number and rates of payment in each case. The same want of information prevents our even guessing at the accommodation afforded for such cases in private asylums, though a glance at the numbers in those which may be supposed to take them in would suggest that there is not much room to spare.

For the richer patients there seems to be ample accommodation in England, and probably in Scotland. But this class is not likely to extend very much, certainly not to the extent of influencing the equalisation of the ratios now being considered.

On the whole we consider that we are justified in concluding that England would show as goodly a proportion of privately supported patients as Scotland does if it only had the machinery. It is possible that the extension of Registered Hospitals, such as is now taking place, for instance, at Cheadle, will supply some of the provision required, but for the bulk of that provision we must look to County Councils. We earnestly hope that if the latter bodies are persuaded to take up the task generally it will be with a stern determination not to go beyond the best available treatment *plus* moderate comfort suitable to the financial circumstances of those to be admitted. Anything like a brave show or a rivalry in grand buildings, such as is not altogether unknown even in pauper asylums, will infallibly damn the enterprise. Such institutions or additions should be conducted on absolutely even principles, the same treatment for all alike, any difference therein being dictated by the medical emergencies of a case and not by payments. The payments should be just as much as will cover maintenance *plus* repayment of capital cost. When the latter ceases in

the course of years there will then be room for either modifying terms or for benevolence to deserving cases. The word "profit" should not be heard in connection with the enterprise.

The Report on the Dieting of Pauper Lunatics in Scotland.

One of the most important and valuable documents that has ever been issued in connection with the institutional treatment of insanity is the *Report on the Dieting of Pauper Lunatics in Asylums and Lunatic Wards of Poor-houses in Scotland*, by Dr. J. C. Dunlop. It is issued as a supplement to the forty-third Annual Report of the Scottish Commissioners.

The results of the investigation, planned and carried out in a thoroughly scientific and practical manner, must have a wide-reaching influence on the dietaries of the insane, not only in Great Britain, but in other countries.

Whatever criticism may be advanced in regard to details of the estimation of dietetic values, etc., there can be no doubt that these closely approximate to the truth, there being found to be a close correspondence between the estimated values of diets and the general nutrition of the patients.

The few exceptions in which a diet of low nutritional value is found to correspond with an average nutritional weight of the patients will probably be found to be accounted for by exceptional or unrecorded supplies of food, or possibly by exceptionally good preparation of the food, and, indeed, to be exceptions which help to prove the rule.

The suggestions for ensuring the proper feeding of pauper insane patients, with which Dr. Dunlop concludes his report correspond very closely with the principles that have long been followed in most of the best asylum dietaries, but it is of distinct importance to have these principles confirmed on a scientific basis, as given in this Report.

A detailed criticism of the Report has yet to be written, but the Scottish Lunacy Commission is to be congratulated on having undertaken a most important piece of work, which has long needed attention, and on having entrusted its execution to the care of so able and competent an investigator as Dr. Dunlop.

The Danger of Discharge of Insane Patients by the Judicial Authority.

"A Flaw in the English Lunacy Law," to which Dr. Ernest White draws attention(1) is an example of the dangerous power given to the "judicial authority" under the existing Lunacy Act.

The case of which Dr. White gives the details is one in which, in spite of the written opinions of four medical men, two of them specialist physicians, a justice of the peace reported to the Commissioners in Lunacy that he did not consider the patient to be insane. The Commissioners, on this report, were obliged to discharge the patient, who thus obtained the opportunity of committing suicide, and did so.

The criminal absurdity of giving an ordinary justice of the peace the power of deciding on the sanity of an alleged lunatic has never been more clearly and forcibly demonstrated; but the fault is in the law, and not in the judicial authority, who possibly did not know that his report would inevitably lead to the discharge of the patient. A young justice of the peace would probably expect that his report would not lead to immediate discharge, but only to an investigation by skilled medical men. The law, therefore, needs amendment in giving the Commissioners in Lunacy discretion in regard to discharge on such a report, so that they may act on it, decline to act on it, or make further investigation.

That sick persons should be liable to be discharged from hospitals on the medical opinion of a lay judicial authority is an intolerable injustice, and would be a ludicrous absurdity were the consequences not so lamentable and disastrous, as exemplified in the case under consideration.

The Lord Chancellor, if this case is brought before his notice, will probably amend the section under which it occurred, otherwise we must conclude that disease is really regarded as crime, and that we are fast approaching to the state of things depicted in Erehwon.

(1) See page 312 of this number.

Czolgosz.

Czolgosz, the cacophonously-named murderer of President McKinley, is still the subject of discussion in the United States, the question having been raised whether he was not insane rather than a criminal.

Expert testimony was excluded from the trial, with the result that both the medical and lay mind is in ignorance of the grounds and methods of inquiry on which the opinion of Czolgosz's responsibility was arrived at.

The examination lasted three weeks, and was assisted by a very full statement of premeditation by the assassin. How far reliable evidence of his past life was obtained is not publicly known, but only strong evidence of previous insanity and insane conduct could shake the conclusion arrived at. If such evidence existed it should certainly have been produced before the trial. Dr. Channing, of Boston, believes that he has evidence of a distinct history of insanity in Czolgosz, and there will probably be much future debate on this question.

That an insane person should have been executed as a criminal would be regrettable, and also that he should be ranked as an anarchist, for although anarchism is a strong presumption of insanity, the converse is fortunately not true.

General Index to 'Brain.'

The general index to the first twenty-three volumes of *Brain*, which has recently reached us, is a valuable addition to our reference shelf. It represents a very large amount of work, which only those who have undertaken similar work can fully appreciate.

The list of authors is given separately from that of subjects, which is a considerable convenience. The index of subjects appears to be very satisfactory, both in cross and related indexing. The typing, too, is well adapted to aid in speedy reference.

The readers of *Brain* may be congratulated on having this piece of work so satisfactorily completed, chiefly, we believe, through the energy of the present editor, although his name does not appear in connection with it.

Influenza.

Influenza has been more rife than usual this wintry spring, and although fortunately the mortality therefrom has not been very high, its baneful influence has been more widely spread than ever.

Whole schools have been prostrated, committees of important bodies scarcely able to raise a quorum, Government offices so weak handed as to seriously diminish the supply of red tape, and some departments of the law, never arraigned as yet for furious speed, have come nearly to a standstill. On the other hand, ammoniated quinine has been at a premium, nurses have been too busy, with rare exceptions, even to prosecute their doctors for treating them gratuitously, and seaside resorts, especially those with golf courses, have been largely frequented.

Lastly, but by no means least, our editors, reviewers, and contributors have suffered unanimously, and if the JOURNAL is late and somewhat emaciated in its appearance, this also must be ascribed to the demonic influence of the influenza.

Part II.—Reviews.

Syphilis und Nervensystem [*Syphilis and the Nervous System*]. By Dr. M. NONNE. Published by S. Karger, Berlin, 1902. Octavo, pp. 458, with 42 illustrations. Price 14 m.

THIS monograph takes the form of seventeen lectures, delivered by the author in the autumn of the years 1899, 1900, and 1901, to practising physicians in Hamburg. He has published them in the same form as they were delivered, as he thinks they will thus possess greater practical interest without being wanting in scientific accuracy. They are illustrated by many valuable clinical facts from the author's own observation, and wherever possible the clinical symptoms are referred to the basis of pathological anatomy. In his division of the subject he is guided largely by his own experience, and by the necessities of practical utility. This is wise, not only in view of the circumstances under which the lectures were delivered, but also in view of the mistaken impression of the subject which is obtained when a series of very rare

though interesting conditions are detailed, of which the majority of people will probably never see an example. A more correct picture is thus given of what is likely to be the average experience of an ordinary practitioner.

The lectures, as stated, are seventeen in number, and they review the subject in all its different aspects. The ætiology, diagnosis, and pathological anatomy are first considered. Under the last head he recognises three types of syphilitic disease as it affects the nervous system: (1) syphilitic new growth; (2) chronic hyperplastic inflammation; (3) vascular disease. The last leads to consequences which are not of a syphilitic character,—for example, necrosis of nervous tissue. He recognises, also, a group of post- or metasyphilitic affections which manifest themselves in various simple degenerative processes, which, on clinical grounds, are attributed to syphilis, though pathologically they cannot be distinguished as specific of that disease. The three groups above mentioned are fully described and illustrated. As regards vascular disease in syphilis, the author considers that there is "no essential difference between atheromatosis resulting from syphilis and that which is found without the concurrence of syphilis."

The author then turns his attention to the symptomatology of syphilitic arterial disease, cerebral meningitis, disease of the base of the cerebrum, and to the differential diagnosis and prognosis of these. He then takes up the psychoses and neuroses of syphilis. He concludes that there is no mental disease specifically syphilitic, and diagnosable as such; further, that there is no form of psychical disturbance which may not be observed as a result of syphilis.

In the ninth lecture the author states it as his opinion that general paralysis is not a specifically syphilitic disease, though he admits that the relations between them are numerous and intimate. He allows that syphilis plays a part, in that it diminishes the resistance of a brain more or less disposed to it, and that thus, at a later period, damaging factors are able to exercise their influence. Of these factors he looks on alcohol as the chief.

The next three lectures are devoted to syphilis of the spinal cord. In the thirteenth the author considers the question of tabes. As in general paralysis, he regards this disease as not a specifically syphilitic affection, and for much the same reasons. The question is undoubtedly a difficult one. As regards general paralysis, the greatest light appears to be shed by the cases of its juvenile or developmental form. In them there are seldom any of the "damaging factors" to which the author alludes to be discovered. The sole common factor in the great majority of such cases is the existence of hereditary syphilis. It is quite true that the pathological anatomy of general paralysis and of tabes does not present features similar to other recognised syphilitic processes, but after all this is nothing but a mere argument. The author himself recognises at least three distinct forms in which syphilis may manifest itself pathologically in the nervous system, and not one of these primarily attacks the nervous tissue. Why, then, must one deny that there may be a fourth or even a fifth form? When one considers the highly specialised structure of the nervous system, one might, indeed, be surprised if syphilis did not affect it in a pathologically different way

from what it does in other tissues. This also is, of course, a mere argument, but it is more likely to be true than the other.

The last four lectures deal with the cerebro-spinal forms of syphilis, disease of the peripheral nerves, hereditary syphilis as it affects the nervous system, and finally therapeutics.

The book, as a whole, is clear, interesting, and well written. It contains numerous descriptions of cases the author has himself seen, which illustrate the point under discussion, and stir fresh interest in the subject when this might flag during the course of theoretical disquisitions. The bibliography is most complete, extending to twenty-one pages. It is drawn from all countries, and omits no work of importance dealing in any way with the subject. The indexes are also good.

JAS. MIDDLEMASS.

Object-Lessons in Penal Science. Third Series. By A. R. WHITEWAY, M.A., Barrister-at-Law. Sonnenschein, 1902. Crown 8vo, pp. 212. 3*s.* 6*d. net.*

Mr. Whiteway has a lively sense of the defects of our police, of our criminal laws and procedure, and of our prison system, in fact, of every stage of our dealing with offenders, whether in catching them, trying them, or punishing them. His heart is in his subject, he writes with liveliness, and his book is calculated to stir somewhat stagnant waters; but in his recommendations for reform there is a lack of definiteness. As existing, our system, he says, is altogether wrong, root and branch, lock, stock, and barrel; but beyond vague declarations that things ought to be better done, we do not get much enlightenment as to what precise measures should be taken to reform them. Prison governors and warders ought to be better trained, but what they are to be trained in we are not told. The author argues against the view of Sir E. Fry and other jurists, that at the bottom of the whole system of punishment is the notion of fitting suffering to sin. The introduction of the last word was unfortunate, and has given occasion to others before Mr. Whiteway to exclaim against the assumption of a religious function by the law; but it is perfectly obvious to any one who has read Sir E. Fry's article that he used the word "sin" in no religious sense, but as a wide term to include all forms of wrong-doing. "We have no right," says Mr. Whiteway, "to *punish* for punishment's sake." I should very much like to know why not. "All we can do properly in our treatment of criminals is to efficiently protect ourselves. If in doing so we benefit them, that is not only a matter of duty, but one, too, to our own exceeding great advantage." And if in doing so we harm them, we may regret the necessity, but we manifestly have, on these premisses, the right to do so. "Practical utility" has something to say in the matter, no doubt, but undoubtedly the earliest, and still the most operative motive in the infliction of punishment is that very *lex talionis* which Mr. Whiteway so strongly deprecates; and, *pace* all the efforts of all the utilitarians, so it will remain as long as the sentiment of indignation at the sight of wrong remains a constituent in human nature, and I for one should be sorry to hasten its departure by a single day.

It is a pity that such barbarous expressions as "up-to-date" and "catch on" are allowed to appear in a bound volume, they are bad enough in the daily press; and either the proof-sheets have not been corrected at all or Mr. Whiteway's experience as a conveyancer has given him an insurmountable abhorrence of stops. Ferri Garofalo Lombroso Tarde Feré are not the names of one man, nor are Nicolson Baker Pitcairn Brayn, though, from the absence of punctuation, they appear to be. CHAS. MERCIER.

Les Aliénés devant la Justice [*The Insane before the Courts*]. Par F. PACTET et H. COLIN. Paris: Masson, Gauthier-Villars. Small 8vo, pp. 176. Price 2 f. 50. *Les Aliénés dans les Prisons* [*The Insane in Prison*]. Same authors and publishers. Pp. 172.

These two little volumes belong to the *Encyclopédie Scientifique des Aide-Mémoire*, a now extensive series notable for the high competence of the writers who have contributed to it and the very clear and condensed style adopted. The authors of these two books (which may be regarded as a single work) are marked out as specially fitted for their task by the fact that one is a physician at the Villejuif Asylum, and that the other was formerly medical officer at Gaillon, whither all cases of insanity occurring in prisoners condemned for periods over one year are supposed to be sent.

The main thesis of the authors is that insane persons are sent to prison and kept there very much more frequently than the optimists would persuade us is the case. The authors draw their illustrations mainly from France, but also bring forward evidence to indicate that the same thing occurs in other countries also. Although their views are expressed very decisively, and with ample confirmatory evidence, they preserve throughout a tone of moderation and sobriety. The attitude adopted is entirely orthodox; indubitable and unquestioned forms of insanity are alone taken into consideration, and no attempt is made to trespass on the province of the criminal anthropologist. This cautious and correct attitude adds strength to the authors' contentions.

Considerable significance attaches to the very unequal contingents of insane prisoners sent to Gaillon from the various prisons of France. It appears that during a period of six years nearly half the number of insane criminals received came from three prisons only; the other half came from as many as twenty-eight Maisons Centrales or prisons, including some of the largest in the country, like Clairvaux and Poissy. It can scarcely be argued that the immense discrepancy is due to a real inequality in the manifestations of insanity in French prisons. The real source of the inequality becomes clear when it is pointed out that the medical supervision of the three prisons in which insanity is most frequently found is in the hands of experienced alienists who had previously been attached to asylums. The other prisons furnish few insane subjects, not because insanity is not present, but because it is unrecognised, or regarded as too trivial for special treatment. It is pointed out that a similar condition of things prevails in the United

States, Elmira, with its more careful and thorough management, sending a very disproportionately large number of insane prisoners to Matteawan.

The chief argument brought forward, however, lies in the records of clinical histories which make up a considerable part of these volumes. Twenty-five cases are given in which various classes of crimes were committed by insane persons (mostly general paralytics), who were condemned and sent to prison; in some cases they were sentenced for fresh offences several times before the insanity was discovered. In the second volume twenty-eight cases (general paralysis, delusions of persecutions, imbecility, etc.) are detailed.

The authors' recommendations are clear and definite: (1) in *all* cases there should be a medical examination of the mental condition of the accused immediately after arrest, usually there need only be a very summary examination; (2) greater care in the selection of experts, all alienists competent to give evidence being inscribed on an official list; (3) special inspection of prisons by alienists, whose sole function it would be to discover and report cases of insanity.

HAVELOCK ELLIS.

Die Unterbringung Geisteskranker Verbrecher [The Disposal of Insane Criminals]. Von P. NÄCKE. Halle: Marhold. Large 8vo, pp. 57, 1902.

Dr. Näcke's pamphlet, appearing at the same time as the books just reviewed, discusses some of the same problems and brings forward some of the same arguments. "The day has gone by," he remarks, "when the statement that prisons contain many psychopathic and even insane persons was regarded as a calumny; it is now a commonplace." He proceeds to summarise some of the evidence on this point, and mentions that, in his own experience, of fifty-three women from one fifth to one fourth were improperly sent to prison, while Sommer came to the conclusion that very few of his insane criminals were normal before their deed. The evidence leads to the conclusion that "the majority of insane criminals were insane at the time of the deed, but their insanity was not recognised." That this conclusion holds good for English prisons is, Näcke thinks, proved by Baker's statistics. The majority of those who really become insane in prison belong to the class of criminals by passion.

There are, however, wide differences, both in opinion and practice, concerning the best method of disposing of insane criminals. The greater part of Dr. Näcke's pamphlet is devoted to a condensed but thorough discussion of the various methods. The chief varieties are three: (1) central institutions for all insane criminals; (2) annexes to prisons; (3) annexes to asylums. One of the practical difficulties in settling this question lies in the fact that insane criminals belong to very various categories. The author is, however, decidedly of opinion that recidivists and really criminal characters are rare among them, and that it is unjust to allow our treatment of the majority to be influenced

by the small minority. The "moral insane" or moral imbeciles ought to be sent to a special institution, which would provide the peculiar treatment they require; and this institution might be an annexe to a prison, but on the whole the author favours the annexe to the asylum as generally the best method for disposing of the criminal insane, at all events on the Continent of Europe. While fairly presenting the case in favour of great central institutions such as exist in England and America, Dr. Näcke does not consider that these form good models for imitation. At the same time he has no wish to drive a principle to death, and he considers that various kinds of institutions may, under varying circumstances, be the best.

HAVELOCK ELLIS.

Twenty-Sixth Year-book of the Elmira Reformatory (1901).

Considerable changes have lately taken place in the management of this institution. Mr. Brockway, who was superintendent of the prison from its establishment, has resigned, as also has Dr. Wey, the physician. Dr. Frank W. Robertson has been appointed superintendent and Dr. Christian physician. With these new appointments are associated various other changes, both in the *personnel* and the management of the institution. Some fear may naturally be felt lest these sweeping changes may involve a disastrously retrograde movement in the management of the institution which has so long served to teach the world the direction in which prison reform must be directed. Fortunately it cannot be said that there are any apparent signs of degeneracy about the Elmira Reformatory. On the contrary, it would appear that the recent appointments have involved no radical change of policy, but, on the other hand, have led to increased efficiency. Splendid as were Mr. Brockway's achievements, there can be no doubt that some infusion of new blood was required. The late superintendent emerged, on the whole, triumphantly from the exhaustive official investigation to which his actions and policy were submitted a few years ago, but there can be little doubt that that investigation weakened his moral authority and interfered with the discipline of the Reformatory. The time had clearly come for the reins to be placed in other hands. It is satisfactory to find that corporal punishment, Mr. Brockway's use of which was the most debatable point in his management, has now been entirely abolished. It is also most satisfactory to find that—as all prisons should be—the institution is now in charge of an alienist. Dr. Robertson, previous to his appointment to Elmira, had been for five years the medical chief of the Pavilion for the Insane at Bellevue Hospital, New York. It is not surprising to find that he has set himself resolutely to deal with the question of insanity at Elmira, and a considerable number of cases have been transferred to asylums. Dr. Robertson is strongly of opinion that, as a matter of routine, the mental and physical condition of prisoners should be carefully investigated before sentence is pronounced. This would result in securing valuable information which would materially assist the judge in properly disposing of the case, and would prevent the

sending of certain classes to an institution of this character. "Each year we receive a number of imbeciles, epileptics, and insane criminals, who would doubtless have been sent elsewhere had their actual condition, at the time of imposing sentence, been known and understood by the court." It is pointed out that some insane criminals had already been convicted several times previously. It is therefore reasonable to suppose that in many cases a morbid state of mind existed at the first conviction, and might have been discovered by skilled investigation.

While this report bears witness to Dr. Robertson's energetic administration of the practical affairs of this great institution, we miss any record of scientific work achieved. The new superintendent, being aided by an assistant and by two resident physicians, is in a much better position than his predecessor. It is to be hoped that he will not allow himself to be absorbed by the multifarious practical details of his office, but will utilise his great opportunities to increase that stock of scientific knowledge on which alone real progress in practical treatment can be based.

HAVELOCK ELLIS.

Retspsykiatriske Erklaeringer afgivne af Dr. Knud Pontoppidan: en Eksempelsamling til brug for Laeger og Jurister [Medico-legal Reports on Insanity: a Collection of Cases for the Use of Physicians and Jurists]. Demy 8vo, pp. 322. Copenhagen, 1901.

The learned author here presents to us a collection of 235 cases taken from a very wide circle of observations, all dealing with real or assumed abnormal mental actions. In most instances the subjects have brought themselves within the grasp of the law; some were not brought to trial, others declared insane or detected in simulation. In other cases questions of testamentary incapacity had been raised. Dr. Pontoppidan's wide experience has brought him in contact with every phase of insanity. Many of the reports deal with the different forms of alcoholic delirium. Cases of imbecility and deaf-mutism are also recorded. The reports vary in length from one to four or five pages. They show much graphic power and skill in the selection and presentation of details. So varied are the forms of mental derangement about which the opinions of medical men are asked, that definitions are escaped and no one instance is quite like another; nevertheless it must be an instructive exercise to read how such cases have been regarded by a master in medical science and in the lore of insanity like Dr. Pontoppidan. Altogether this is a useful addition to the works upon insanity and diseases of the nervous system, which have raised so high the reputation of the author.

WILLIAM W. IRELAND.

L'Epilessia,—eziologia, patogenesi e cura. By Dott. PAOLO PINI. Milano: Ulrico Hoepli, 1902. Small 12mo, pp. 278. 2 l. 50

This small volume is practically a critical digest of the recent work in connection with epilepsy, and especially of its therapy. There are

three main divisions in the work. The first, comprising about eighty pages, deals with the ætiology and pathogenesis; short sub-sections treat of the toxic properties of the various fluids—the urine, the sweat, the blood, the cerebro-spinal fluid, etc. The second division is devoted to a consideration of the various therapeutic agents, and includes the psychical and physical methods of treatment. Each agent has a short sub-section to itself with a separate bibliography, a similar system being also followed in the first division of the book. The literature dealing with the results obtained by any particular drug or system of therapy can thus be readily obtained. The third section gives a short account of epileptic colonies, and also of the legislation in various countries. The book is well written, and will be found of great service by those who desire a concise knowledge of the present views with regard to epilepsy, or who may wish references to the recent Continental and especially Italian papers on the subject. The book is brought up to date by the inclusion of a short appendix giving the results of Ceni's recent researches on the serum-therapy.

Part III.—Epitome of Current Literature.

1. Anthropology.

Concerning the Frequency and Significance of Transverse Ridging of the Nails in the Normal, the Criminal, and the Insane [*Intorno alla Frequenza ed al Significato della Striatura ungueale trasversa nei Normali, nei Criminali, e negli Alienati*]. (*Arch. di Psichiat., vol. xxii, fasc.* 6.) *Treves.*

In a previous communication to the Turin Academy of Medicine, the author called attention to the frequency of transverse ridging of the nails in the insane, and suggested that the phenomenon was a sign of oscillations in histogenetic activity dependent on unstable conditions of metabolism in mental disease. The present paper is a further discussion of the subject.

The author first points out that there is a lack of correspondence in the frequency and situation of this ridging in the nails of the different digits. By staining the nails with nitrate of silver, it was ascertained that these variations are due to differences in the rate of growth; the finger-nails are renewed within a comparatively short period (two to seven months), the period differing with each digit, and being longest in the case of the thumb; the toe-nails, on the contrary, grow more slowly, but the rate is practically the same in all the digits; complete renewal is effected in from eight to twenty-four months. Hence the toe-nails are able to register a longer series of nutritional disorders, but are incapable of showing the slighter degrees of such disorders, which may

appear on the finger-nails. From a medico-legal point of view, this ridging of the nails might conceivably be a useful guide to the occurrence, and in some measure to the date, of recent grave disorders of nutrition.

Having thus established the significance of the phenomenon, Treves has investigated its frequency in different categories of individuals. He finds that it is rare in the normal (about 10 *per cent.*), and that, when it does occur, it can usually be traced to some recent severe illness. In criminals and prostitutes and in the insane, on the contrary, it is very frequent (about 50 *per cent.*); it is most common in the insanities of the degenerate type. A table appended to the paper gives the exact percentages for the different groups of abnormal subjects.

W. C. SULLIVAN.

Three Cases of Polydactylism [*Tre Casi di Polidactilia*]. (*Arch. di Psichiat., vol. xxii, fasc.* 6.) *Portigliotti.*

The three cases of this anomaly reported by the author, were met with in a population of about 2700 persons. In two of the cases, both hands and feet presented six digits; in the third case the condition existed in the feet only. An exhaustive examination of the family history of the cases through three generations failed to disclose any hereditary tendency to polydactylism or any degenerative taint. In only one of the cases were the parents of kin second cousins. One of the subjects was above the average in intelligence, the other two were somewhat weak-minded. W. C. SULLIVAN.

The Influence of Social Class and of Creed on Anthropological Characters [*Der Einfluss der socialen Schichtung und der Confession auf die anthropologischen Charaktere*]. (*Zeit. f. Morph., Bd. iv, H.* 1, 1901.) *Pfitzner, W.*

Professor Pfitzner has continued his interesting "social anthropological studies" at the Strasburg Anatomical Institute by an attempt to investigate the influence of social rank and of creed, an attempt not without difficulties, owing to the slight range of social class among the persons dying in hospital, and the absence of any fit standards of comparison among persons of higher social class. As regards the latter point he has, so far as size of head is concerned, reached certain results, though not without the expenditure of much time and diplomacy in gaining information from hatters, in the course of which he was compelled to acquire a large number of hats. He found that while the sizes of very cheap hats range very well with the sizes of the heads of his subjects at the Anatomical Institute, the more expensive hats have a different and higher range of size. He himself possesses a remarkably large head, and he finds it impossible to obtain a hat that fits him among the very cheap class of goods, even the manufacturers, when the tradesmen offered to procure the article desired, being unable to supply the right size; but among the expensive class of hats he has no difficulty in finding one to fit him, or even one that is too large. He concludes, therefore, that the well-to-do social classes have larger heads than the lower social classes. In a somewhat similar manner, by acquiring skill in estimating the height of well-to-do persons as they passed his

shoulder in the street, he was able to convince himself that the hospital subjects are short as compared with the well-to-do, and that, in fact, heights which are fairly common among the latter practically never occur at all among the former.

He then proceeded to make more exact comparisons by establishing differences of social class among the hospital subjects themselves. The best classification was found to be on the basis of burial. On this basis three classes were formed: "A" those persons for whom no funds were available for burial; "B" those whose burial expenses were wholly or partly defrayed by clubs, etc.; "C" those whose burial was paid for out of their own or their friends' resources. The "B" class is represented as standing for the main body of the hospital inmates, the "A" class representing a selection downwards, the "C" class upwards. As regards difference in hair and eye colour the results were not clear, but there was a distinct increase in height in passing from "A" to "B," and from "B" to "C," the last class being in both sexes about 2 cm. taller than the "B" class. Exactly the same kind of difference was found as regards circumference of head. Differences in cephalic index do not plainly appear in the same progressive manner, this being due to the fact that in passing from "A" to "B" the head increases mainly in length, in passing from "B" to "C" mainly in breadth; the more dolichocephalic are thus found in "B." No notable results could be found as regards other anthropological characters.

As regards creed, about 60 *per cent.* Roman Catholics are found among the hospital subjects to 30 *per cent.* Protestants (the remainder being of unknown faith). The only definite anthropological difference between Catholics and Protestants that could be found was that the former are rather more broad-headed, the latter rather more long-headed. This agrees with a generalisation of the late Canon Taylor's regarding Europe generally. HAVELOCK ELLIS.

Primitive Offenders and Offences [*Delinquenti e Delitti primitivi*]. (*Riv. Mensile di Psichiat.*, *Nos.* 8–9, 1901.) *Penta.*

Professor Penta has for many years been occupied in studying criminals in the prisons of Naples, one of the most favourable regions in Europe for such studies. In the present paper he sets down some of the latest of his general conclusions on the subject of the nature of criminality. These conclusions differ widely in many respects from those of Lombroso. He notices in the first place that he finds a very great difference between those prisoners who are confined in establishments reserved for minor offenders and those, convicted of more serious offences, who are confined in the convict prisons; the first are a much more dangerous class than the second, much more incorrigible, and much more often lacking in moral sense. He finds also that while the first group—the more dangerous persons who only commit slight offences,—come mainly from the cities, the others come from the country. The individuals of the first group also belong in much larger proportion to the class considered by Lombroso to be merely insane. So that the offence and its punishment, taken by themselves, furnish a very fallacious criterion for diagnosis and treatment.

Very low and ape-like types (of which some portraits are presented) may frequently be found among these prisoners, especially among those, coming from the country, who have been guilty of serious crimes; but, asks Penta, are these types really degenerate? Do they, in other words, reproduce, from pathological causes, archaic forms, which distinguish them from their families and social class? Penta is inclined to answer this question in the negative. He finds that these individuals in the prisons with receding foreheads, prognathism, large cheek-bones, massive jaws, etc., merely present in an exaggerated form the types of their race and class in the rural districts of Southern Italy. We are in the presence not of atavistic returns to savage or anthropoid conditions but of survivals. These persons are potential criminals who become actively criminal under the influence of bad social conditions, where justice is often only attainable by the rich, where many crimes do not meet with any disapproval, economic crises are frequent, and hard conditions of life prevalent. Penta has some interesting remarks on the Sicilian *mafia*, which is, he states, quite unlike the *camorra*. The latter is merely an abject society of criminals, but the former is an invisible and intangible association which cannot be attacked because it exists everywhere in popular sentiment.

A number of cases are brought forward to illustrate this conception of primitive criminality. There is undoubtedly an element of truth in the author's contention, though it may be pointed out that he admits that the criminals are an *exaggeration* of the popular type, and that he fails to explain why it is that under bad social conditions that press on all some become criminals and others not. HAVELOCK ELLIS.

Pain [*Der Schmerz*]. (*Zeit. f. Psych., Bd. xxvi, H.* 1 *and* 2, 1901.) *Tschisch, W. von.*

In this paper Professor Tschisch sets forth his conception of pain as a form of death. Pain, he points out, does not depend on the intensity of the stimulus; a Paquelin cautery at a white heat causes much less pain than at a lower temperature. The really significant fact is that those chemical substances which produce pain kill living tissues. Pain is bound up with the existence of nerves, and appears before the tissue is killed; so it is that it arises under comparatively weak stimulation, while strong stimulation produces death. "Those chemical substances which excite no pain cannot kill any living tissue. Every chemical agent which changes living tissue into dead arouses pain." Thus it is that excitations like strong light, loud sounds, repulsive smells, cause no pain; while heat, cold, mechanical and electrical stimuli, poisons, arouse pain. It is true that some poisons cause no pain; such poisons, however, do not act directly on living tissue; those which act directly on living tissue, like corrosive sublimate, produce pain. Pain is thus the first reaction of the organism to stimuli which kill living tissue; it is the guardian of the organism, the messenger which brings warning of approaching danger; it announces that death has already begun to appear.

When a destructive stimulus begins to work on the organism pain begins to appear in consciousness. But there is more than that: changes take place in the organism, in the pulse, in the condition of

the pupils, etc. Pain is a physiological as well as a psychological phenomenon, and it cannot be correctly defined as a purely subjective manifestation.

Why is pain so soon forgotten? Tschisch answers that it consists of a sensation and a feeling, and that the stronger the stimulus is the less the sensation; but a state of consciousness which has been lived through can only be retained in memory as a whole. If the sensation is lost the whole can no longer be retained in memory, for memory cannot reproduce feelings separated from sensations. Every healthy mother has experience of this. This property of pain to be swiftly forgotten is one of the conditions of human progress. It is because we forget pain so easily and moral suffering with such difficulty that the latter influences our actions so much more than the former.

The author remarks in conclusion that pain, being so easily forgotten, has no educational value, and that as punishment it is useless, cruel, and unwholesome. HAVELOCK ELLIS.

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2. Physiological Psychology.

Ambidexterity [*L'Homme droit et l'Homme gauche: les Ambidextres*]. (*Revue philosophique, October*, 1901.) *Biervliet, J. J. van.*

Professor van Biervliet has now completed his very careful study of right-sidedness and left-sidedness (already summarised in the JOURNAL) by a still more careful investigation of ambidextrous persons. In the first place by photography, according to a special and uniform method, he finds that in the ambidextrous the two sides of the face, as well as the arms, are fairly alike, the face being slightly more developed on the right side, as among left-sided people, but not in so marked a degree. They occupy much the same position, indeed, throughout the investigation. When compared with right-sided and left-sided people as regards sensory acuteness, it is found that while the right-sided have predominant sensory acuteness on the right side, both the left-sided and the ambidextrous can see further, hear better, possess more acute tactile and muscular sense, on the left side, so that ambidexterity may be regarded as a variety of left-sidedness of more symmetrical anatomical type. In all respects the ambidextrous almost or quite resembled the left-sided.

A further and somewhat interesting investigation was made on twenty right-sided, left-sided, and ambidextrous persons with regard to the same characteristics in the sphere of psychic function. Biervliet attempted to compare visual memory and auditory memory when the right eye or ear only was used with the result obtained when only the left eye or ear was used, and to compare these results with those obtained when both sides were brought into action. During the tests the subject sang a vowel note to avoid articulation. It was found that in the right-sided the memory of the right eye is clearly and constantly superior to that of the left eye, and almost equal to that of both eyes acting together, which seems to indicate that when we look at an object we really fix it with

our best eye. The left-sided have a marked superiority of memory on the left side, which is, again, nearly always equal to that of both sides acting together. Much the same result was reached as regards the ears, the better ear being, indeed, in many cases superior to both ears acting together, so that it would seem that the ear which listens is somewhat distracted by the ear which merely hears. Both as regards auditory and visual memory, the ambidextrous behaved in the same way as the left-sided. The author concludes that, from the point of view at all events of the sensory nervous system, the so-called ambidextrous person is really a left-sided person. HAVELOCK ELLIS.

Stimulation and Fatigue [*Notes sur l'Excitabilité dans la Fatigue*]. (*Comptes rendus des Séances de la Société de Biologie, December*, 1900, *to July*, 1901.) *Féré, Ch.*

Féré has always consistently upheld the doctrine that states of fatigue constitute the physical basis of very many psychoses and neuroses. His experimental work has largely been devoted to the illustration of this relationship, and he has lately carried out, in accordance with an elaborate but uniform method, a long series of observations showing the results of very various stimuli in affecting fatigue, as measured by work done.

The experiments were carried on with the ergograph, uniformity being always observed as regards the series of experiments and the duration of the pauses. While many incidental points of interest were brought out, the general result was to show that sensory stimuli of very various kinds produced a swift effect in increasing, more or less, the amount of work done over the normal, sometimes almost doubling it, but that the subsequent fall was correspondingly great, so that the total amount of work done was never greater under stimulation than without it, and often less. A few of the special cases may be noted.

The effect of cold temperature was to produce a considerable diminution of work, followed by a slight and brief increase, and then rapid exhaustion. The effect of unpleasant stimuli (as disagreeable odours) was very similar. Pleasant odours produce an immediate increase of work, but, as Féré puts it, they cannot feed the fire they light, and the greater the stimulating influence the greater the fatigue; if the stimulation has been prolonged the depressing influence is clearly marked, even if an hour's interval is allowed to elapse. Theobromine has an immediate effect in increasing work by nearly 50 *per cent.*, but the effect is not very prolonged, and the total amount of work is decidedly below normal. Caffeine produces very powerful stimulation, but the total amount of work never exceeds the total done without stimulation, and the more prolonged the work the greater the balance in favour of the work done without stimulation. Féré notes that the lowering of arterial pressure which is manifested in the fatigue following the application of other sensory stimuli is absent or notably diminished in the fatigue of theobromine and caffeine; caffeine must still, however, be regarded as an accelerator of fatigue. Work done under the stimuli of light passed through red glass is as much increased as under the influence of caffeine, but the total result remains the same. Hasheesh

in small doses produces a stimulating influence rapidly lost, and in large doses produces a depressing effect from the first. Stimulation of taste (one to three drops of essence of cinnamon placed in the mouth) acts similarly to hasheesh. Much the same also may be said of the influence of opium, and whether the dose is small or large the total is always below normal. Auditory stimuli, acting just before work is begun, cause unusual activity, and if varied this activity may be prolonged, but if monotonous (an electric bell) marked fatigue soon results. Cutaneous stimulation by a mustard plaster produces slight stimulation as soon as the irritation is perceived, but, though removed after the first series of trials, depression sets in, and the total work done is deficient by a third. Digestion produces a very depressing effect on work; two eggs, taken without any addition, two hours after breakfast, produce a slight decrease in work; three eggs, taken under the same conditions, produce a marked decrease; a little salt held in the mouth afterwards produces a marked but only temporary stimulation. If three eggs are taken during fasting, instead of being more stimulating they have a more depressing effect than when taken only two hours after breakfast; a cigarette, smoked afterwards, produces the same temporary stimulation as the salt, but in a higher degree.

It may be added that Féré has gone over much the same ground, and in some respects with greater detail, in an interesting series of papers on the variations of excitability in fatigue, published in the *Année psychologique* for 1900. HAVELOCK ELLIS.

The Alcohol Question as a Cultural and Race Problem. (*Quarterly Journal of Inebriety, October*, 1901.) *Forel.*

This paper is an English version of an address read at the Vienna Congress against Alcohol.

Forel points out that as the potential qualities of the future being exist within the germ-plasm of the two cell nuclei from whose union he develops, any poison which is capable of injuring the germ-plasm of the procreators must imperil the development of the offspring, and these effects on the germ-plasm are permanent, are variations transmitted by way of heredity.

Alcohol is such a poison, as has been abundantly proved by clinical evidence, which shows that parental alcoholism is an important agent in the production of degeneracy. Forel quotes an interesting parallel in certain colonies of ants, amongst whom morphological degeneracy is very common, as a result of their addiction to imbibing the secretions of a particular species of beetle.

Given favourable conditions, a degeneration of the whole of civilised humanity through chronic alcoholisation is quite conceivable. Certainly nothing supports the theory of a spontaneous evolution of sobriety through the elimination of the unfit; on the contrary, the facts show that no such adaptation of a society to alcohol has ever occurred, and, so far from limiting the undesirable elements in the community, alcohol is constantly recruiting them by poisoning healthy stocks.

Forel's conclusion is that the only remedy for the alcoholic peril is total abstinence W. C. SULLIVAN.

The Influence of Alcohol and Tobacco on Work [*L'Influence de l'Alcool et du Tabac sur le Travail*]. (*Arch. de Neurol., November and December*, 1901.) *Féré.*

In this very interesting paper Féré reports a further series of experiments supporting his theory of the nature of the stimulant action of alcohol and tobacco.

The experiments were carried out with Mosso's ergograph, series of ergograms performed under the influence of small doses of the drugs being compared with a standard series taken under normal conditions.

In the first group of experiments a dose of 10 c.c. of absolute alcohol in water was administered before work was commenced; the result was a gain of 4 *per cent.* in the first set of ergograms, the gain being followed by a very rapid fall in energy, so that the total work in the series amounted only to 47·61 kilogramme-mètres, as compared with the normal 143 to 150. A second and third dose of the same strength gave even slighter stimulation, followed by more rapid exhaustion. When fatigue was well marked the same dose of alcohol was merely taken into the mouth and not swallowed; the result was a rise in the first set of ergograms from the fatigue point of 7·61 *per cent.* to 146 *per cent.* of the standard, and this increase of energy, through the purely peripheral stimulation, persisted much longer than was the case when the drug was swallowed.

Throughout the second group of experiments this peripheral mode of stimulation was used exclusively, no alcohol being swallowed. The effect was a great initial increase of energy, amounting to 73 *per cent.* above the standard; this increase lasted for a longer period, and, though the consecutive fall was more considerable, the total work done in the series was more than double that performed in the experiments where the alcohol was absorbed—98·61 kilogramme-mètres, instead of 47·61. It was, however, a good deal below the normal.

The author's conclusion is that the stimulant effect of alcohol—to which alone he would attribute its use—is due essentially to the irritation of the sensory nerve-endings, and especially to the nerves of taste.

A series of ergograms under the influence of cigarette-smoking showed that nicotine had a similar transitory stimulant effect, also most marked in conditions of fatigue. The first set of ergograms gave a gain in energy of 21·67 *per cent.*, but the total work of the series was considerably below the normal, amounting only to 96·06 kilogramme-mètres.

In the case of both alcohol and tobacco, the rapidity with which exhaustion follows the stimulation leads to a repetition of the stimulus, and so to the formation of a habit.

Presumably the influence of these drugs on visceral function is similar; that is to say, they produce an over-action followed by a corresponding depression.

The present experiments go to confirm Féré's well-known views as to the nature of stimulant and narcotic action.

The observations appear to have been made on a single individual.

W. C. SULLIVAN.

3. Ætiology of Insanity.

Melancholia and the Toxæmic Theory: a Clinical Sketch. (*Scot. Med. and Surg. Journ., February*, 1902.) *Clouston, T. S.*

This is really a valuable ætiological study, and is important in that it contains the author's views regarding some recent pronouncements by what one might call the newer pathological school. Otherwise the paper is a reiteration of Dr. Clouston's well-known teachings on melancholia, a position as strong to-day as when first taken up some years ago, and strengthened, if anything, by the opposing and divergent character of present-day views.

There seems to be a tendency just now to absoluteness in formulating views on psychiatrical subjects, which is unfortunate. Medicine in any of its branches is not an exact science, and never can be, especially as regards mental problems. It is possible, however, that this tendency is a vigorous recoil from the too frequently wordy non-committal—indefinite, though scholarly—pronouncements of some of the older writers.

Dr. Clouston is unable to accept the absolute toxæmic origin of insanity, particularly of melancholia.

Considering the latter, he points out that, as a rule, there is in the first place an "over-sensitiveness" either in the patient or in his ancestry—the emotional reflex is exaggerated. The neurons in certain tracts are unstable in their molecular and chemical constitution, and pass into the katabolic condition too easily, and remain too long in that state. Given a brain thus affected, and let it be subject to any form of toxæmia or anæmia or exhaustion of its energies, and you have all its weak points accentuated. This emotional katabolism is likely to be accentuated in the progeny, and if this sort of brain is in youth "educated highly,"—feelings more cultivated than inhibition—if subsequently life has been one of stress and strain, general health and body nutrition becoming below par, when the turn of life sets in and senility approaches, then we have the materials for the making of an attack of true typical melancholia. All emotional stimuli are then apt to excite undue mental pain, and there is also a basis for the painful feelings and delusions in a constant vague sense of organic ill-being. A striking characteristic of the brain is its solidarity of function and structure. There cannot be a mental disturbance without some nutritional, motor, or sensory change, and in melancholia there is almost always some intellectual, volitional, circulatory, or nutritional disturbance. There is a reaction in lower organic and nutritional processes. Painful emotions cannot exist for long without affecting the bacterial life within and without the organs, the leucocyte action, the metabolism of almost every cell in the body, and the chemical composition of every secretion and excretion. This leads to an enormous amount of mere "treating of symptoms" in melancholia, instead of looking to the origin in the *cortex cerebri*.

Dr. Clouston next deals with the toxæmic origin of insanity, which has of late assumed a position of great importance, such as bodily

disease, auto-intoxication, alcohol, lead, arsenic, diseased eye, absence of thyroid, septicæmia, influenza, altered intestinal and urinary secretion.

Bruce and Alexander teach that melancholia is a disease of disordered metabolism, and that treatment should be directed towards getting rid of waste products through the channels of the urinary and integumentary systems. Ford Robertson speaks equally strongly; he proclaims that toxic action is the main factor, and that the large majority of cases of insanity are not primarily diseases of the brain. "Bodily disease" as secondary to "mental disease" is in general founded upon an erroneous conception of what is taking place. Mott dwells on the auto-poisoning by choline and other products of nerve-degeneration. D'Abundo and Agostini think that in idiocy toxæmia may pass into the fœtus from the maternal blood, etc.

In general, Dr. Clouston cannot accept this teaching as thus stated. There is no evidence for D'Abundo and Agostini's hypothesis. Mott's statements need far more proof. As regards the modern pathologist's views he speaks with no uncertainty. "Their absoluteness is far too great, and does not take into account at all sufficiently the mental, ethical, and hereditary facts, and if this is so it is a premature and incorrect scientific generalisation."

Toxæmia is unquestionably the chief exciting cause in many cases of insanity, the "primary condition" in very few. The latter is a hereditary brain weakness and instability, without which toxæmia will not cause melancholia or adolescent insanity, these together being by far the most numerous and the most characteristic of the psychoses. "Given a perfectly sound brain cortex by heredity, no such autotoxins as will thus affect its mental functions will ever be created. Even the exogenous toxins, though they may affect mental actions, will not set up insanity properly so-called." Epochal insanities are primarily the result of cortical nutritive arrests or perversions incident to nerve-cell development or retrogression, and about one fourth of pubescent and adolescent cases, and more than half of the climacteric and senile cases, exhibit melancholic symptoms. He admits that some of the acuter senile cases do show signs in the brain cortex and vascular systems of an irritation which may be toxæmic, yet most climacteric and the less acute senile cases exhibit no provable toxæmic symptoms whatever, either during life or after death.

On the other hand, he thinks that there can be little doubt that toxæmic conditions play the chief part—though in many not the primary part—in general paralysis, puerperal insanity, alcoholic and syphilitic insanities, rheumatic and gouty insanities, and possibly in phthisical insanity.

Dr. Clouston then gives a series of cases of melancholia, all interesting, and sketched as he alone can sketch the clinical side of insanity.

It all points to the fact that insanity is a complex problem, intricate and difficult, and not a simple matter, as some would have us believe, and that it can practically never be explained by any single ætiological factor.

JOHN R. LORD.

Stigmata of Degeneration in the Viscera of General Paralytics and Normal Persons [*Einige "innere" somatische Degenerationszeichen bei Paralytikern und Normalen, zugleich als Beitrag zur Anatomie und Anthropologie der Variationen an den innern Hauptorganen des Menschen*]. (*Allg. Zeit. f. Psychiat., Bd. lviii, H.* 6.) *Näcke, P.*

Dr. Näcke has here supplemented his valuable and elaborate study of the external stigmata of degeneration in general paralytics by a study of the internal somatic stigmata. The investigation covered the heart, lungs, liver, kidneys, and spleen. The subjects included 104 general paralytics and 108 normal subjects. The inquiry has been carried out with the care and thoroughness which always mark this investigator's work. He admits, however, the existence of an Achilles heel in his investigation. He was unable to carry out the inquiry on the normal subjects himself from lack of material, and this part of the work was undertaken by Professor Nauwerck, of Chemnitz. The material was so far as possible identical in racial and other respects, and everything was done to ensure, so far as possible, identity of method, but it is admitted that a small margin must be allowed for the varying personal idiosyncrasies of the two workers. It may be added that it seems fairly clear that such allowance cannot vitiate the main results reached.

The author explains that by "sign of degeneration" he simply means "rare variety," without prejudice to any debatable question involved as to the significance of such rare varieties. Varieties of this kind were found in the proportion of 4 *per cent.* among the general paralytics and 3·2 *per cent.* among the normal subjects. The difference may appear small, but further analysis of the results makes their significance more decisive. Thus it is found that the subjects with a large number of such anomalies (over five) occur very much more frequently among the general paralytics than among the normal subjects (22 to 9), and that the cases in which several organs were affected (more than two) are also much more numerous among the general paralytics (47 to 15). Moreover, it was found that (leaving out of account the liver because of its notable tendency to variation) the graver anomalies occurred chiefly in the general paralytics. These results are fairly parallel with those previously reached in the study of the external signs of degeneration. They point to the conclusion that heredity plays a very large part in general paralysis, and that the majority of general paralytics possess *ab ovo* an invalid brain. Such a conclusion does not exclude the *rôle* of syphilis, for neither do all syphilitics nor all degenerates become general paralytics.

After a full account of the conditions found, the author proceeds to explain what are the conditions which he regards as really significant. These are, as regards the lungs, abnormally large or small size, whether of the whole or of the parts, genuinely multilobular types, and absence of large lobe. For the heart he admits as significant distinct hypoplasia, hypoplasia or hyperplasia of the large vessels, and the so-called double apex; clearly visible traces of the foramen ovale in adults were counted as stigmata, and the persistence of the ductus Botalli in adults. For the liver abnormally large or small size and very abnormal shape, especially of the left lobe, are counted, also abnormal length, diverticula,

and constrictions of the gall-bladder. The significant stigmata of the spleen are abnormal size and very deep fissures, and of the kidneys, besides abnormal size and shape, marked inequality, union or doubling of ureters, and vascular anomalies of the hilum. The anomalies named are much commoner in the general paralytics than in normal subjects. These investigations, the author remarks, might profitably be extended to other organs and structures—the thyroid, thymus, pancreas, glands, vessels, nerves, muscles, etc. He considers that the internal stigmata are probably more important than the external, although they usually run parallel with them. Sometimes the one set of stigmata would seem to replace the other. As in his previous works, the author emphasises his belief that stigmata of degeneration, though often arrests of development (probably due to disturbance of nutrition), are very seldom atavistic, and also that they must be marked and numerous to be of any significance. Somewhat similar results to these here found by Näcke would doubtless be discovered in other forms of insanity, and the field seems a promising one for investigation. HAVELOCK ELLIS.

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4. Clinical Neurology and Psychiatry.

Spontaneous Fractures in General Paralysis [*Des Fractures spontanées dans la Paralysie générale*]. (*XIII^e Cong. internat. de Méd.*, 1900, *Sect. de Psychiat.*) *Lalanne, M.*

The author comments upon the rarity in general paralysis of spontaneous fractures, *i. e.* fractures arising from some slight cause, and out of all proportion to that cause,—when it is a known fact that in most maladies of the nervous system these fractures are comparatively common. When one remembers the deep and varied changes produced in the organism by general paralysis this is all the more remarkable.

He quotes M. Christian's announcement at the Antwerp Congress of 1895 that he had no belief in any change in the osseous system supervening upon a condition of general paralysis and manifesting itself in a greater tendency to fractures, and that when any undue fragility of bones was met with in this disorder it was purely accidental.

The author then proceeds to quote a number of cases in support of his belief that in general paralysis there is a condition tending to spontaneous fractures. One of these is that of an officer of high rank in the army, 53 years of age, and who, up to the time of his admission into an asylum, was actively engaged in his duties. This patient was attacked with general paralysis of the most pronounced type. It was learnt that two years previously, during a fit of coughing, he fractured a rib. This fracture, which was only ascertained some days after the accident, was bandaged, and the uniting was perfect. Two years after this he showed the first symptoms of general paralysis, which subsequently became pronounced. In this case all idea of traumatism due to the rough handling of attendants may be set aside, for the patient was filling with brilliancy his position in the army.

The author concludes by deducing that, just as in tabes spontaneous

fracture has been known to manifest itself as a first symptom in the pre-tabetic period, so may it exist in the pre-paralytic period as a first and signal manifestation of a condition of general paralysis.

JOHN R. LORD.

A Case of Catatonia [*Un cas de Catatonie*]. (*Bull. de la Soc. de Méd. ment. de Belgique, September*, 1901.) *Sano et Heilpoin.*

The interest of this case is enhanced by the fact that minute clinical descriptions of this particular form of insanity are few in number.

The authors state that they have met with some cases very nearly resembling the classical descriptions of Kahlbaum, Weisser, Schüle, Aschaffenburg, and Kraepelin, but that the one here described (in the early stages of the illness) does so most closely. After quoting the definitions of catatonia given by Kraepelin, Kahlbaum, and Sommer, and mentioning that one of them has had the advantage of seeing some cases of this kind recognised and demonstrated as such by the first-named author and others, they proceed to give a very full history and clinical description of the case, of which a very brief summary is here given, following the authors' own order of arrangement of history, mental and bodily symptoms, etc.

Apparently there was no family history of insanity. The father was healthy, mother suffered from a malignant tumour of the scalp, two brothers and one sister, the latter lame. Three years ago there occurred numerous family jars, in the earliest of which he was not to blame. On one occasion, he was struck on the head with a belt (no internal injury) and then strapped down in a room. He felt so humiliated that he contemplated suicide. During the last year he became impulsively violent, and worked to excess, particularly at developing photographs, which the authors think was likely to predispose him to chronic chemical poisoning through the air passages. He became exacting and hard to please, and worried about his work. He was sent to visit some friends, but became much worse when half-way there, and had to be sent for and brought back, and placed in the Stuivenberg Asylum (June 25th, 1901). When seen by the authors next day he was lying quietly in his bed, but he had been very excited, gesticulating, shouting, and striking extraordinary attitudes, and had had to be restrained by handcuffs.

Physical Examination.—Æt. 19, well developed, without apparent stigmata of degeneration, in good bodily health, but somewhat anæmic. The deep and superficial reflexes were all markedly increased. The plantar reflex on both sides showed *extension* of all the toes. There was general hyperæsthesia. He flinched from being touched, and contorted himself in a persistent and exaggerated manner after the simplest contact. The sternal and left infra-mammary regions were especially sensitive. There was a certain degree of exophthalmos, and he rolled his eyes to the utmost limit, his eyelids being wide open. These movements were sometimes accompanied by a passing nystagmus; sometimes the left eye was immoveable, and the right eye moved backwards and forwards in a transverse direction, the patient's whole body being in a state of tonic spasm. The first of the two excellent photographs

accompanying the authors' article shows the patient in a condition of relative calm, the neck, however, being contracted, and the eyes persistently fixed with a set gaze on the observed object. The second shows him in the state of tonic spasm above described. The pupils were contracted; they reacted to light, but had a tendency to dilatation, particularly during excitement. After the eyes had been closed for a moment there was a rapid but very transient contraction of the pupils, soon followed by dilatation. At times there was a paradoxical reflex, light producing a mydriasis, closing the eyelids a myosis. Owing to the patient's excited condition the fundus of the eye and the special sensibilities could not be examined.

The patient could read and write and speak *le néerlandais*, German, and a little French. The authors then describe his speech and actions, remarking that at first sight one might think that one had to deal with a case of hysteria. He knew who he was, where he was, and what actions he had committed; he could tell the date and day of the week, and he recognised those about him. After performing some antic he would appear to know what he had done, and would even regret it. He would sing the same refrain for many hours together, repeat a set phrase at the pitch of his voice, accompanied by dramatic gestures. At other times he would whistle; he would pretend, for hours together, to mount a horse, and set off at a gallop, among other movements. When having a bath he would sing and shout, and then suddenly become silent. Any tactile irritation provoked exaggerated contortions, going as far as opisthotonos at times. When he was induced to make a rythmical movement he would continue to do so for some half-score times. His muscles exhibited "flexibilitas cerea." The muscular tonicity was increased; suggestibility of movement clearly existed. It was equally easy to put the limbs in different positions; there was catalepsy. These latter characteristics were constant, and occurred especially when the patient was calm and appeared to be in an almost normal condition. On the following days the patient improved and became much quieter. The digestive organs had kept in perfect order, and the appetite remained good. He loved solitude, and became excited by the presence of strangers; the stage of mental depression then began to show itself. Formerly a freethinker, he became religious, self-accusatory, depressed, and taciturn. The convulsions, contortions, and queer attitudinations began again in an intensified form. The next note on his case states that he suffered from time to time from generalised tonic contractures and shiverings. He would not speak, turned his head as far as possible, carrying his eyes to their utmost limit; occasionally he laughed spasmodically. Idiomuscular irritability was increased in the arms; pressure of the nerves was slightly painful. Deep and superficial reflexes were well marked; pharyngeal, cremasteric, and plantar reflexes could not be examined. Hyperalgesia of the lower limbs was very marked. Pupils responded irregularly to light, sometimes contracting and sometimes dilating, or contracting at first and then dilating; often there was an alternation of contraction and dilatation not isochronous with the pulse.

He was mentally depressed and morbidly religious. Next day patient was making rhythmical movements with his head, would not speak, assumed strange attitudes, and allowed himself to fall on the

floor. When persuaded to write at first made large disconnected characters, then, with a malicious expression, wrote an epithet he intended to be insulting. During the following days the bodily symptoms somewhat improved, and the pupils became normal. He continued to make eccentric movements, and would only answer "yes" or "no." The only hallucinations may have been those of vision, but if they were present they were fugitive and rare. The patient was transferred to the Mortsel Asylum after being under the authors' observation for twenty-seven days.

Then follows a summary of the observed clinical phenomena grouped into successive periods:

Ætiological Elements.—Depressed moral emotions, chemical poisoning, anæmia.

First Period.—Increasing mental irritability, insomnia, impulsive attacks (some months).

Second Period.—Hyperæsthesia and hyperalgesia, exaggeration of reflexes with alteration of the plantar and pupillary, maniacal excitement with catatonia and catalepsy, convulsive attacks (a slight remission at the beginning of this period, which lasted fifteen days).

Third Period.—Hyperæsthesia and hyperalgesia, exaggerated reflexes, transient catatonia and catalepsy, convulsive attacks less frequent, melancholia, depression with self-accusations (six days).

Fourth Period.—Hyperæsthesia and hyperalgesia, silence and stupor, passing catatonia and catalepsy, convulsive attacks less intense and less frequent (this condition afterwards maintained during several weeks at least).

In conclusion, in giving their reasons for believing this case to be one of catatonia and not of hysteria, they state that although one must not err in giving too great importance to the modifications of the cutaneous reflexes, especially when transitory, they are of opinion that extension of the toes on excitation of the plantar reflex indicated a serious lesion of the neurons constituting the pyramidal tracts. A. W. Wilcox.

Acute Delirious Mania and Uræmia [*Délire aigu et Urémie*]. (*Arch. de Neurol, December*, 1901.) *Cullerre.*

The author records two cases in support of his view that the syndrome of acute delirious mania is frequently an effect of renal disease, is, in fact, a hyperacute uræmic insanity.

Observation 1.—A woman æt. about 55, of unknown antecedents, was admitted to the asylum with symptoms of hallucinatory delirium, which within a few days became very intense and were associated with high fever and profuse fœtid diarrhœa. With a brief period of intermission the case ran a rapid course, and terminated fatally seven weeks after admission. The autopsy showed very contracted granular kidneys, and no macroscopic brain lesions.

Observation 2.—The patient was a man with bad heredity; father suicide, mother insane, brother alcoholic and insane. At the age of 41 patient had his first attack of insanity, in which he presented symptoms of maniacal excitement, followed by catatonic phenomena, and later by a phase of deep melancholia. Recovery appeared complete. After

nine years of mental health he was readmitted to the asylum in a state of agitated melancholia, and two days after reception symptoms of acute delirious mania were developed with suppression of urine and persistent vomiting. No autopsy was held, but the uræmic symptoms made the nature of the case clear. The author also suggests that latent uræmia had something to do with the earlier attack, its influence being shown by the occurrence of catatonic phenomena, which do not belong to the psychoses of the adult. W. C. SULLIVAN.

Some Obscure Injuries following the Toxic Use of Alcohol. (*Quarterly Journal of Inebriety, October*, 1901.) *Crothers.*

Dr. Crothers puts forward the thesis that in a certain number of cases the development of psychoses and of organic diseases of the nervous system is due to a single profound intoxication by alcohol. In some instances the symptoms of the nervous affection follow immediately on the intoxication; in others a considerable latent period intervenes. Puberty and late middle life are pointed out as times when intoxication is peculiarly liable to be followed by these paralcoholic disorders. The author believes that morbid inebriety appearing late in life has often this origin.

Reference is made to several cases showing the sequence of phenomena described by the author; the question, however, of their causal connection in the manner suggested remains necessarily doubtful. The paper is an extremely interesting one. W. C. SULLIVAN.

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5. Treatment of Insanity.

On the Action of the Bromides during Hypochlorisation [*Mécanisme de l'Action des Bromures avec l'Hypochloruration*]. (*Rev. de Psychiat., September*, 1901.) *Laufer, R. J.*

Reference to this subject has been made on more than one occasion in the pages of this JOURNAL, but the matter is of sufficient importance to call for further notice. Dr. Laufer considers as proved that hypochlorisation, *i.e.* the reduction of the chlorides in the dietary, enhances the efficacy of the bromides in the treatment of epilepsy. This method of treatment we owe to Drs. Ch. Richet and Toulouse. The object of the present paper is to explain the *modus operandi*. It is pointed out in the first place that, without the addition of an atom of salt, the dietary, provided that it is a physiological one, contains a sufficiency of NaCl, that the customary use of salt as a condiment and as a culinary addition furnishes a luxus supply, and that the withdrawal of this luxus, without producing any harmful effect, makes itself felt as a slight reduction in the NaCl exchange of the tissues. Next reference is made to the tendency of bromides to accumulate in the tissues generally, and in particular in those of the liver and brain, observers differing as to the greater relative affinity of these two organs for the bromide. We are then asked if it would be

surprising that in the presence of a deficiency of chlorides such kindred salts as the bromides should fix themselves in the tissues in greater quantity after the manner of a substitution. That such substitution does in fact obtain has been proved by various observers by the demonstration, *e.g.*, that hydriodic and hydrobromic acids appear in the stomach, and to some extent replace hydrochloric acid when animals are given iodides and bromides in appreciable quantities; and yet more directly it has been shown that the administration of bromides during hypochlorisation may raise the bromide contents of the tissues above that of the chlorides even (Nencki and Schumow Simanowski).

Study of the urine of patients taking bromides gives further proof of the relation of these salts to the chlorides, for we observe that in a manner they show what might be termed displacement equivalents, and it is on this matter that Dr. Laufer records some experiments. Thus he shows that when a given dietary, say of milk (therefore hypochlorised), together with a fixed dose of bromide, has been maintained for sufficient length of time to establish a fixed proportion between the excretion of bromides and of chlorides in the urine, the administration *then* of an increased dose of *chlorides* augments the output of the bromides from the accumulated store in the tissues, the significance of this being that in the absence of a luxus supply of chlorides the bromides have taken their place for the time being, to again give place on a restoration of the excess of chlorides. This comes out quite clearly in the experiments. The reverse, also, would appear to take place, *viz.* the *dis*placement up to a certain point of chlorides by bromides, so that the giving of full doses of bromides to persons saturated with chlorides leads to a larger elimination of chlorides,—in excess, indeed, of the intake. To a certain extent, then, this relative absorption and elimination by the tissues of kindred salts appears to be as much a question of balance as of affinity.

This question of the saline exchange of the tissues is a very important one, touching directly, as it does, the large subjects of accumulation, saturation, and elimination.

From Dr. Laufer's experiments it would also appear that other salts, less immediately related, are vitally affected by the rate of supply of each other. Thus the administration of an excess of chloride of sodium led to an increased output of phosphates and of urea.

The practical outcome of these considerations is as follows:

1. That we understand why it is that the reduction of the sodium chloride in the diet enables us to reduce the dose of the bromide therapeutically, because viz. the latter is better absorbed or assimilated by the tissues, and therefore is more potent.

2. That having obtained our bromide effect on the hypochlorised diet we shall avoid the sudden transition to a full saline diet, since this will mean the rapid expulsion of the bromide salts, and will be tantamount to the sudden reduction of the bromide dose.

3. That in passing from a full saline diet to a reduced saline diet in the case of a patient under bromide treatment, we shall reduce the bromide dosage *pari passu*.

4. That in cases of bromism with disturbed digestive tract, where the diet has been the ordinary saline one, it may suffice to put the

patient on a hypochlorised diet, since we are thus enabled to reduce the bromide. Thus we may be able to maintain our therapeutic effect, and yet save the alimentary tract.

5. That in cases of severe bromism, if we desire to remove the bromine as rapidly as possible from the system, we shall do so best by adding freely of salt to the dietary, *e.g.*, 60 grains of salt to the litre of milk.

6. That lastly, supposing the patient under the influence of the bromides develop a febrile affection, necessitating a milk diet, we shall not forget that this is a hypochlorised regimen.

HARRINGTON SAINSBURY.

Effect of the Combined Action of Bromides with Hypochlorisation on the Convulsive Seizures of Epilepsy and their Psychic Equivalents [*Effets de la Bromuration combinée avec l'Hypochloruration sur les Accès convulsifs et les Équivalents psychiques épileptiques*]. (*Rev. de Psychiat., October*, 1901.) *Toulouse et Meunier.*

This paper describes a case of inveterate epilepsy, in which periods of mental calm along with convulsive seizures alternated with periods of delirious excitement without convulsions. The effect on this case of the above-mentioned treatment was to suppress wholly the delirious periods, whilst at the same time the spasmodic attacks were greatly diminished.

The object of the paper is simply to demonstrate the efficacy of the method in respect of a symptom which appears to have been the psychic equivalent of a convulsive attack. HARRINGTON SAINSBURY.

The Open Door and Bed Treatment in the Argentine Republic—the National Asylum at Lujan, Buenos Ayres [*L'"Open-Door" et le Traitement au Lit dans la République Argentine—Colonie nationale d'Aliénés de Lujan, Province de Buénos-Aires*]. (*XIII^e Cong. internat. de Méd.*, 1900, *Sect. de Psychiat.*) *Gabred, D.*

The housing of the insane was doubtless one of the most interesting questions dealt with at the International Congress for Psychiatry in the year 1900.

For some years past new methods of treatment of acute insanity, such as that of the *open door* and *rest in bed*, have made their appearance, modifying greatly the prevailing systems. The happy results achieved by these methods in the asylums of Germany and of Scotland (where I had the opportunity of observing them in 1896), and those which I have myself noted in the asylum of Las Mercedes at Buenos Ayres, where I introduced them on my return from Europe, have imbued me with a feeling of certainty, both as regards their efficacy and the necessity of applying them as widely as possible.

In what manner can these two methods of treatment be secured in the housing of the insane in order that their efficacy may be as complete as possible?

A study of the plan of the National Colony of Lunatics, which is being established in the Argentine Republic, answers to some extent the question. It combines the open door housing of the quiet and

chronic insane with the clinico-therapeutic treatment of the acute as practised in Scotland, Germany, Russia, North America, and, to some extent, in France.

Description of the Asylum.

The new lunatic asylum which has been founded in the Argentine Republic, upon an extremely picturesque site near the village of Lujan, is situated on the banks of the river of the same name, and about sixty kilomètres from Buenos Ayres. Two lines of railway run close to the asylum, that of the West, some five kilomètres distant, and the Pacific, 1500 mètres away. The estate, which covers an area of 530 hectares, is raised, slightly undulating, and very fertile. It is covered for an extent of twenty hectares with great trees, which form splendid shelters and avenues.

The future population of the colony will consist of 1400 pauper lunatics and 150 private patients. This number of patients at first sight appears very large, but one must remember that there lunatic asylums are very scarce,—in fact, one may safely affirm that half of the patients needing hospital treatment do not receive any.

The system called by the Scotch the "open door" has been the one observed in the new asylum, and the asylum of Alt-Scherbitz has been principally the model for its construction, but there have been introduced some important modifications in the various sections destined for the patients as well as in the administrative departments. The admirable organisation of the Prusso-Saxon asylum has been combined with the comfort of the British, while at the same time sections have been formed which are not found in the latter.

The new asylum is composed of two parts: one, the central asylum; and the other the colony, properly so called.

The former is for the patients who have to be kept under constant observation, who have to be isolated, or have special medical treatment, measures which will be pursued in the villas, which have, each one according to its class of patient, appropriate arrangements.

The latter, intended for the treatment of the larger portion of the lunatics (some 80 *per cent.*), is designed for the application, on the most ample lines, of the open door and agricultural labour principles, without excluding other kindred occupations, and allows for the utilisation of the different abilities of the patients.

In the central asylum are situated, in addition to the villas destined for the clinical and administrative staff, four villas for constant observation, four for the excited, and three for subacute cases (all such cases treated by rest in bed). Moreover, two villas for convalescing cases, two for paralytics, two are infirmaries, one as a hospital for infectious diseases, one for criminal lunatics, one for anatomical and pathological purposes, and lastly the furnace for cremation and the cemetery.

From this one can see the important place treatment by rest in bed has in the central asylum, so much so that the greater portion of the patients will be treated on these lines. The observations which, as I have before said, I have made in Europe and in the Argentine Republic upon the efficacy of this treatment, which constitutes, as my learned friend Dr. Sérieux puts it, "one of the greatest advances of contemporary

psychiatry," have led me to establish it as largely as possible. In fact, apart from the good effect as a sedative for nervous excitement which the bed treatment has proved to have, remembering also the advantages which it yields for the examination of the lunatic, and the good influence which it exercises upon nutrition, this treatment greatly facilitates the observation of the patient, and in most cases permits of doing away with the use of the single room.

Thus, for example, in the asylum of Las Mercedes, in which 1300 lunatics are confined, and where, in the year 1896, there were constantly in single rooms some forty or fifty maniacs daily, after the installation of the clinico-therapeutic system they were reduced to less than three daily, and then only for a few hours.

The central asylum will be, therefore, almost exclusively intended for this form of treatment, excepting the convalescent villas, in which lunatics will only remain for a short time before being sent into the colony, and the villa for criminal lunatics.

Villas for Constant Observation.—The arrangement of the villas is extremely simple, being modelled on similar villas in the asylums of Alt-Scherbitz, Giessen, Uchspringe, and Halle. In these villas the patients occupy the ground-floor, which comprise, first, two dormitories which communicate with each other, each one having fifteen beds; second, a large vestibule in communication with the dormitories; third, two isolation rooms; fourth, a bath-room with water-closets, which is likewise in communication with the dormitories. The villas have, moreover, a small upper storey, where are several rooms for the linen and for the nursing staff. The basements serve as general stores. A walk, three mètres wide, surrounds each villa, and this is bounded on all sides by a quickset hedge two mètres high. The interior arrangement of this section allows, as may be easily understood, of the maintenance of strict observation.

Villas for Acute and Subacute Maniacs.—These are each fitted up for thirty patients, and their interior arrangements are of such a nature as to have for their principal object treatment by rest in bed. Therefore, in place of a number of single rooms, they are arranged like the observation villas, dormitories on the ground-floor in communication with bath and annexe, and one side room for each group of fifteen patients. The latter is four mètres long, four wide, and five high, well ventilated, and fitted with natural and artificial illumination, which may be regulated as desired; it does not, therefore, resemble in the remotest degree the cell of the old "closed" asylums.

The lunatic will only occupy it for a short time, when some period of extreme exaltation prevents him being kept in bed. There is also on the ground-floor a small dining-room and a small social room. The linen stores and the rooms for the nursing staff are on the upper floor. A quickset hedge, two mètres high, likewise surrounds these villas, each being provided with a large open space where the maniacs in their restful periods may lounge in the sun and breathe the pure country air.

Convalescent Villas.—These are designed for housing, for a few days such patients as come from the constant observation or maniac section before they proceed into the colony. We may call them the transition stage between the central asylum and the colony, and their

object is to act as a stepping-stone to the great freedom allowed the patient in the colony. They have a ground-floor and an upper storey. On the ground-floor are the social room and dining-room, the baths and water-closets; on the upper storey, the usual dormitories, the linen store, baths, etc.

Villas for Paralytics.—These are likewise designed with a ground-floor and an upper storey, where are the dormitories, small social rooms, small dining-rooms, baths, etc.

Although these villas only have an area equal to the others, yet they possess a larger number of beds, this being explained by the fact that they are designed for patients who have arrived at the third period of their illness and are bedridden for the greater part of the time. They are also surrounded by large open and covered walks which allow the patients to take the air and to bathe in the sunshine, lying at length in their long chairs. These villas are provided with lifts.

Infirmaries.—These have, like the villas already described, a ground-floor and an upper storey. On the ground-floor are, first, two wards, each for twelve patients; second, bath-rooms and water-closets; third, dispensary; fourth, a room for the hopeless cases; fifth, a room for the nurses; sixth, a linen store; seventh, a medicine store. The same arrangement is repeated on the upper floor, and there is a lift. As an annexe to the infirmary, and connected to it by a passage, is the operating room.

Infection Hospital.—Right away from all the various sections is the villa for contagious diseases. Provided with every convenience and as comfortable as the other villas, it is divided into two parts, one for paupers and the other for private patients. It will accommodate twenty of the former and five of the latter.

Villa for Criminal Lunatics.—This will contain fifty patients, and is composed of a ground-floor and an upper storey.

On the ground-floor are the dining-room, some workshops, a social room, baths, and water-closets. On the upper floor are rooms for lodging one, two, and four patients, dwelling rooms for the observation staff, linen store, baths, etc.

This villa, the largest of the establishment, is the only one which has its windows provided with iron guards (grilles), and likewise the only one surrounded with a wall four mètres high and with a *saut de loup*. The wall, being situated eighty mètres from the building, allows of a good space for exercise.

Pavilion for Pathological Anatomy.—This is composed of an autopsy room, a deadhouse, a laboratory, a museum, etc.

Crematorium.—This furnace is in connection with the little cemetery of the asylum, and the corpses of pauper lunatics which are not claimed by their families will there be cremated.

Colony.

The explanatory notes accompanying the plan almost render any description of this portion of the asylum superfluous.

In the first place, the colony is separated from the central asylum by an avenue thirty mètres wide as well as by large gardens. The villas, as in the case of the central asylum, are spread about, without boundaries

or fences, and the whole forms a picturesque village, which removes all thought of isolation and bears no semblance to an asylum. They are distant from one another about fifty mètres, and those which are intended for administrative uses are grouped in the centre of the establishment.

Villas for Pauper Lunatics.—As a general rule, these are designed for thirty lunatics, but some can accommodate as many as forty. They have a basement, a ground-floor, and an upper storey. The basement serves as a depôt for stores. On the ground-floor are the dining-room, the office, the social room, baths, lavatories, urinals, and water-closets. The upper floor is taken up by the dormitories, linen store, lavatories, baths, etc.

The villas, or châlets, are simple in their appearance, and although all in their construction conform to the type indicated they are so varied in their designs that amongst the thirty-one which compose this section there are not two which are alike. Surrounded with walks three mètres wide, they are situated in the midst of parks and gardens.

Villas for Private Patients.—Replete with every convenience, these villas may come under four heads: those of the third class can each contain twenty lunatics, those of the second, ten; and those of the first class, four. The villas for special private patients are each designed for a single case.

Villas for Imbecile Children.—One of these is designed as a home; in it are dormitories, social room, baths, etc. The other is appropriated for a school, gymnasium, and workshops; that is to say, both medical treatment and instruction can be carried out in a complete manner.

Pavilion for Hydropathy.—This is situated almost in the centre of the colony, and is composed, first, of a large piscina, thirty mètres by twelve, with a continual flow of water; second, of a room with cold, fine sprays; third, bath-rooms of warm air; fourth, sulphur baths; fifth, tepid baths; sixth, a massage room; seventh, small rooms for storing the linen; eighth, a room for electro-therapeutics.

The Theatre.—Having seating capacity for fully 300 people, it serves not only for the presentation of plays but also for balls and concerts.

The Church.—This has likewise room for 300 people, and although the greater part of the lunatics are Catholics, those who are not are free to receive the visits of priests of other religions.

Administrative Departments.—Kitchen, laundry, steward's offices, linen store, etc., are placed, as has already been said, in the very midst of the establishment.

The Engine Room.—This is intended to provide the kitchen with steam, the workshops with power, the heating of the greater part of the asylum, and also to run the dynamos for the electric light. The fitting up of the workshops, the stables, the pigsty, the poultry-yard, and the pigeon loft have been the object of very special care, as well as the cultivation of the ground, which goes to the upkeep of the asylum.

The above brief description will give an idea of this unique and complete asylum, conceived with the object of helping the lunatic on the no-restraint, open-door, rest-in-bed principles, and by the application of agricultural labour with the widest possible scope.

The cost of construction of this establishment has been calculated at 3½ million piastres of the national currency, and above this sum 94,000 piastres have been paid for the acquisition of the site; thus the total cost is about 3,594,000 piastres of the national currency. This sum reduced to francs at the current rate of exchange represents 7,825,325 francs, thus making the cost of each bed 4742 francs.[1]

The very simple designs of the asylum explain the low cost of each bed; this is especially noticeable when one compares it with the cost per bed in the regular "closed" asylums of the large towns.

JOHN R. LORD.

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6. Sociology.

Considerations on Infanticide [*Quelques Considérations sur l'Infanticide*]. (*Arch. d'Arth. crim., January 18th*, 1902.) *Audiffrent.*

In this paper Dr. Audiffrent deals with the mental conditions that commonly prevail in cases of infanticide, and with the influence which such conditions should exert on the social and legal attitude towards infanticide. With special reference to a case in which a young woman escaped from an asylum and killed herself and her child, the author considers the peculiar psychological conditions of pregnancy and the puerperal period, and suggests that there are biological reasons why a woman in whom, from whatever cause, abnormal mental conditions are set up, should be impelled to destroy her child. This impulse is not confined to the human female, but is found throughout nature, and leads, for instance, a bird whose young have been confined in a cage to enter the cage and kill them, while many animals, if interfered with after parturition, will kill or eat their young. The author considers that this tendency is recognised outside civilisation, and that it lies at the basis of the wide-spread belief that the mother is the mistress of the child she has carried in her womb, that it belongs to her like any other object that she produces, and that no one has any right to contest her rights over her infant's life.

The author does not propose to return to this conception of a mother's rights, but he concludes that a strict study of the phenomena accompanying childbirth shows that the mother is not in full possession of her faculties at this critical moment of her existence, and that we must be very cautious in pronouncing judgment on her guilt.

HAVELOCK ELLIS.

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7. Asylum Reports.

Some Scottish Royal Asylums.

Aberdeen Royal Asylum.—We note that Dr. Reid has had fitted up an electric bath—in a position where it can be used for either sex.

[1] I understand that the Argentine piastre is worth about 1 franc 20 centimes, making cost per bed 2782 francs, or £111 6s.—J. R. L.

An extract from his report:

An interesting and gratifying feature is that no less than six former patients voluntarily applied for admission at the door of the asylum. These were either labouring under morbid depression with the usual accompanying delusions, or were seeking the protection of the asylum from imaginary tormentors. This would seem to point to the fact that former patients appreciate the value of the treatment they have received, and would go to disprove the erroneous ideas and prejudices entertained by many of the general public in regard to the working of such an institution and the treatment of the patients.

We are much struck with the few cases (twelve out of 308 admissions) where the causation is ascribed to "moral" troubles. About the same proportion obtains at Morningside, the respective numbers for that institution being seventeen and 472. At Montrose and Perth the proportions are very much higher, while the five-year average table of the English Commissioners shows moral causation in 21 per cent. of the admissions. Some interesting reflections arise in connection with these divergences, which probably cannot be accounted for by variations in attributes or circumstances of the patients themselves.

Royal Edinburgh Asylum.—The past has been a record year as far as admissions are concerned, no less than 472 new cases having been received. The increase has been entirely in rate-paid patients, and the possibilities of offering care and treatment to private cases have been correspondingly reduced. Dr. Clouston points out that if such increases are maintained the arrangements made at the new asylum of West Bangour will be upset. Looking, as he usually does, in considerable detail at the cause for the increase, Dr. Clouston fixes his attention on alcohol, against which he delivers himself with more than wonted vigour. In this we think he is right, and he is also right in preaching self-care, self-education, and self-respect in the individual, not only in alcoholic temperance but in the general ordering of life, as the real antagonism to insanity. He draws his population from an area where strong drinks abound, but where also apart from such things strong purpose and strong good sense likewise abound. While for many superintendents the uttering of warnings and exhortations is but preaching in the wilderness, he has the chance of exerting with some success the weight of his personal opinion. We believe that good would arise if more would follow his example. Who shall put before the people the physical, moral, and intellectual degeneration threatened by indulgence if the head of an asylum does not? What evidence can be used as a better means of arousing attention and securing reform than that of the asylum?

Dr. Clouston touches on a delicate point in the matter of watching suicidal cases. As is well known, close supervision in such cases, though essential at first, is often found to be irksome and irritating, and therefore prejudicial, to an improving case. And unfortunately experience shows that just at the time of a patient's feeling his feet again a suicidal wave may pass over him. The question then is, as Dr. Clouston puts it, shall cure come before care?

Montrose Royal Asylum.—We extract the following very interesting item from Dr. Havelock's report:

The Prevalence of Suicidal Tendency.—A large number of those admitted had

made suicidal attempts, and for long periods after admission showed that they would take advantage of any opportunity to carry out their insane purpose. The following statistics compiled by Sir John Sibbald, now published for the first time, show that Forfarshire and the neighbouring county of Kincardine have a larger proportion of suicides compared to population than the rest of Scotland.

Number of Suicides during Eighteen Years (1877–94) compiled from Reports of Registrar-General for Scotland, by Sir John Sibbald.

Annual Rates per Million of Population. Methods.	Forfar.	Kincardine.	Scotland.
Hanging . .	27	19	17
Drowning .	21	35	16
Wounding .	17	18	12
Poisoning . .	6	8	6
Otherwise .	3	12	4
Total . .	74	92	55

With reference to above statistics, Sir John, in writing to me, states:—"I have not arrived at any decided opinion as to the special frequency shown by the numbers for Forfar and Kincardine. Some would say it was due to special honesty of registration in these counties—that suicide was more frequently concealed in other counties. Some would say it was due to the absence of the Celtic element in the population. Others to a want of due regard for the chances of punishment in the great hereafter. The counties on the east coast of Scotland all show higher suicidal rates than the western counties. It is curious that the city of Dundee shows a lower rate than the rest of Forfarshire. It is so far in favour of the views of those who say that Celticism and Catholicism prevent suicide, for I suppose Dundee contains the largest proportion of Irish Catholics of any part of Forfarshire."

An analysis of the admissions to Montrose Asylum for 1900–1 shows that 29 per cent. of the cases from Forfarshire and 40 per cent. of the cases from Kincardineshire had a pronounced suicidal tendency. My own observations during the last twelve years bring out that certain parishes in the counties of Forfar and Kincardine send a very high proportion of suicidal cases to the asylum, and that suicides are specially frequent in these parishes. A possible explanation of this seems to be that of inherited predisposition, for suicidal tendency is strongly hereditary in most cases, and is prone to increase unduly in districts where the population is stagnant and stationary. The whole subject of suicide is beset with problems of extreme interest and difficulty.

James Murray's Royal Asylum, Perth.—The accommodation is here becoming so short that it is in contemplation to provide more. Dr. Urquhart finds that detached houses are limited in their use, and are as a matter of fact more acceptable to patients' relatives than to the patients themselves, the latter preferring the larger current of life in the main building. But he does not approve of too much main building, and suggests, as a compromise, self-contained buildings connected to the asylum by corridors, a plan successfully adopted at Morningside. Of his forty admissions no less than eight men and one woman were the victims of chronic alcoholism—a large proportion. One case admitted had an attack of severe influenza and developed an internal abscess in the right aural region. After surgical relief the mental symptoms abated, and he was discharged recovered.

Notes and News.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

A COUNCIL and GENERAL MEETING of the Association were held at the Cheadle Royal Hospital, Cheadle, near Manchester, on February 14th last (1902), through the kindness and courtesy of Dr. Mould, and it proved to be one of the most appreciated and interesting of General Meetings held in the provinces.

The Council was attended by Drs. Oscar T. Woods (President), J. Wiglesworth, H. Hayes Newington, C. K. Hitchcock, C. A. Mercier, R. Percy Smith, A. Miller, T. S. Adair, J. B. Spence, and Robert Jones.

Apologies for non-attendance were received from Drs. Fletcher Beach, A. R. Urquhart, H. T. S. Aveline, A. R. Turnbull, C. Hubert Bond, D. Bower, H. A. Benham, L. A. Weatherly, and P. W. MacDonald.

The following members attended the General Meeting:—James Stewart, J. Wiglesworth, L. A. French, David Yellowlees, Frank A. Elkins, E. B. Whitcombe, James Rutherford, James Middlemass, W. S. Kay, C. A. Mercier, R. J. Legge, W. F. Farquharson, A. Miller, T. S. Adair, C. K. Hitchcock, Bedford Pierce, H. Corner, G. E. Mould, T. Seymour Tuke, James Chambers, W. Scowcroft, L. R. Oswald, W. F. Menzies, Oscar T. Woods, J. R. Gilmour, J. Carlyle Johnstone, J. C. Nixon, R. Percy Smith, J. S. Bolton, J. O'C. Donelan, H. H. Newington, W. Starkey, T. S. Sheldon, J. B. Spence, David Orr, J. C. McConaghey, Henry J. Mackenzie, Stanley E. Gill, David Blair, Frank Perceval, and Robert Jones. Visitor: Mr. J. M. Rhodes.

Apologies for non-attendance at the General Meeting were received from those already recorded for the Council, and from the following additional members:—Drs. James Rorie, David Nicholson, F. W. Mott, G. H. Savage, R. Stilwell, John McClintock, T. L. Rogers, W. B. Tate, J. A. Oakshott, J. G. Soutar, E. H. O. Sankey, J. F. G. Pietersen, and C. S. Morrison.

During the morning the members were conducted over the buildings and grounds, and afterwards they were hospitably entertained at luncheon by Dr. Mould.

The PRESIDENT, in proposing Dr. Mould's health, felicitously referred to the fact that the meeting was being held on the fortieth anniversary of Dr. Mould's tenure of office as Medical Superintendent of the Cheadle Royal Hospital.

The General Meeting was held at 3 p.m.

The PRESIDENT, at the commencement of the proceedings, announced that at the Council Meeting that morning, very much to the regret of every one present, Dr. H. A. Benham had sent in his resignation in consequence of illness. The Council had passed a vote of sympathy with him, and had appointed Dr. Alfred Miller to act in his place till the Annual Meeting.

The PRESIDENT also announced that the Chief Secretary for Ireland had acknowledged the resolution which had been sent to him.

THE NORMAL POSTERIOR ROOT GANGLIA AND THEIR DEGENERATIVE PHASES IN GENERAL PARALYSIS OF THE INSANE.

Drs. ORR and ROWS described the normal histological appearances of the nerve-cells in the posterior root ganglia of the dog and of the human subject, and the degenerative phases of the latter in general paralysis of the insane.

The special technique by which shrinkage is avoided was explained in detail, and an excellent demonstration, by means of lantern slides, was given of the five types of cells which have been distinguished in the posterior root ganglia, and of the different ways in which the cells degenerate.

The demonstration afforded proof of the view that the actual amount of cell destruction was quite insufficient to explain the degenerations found in the posterior columns of the cord. These degenerations were ascribed to the action of toxins attacking the fibres in their length.

Dr. Rows then read a paper entitled "The Bearing of Recent Research in the Posterior Root Ganglia upon the New Theories concerning the Ætiology of Tabes dorsalis" (see page 308).

Dr. Bolton said he was afraid this subject hardly lent itself to discussion, as Dr. Orr had carefully avoided expressing any opinion upon the causation of the appearances which he described; and while Dr. Rows had referred with considerable detail to the views which had been held on the pathology of tabes dorsalis, he, again, had not referred to any general pathological question. He should like to ask them some questions with regard to the changes in the posterior root ganglion cells which they had described. The greater part of the changes shown by them were, in his opinion, acute. Acute changes purely of the kind shown could not possibly, under any circumstances, produce degenerative changes in the posterior columns, and it looked as if the general secondary toxæmic condition of general paralysis was probably the cause of the recent chromatolytic changes which they had been shown. They certainly did find similar changes in other acute general toxæmic states, as after alcoholic excess and childbirth. He should like to have Dr. Rows' and Dr. Orr's opinions as to whether those changes were of a secondary nature of that kind, and common to all parts of the nervous system, or peculiar to the posterior root ganglia. With regard to the changes in the posterior columns in tabes, which Dr. Rows had referred to, one might expect to find very chronic atrophic changes in the cells, and it was quite probable, as they knew so little concerning the normal structure of these cells, that such changes might occur in the posterior root ganglion cells, and possibly be the explanation of certain of the different types described. He would also like to know whether those changes occurred equally in all the cells of the five types shown or only in a number of them. Had they formed any opinion with reference to the relative functional value of the different types of cells?

Dr. Jones said that beyond the actual pathological value the demonstration bore some influence upon the prevention of the disease, general paralysis of the insane being one of those diseases, the origin of which, in many instances at any rate, might be prevented, and it was not improbable that an educated democracy might call for measures of control in regard to it, and, perhaps, in the *not* distant future. In his experience a certain number of the cases of general paralysis had locomotor ataxic symptoms. There were a certain number of general paralytic cases also that never came into asylums at all, and he believed those might form about 15 per cent. of the total cases of general paralysis. Possibly 5 per cent. of the total cases of general paralysis had locomotor ataxic symptoms, and 80 per cent. were the typical cases which we, as clinicians, meet with in asylums. Fournier had stated that 20 per cent. of all cases presenting symptoms of tertiary syphilis presented those of cerebral syphilis in some form, so that we can readily see the influence which this toxic agent bears in the production of insanity, and the great need there is for some protective measures in regard to it. Dr. Jones stated he was interested in the question put by Dr. Bolton as to the relative value of the five different cells in the posterior spinal ganglia. We knew, he stated, as clinicians, the grossly fat stage which occurred in the course of general paralysis, and we knew also that assimilation, nutrition, and general metabolism depended upon the condition of nerve-cells, whether of the spinal, or sympathetic, or both was uncertain; and he would like to emphasise the question put by Dr. Bolton if some of these nerve-cells had not a viscero-vascular influence, and perhaps Dr. Orr and Dr. Rows might be able to give some information upon this point. Dr. Jones concluded by saying that the subject of the demonstration was a most interesting one, and he thought their best thanks were due to the joint authors of this work.

Dr. Orr thanked the Association for the manner in which they had received the demonstration. In reply to Drs. Jones and Bolton regarding the function to be attached to each of the five types of cells, he regretted that at present he was quite unable to give any opinion, and suggested that such a question might be determined by experimental research. He was convinced that the nerve-cell changes shown and described were of a chronic nature, and drew attention to the fact that they differed from the acute forms of nerve-cell degeneration found in the posterior root ganglion cells in certain forms of acute insanity. He further pointed out that many cells showed the typical appearances found in cells undergoing a regenerative phase, as

described in certain experiments, and expressed the view that they could pass through the phases of degeneration and recovery more than once before they finally succumbed. On these grounds, therefore, he did not consider Dr. Bolton's contention, that the changes were of an acute nature, as tenable. He begged to remind Dr. Bolton that he had given as his opinion that the lesions described by him and Dr. Rows were caused by the general toxic condition found in general paralysis.

Dr. Rows, in reply to Dr. Bolton's question with regard to the causation of the changes in the nervous system in tabes dorsalis, said that they were an affection of parts of the nervous system, the whole of which had been exposed to the toxine which produced them, but only those parts had given way whose powers of resistance had been diminished by some antecedent injury. These changes he considered to be the result of the primary toxine of the disease, and not of any secondary toxæmic condition, although this latter development exercised a great influence on the whole organism. He agreed with Dr. Orr that no definite reply could at present be given to the questions of Dr. Jones and Dr. Bolton with regard to the relative value of the five different types of cells in the posterior root ganglia. In all probability they had distinct functions. This view was supported by the results obtained by Dr. Alexander Bruce, who examined the posterior root ganglia after amputation of a limb. He also said that there can be no doubt that the changes which occur in these cells are of a chronic character. The appearances seen were quite distinct from those met with in acute cases.

Dr. Elkins read a paper entitled "Some further Remarks upon Night Nursing and Supervision in Asylums" (see page 289).

Mr. Sutcliffe contributed the clinical record of a case entitled "An Abnormal Brain of Excessive Weight," and read the pathological report thereon by Professor Sheridan Delépine (see page 323).

A cordial vote of thanks was accorded to Dr. Mould for his hospitality.

In the evening the members dined at the Queen's Hotel, Manchester.

SCOTTISH DIVISION.

The Autumn Meeting of the Scottish Division of the Medico-Psychological Association was held, on the invitation of Dr. George M. Robertson, in the Stirling District Asylum, Larbert, on Friday, November 29th, 1901, Sir John Sibbald in the Chair.

There were also present Drs. Clouston, Easterbrook, Farquharson, Carlyle Johnstone, Keay, MacDonald, Hamilton Marr, Mitchell, Richard, Ford Robertson, G. M. Robertson, Rorie, Rutherford, jun., Sturrock, Batty Tuke, Turnbull, Watson, and Yellowlees, with Dr. Bruce (Secretary).

Dr. Baugh, Dr. Hilda MacFarlane, and Mr. Skene attended as visitors.

The CHAIRMAN said that there was nothing that could give him greater pleasure than to be allowed on an occasion of that kind to take the chair. It was an honour at any time, and he felt it especially an honour in his case, and a proof that the members of the Association were exceedingly good friends of his, as he believed they had always been. This meeting he expected to be a successful one, meeting as they did in an asylum where there was a great deal to be seen that was of very great interest to them, and where they were sure to be made exceedingly comfortable and happy in Dr. Robertson's hands. (Applause.) He thought that the chief feeling they all had on the present occasion was one of sadness at the death of their friend Dr. Campbell Clark. He had been ill for a long time, and his illness was now over. He thought it would be the pleasure of the meeting to show their respect for his memory by expressing their sympathy with his bereaved relatives. He did not think that they should pass from his name without acknowledging that he had been one of the most conscientious, one of the most industrious, and one of the most successful of superintendents, and, especially, that they had lost a member of exceptional ability. There was also another matter that he thought he ought to draw attention to, *viz.* that they had lost Dr. Turnbull as Secretary, and he was sure they were exceedingly sorry that they had lost him, although, no doubt, he was very glad to hand over his duties to a

younger and enthusiastic member. Dr. Turnbull had exceptionally high qualities for the secretaryship; his courtesy and his attention to business were beyond all praise. (Hear, hear, and applause.) He thought that he was only expressing the feeling of the Association when he said how very much they thanked him for doing as he had done for them. That did not prevent them from welcoming Dr. Bruce, who was here for the first time as Secretary. (Applause.) Perhaps he might also mention, as a subject of pleasure to them, that Drs. Oswald, Marr, and Parker had become superintendents of asylums since they last met.

On the motion of Dr. YELLOWLEES, seconded by Dr. CLOUSTON, it was resolved that the Association should incorporate in its minutes a copy of the minute sent to Mrs. Clark and also that they should record their special thanks to Dr. Turnbull.

Dr. CARLYLE JOHNSTONE said he should like to add a word to what had been already said in regard to their friend Dr. Clark. He was a friend of his of twenty years' standing. They were fellow-workers together at Morningside. He had visited him at Bothwell, where he converted what was really an inferior dwelling into a first-class district asylum, and he had also visited him frequently at Hartwood, so that he could speak as one who knew him very well. He was gentle and generous, a simple and broad-minded man, a man who never harboured any rancour or bore any malice. He was certainly the enemy of no man. He thought that if Dr. Clark's spirit could possibly be listening to them it would be a pleasure to him to know that he was appreciated during his lifetime, and that at his death he was not going to be forgotten. He had gone to a rest which he had honourably earned, and his name would be added to that honourable list of names of those who had worked among the insane, for the insane, and given their lives for the insane.

The CHAIRMAN requested the Secretary to draw up a minute in both of these cases.

The minutes of the last meeting were read and approved of.

The SECRETARY then read letters of apology from Drs. Oswald, Parker, Allan, Urquhart, and others.

The CHAIRMAN said that in accordance with the resolution of the last meeting the discussion would be resumed as to the questions of publishing the "Report of the Committee on Nursing Staffs of the Scottish Asylums."

After a prolonged discussion it was resolved that the report should not be published.

It was further resolved that the copies of the report which had been printed and marked "for private use only" should be sent to the members of the Scottish Division.

Dr. G. M. ROBERTSON read a paper entitled, "Hospital Ideals in the Care of the Insane: a statement of certain methods in use at the Stirling District Asylum, Larbert" (see page 261).

A cordial vote of thanks was accorded to Sir John Sibbald, who had to leave before the termination of the meeting, and Dr. Rorie was chosen to fill his place.

A paper contributed by Drs. A. R. Urquhart and W. Ford Robertson entitled, "A Case of Epilepsy following Traumatic Lesion of Prefrontal Lobe," was not read owing to the advanced hour of the day.

A vote of thanks was enthusiastically accorded to Dr. Robertson, and the meeting terminated.

IRISH DIVISION.

A Meeting of the Irish Division was held at the College of Physicians, Dublin, on February 18th, 1902.

The following members were present: President, Dr. Oscar Woods, in the Chair. Drs. Molony, Nolan, Cullinan, Donelan, Mills, O'Mara, Harvey, Drapes, Oakshott, Leeper, Ellison, Moore, Hetherington, Lawless, Dawson, Eustace, Rambaut, Conolly Norman, and Arthur Finegan, Hon. Sec., etc.

The minutes of the last meeting having been read and confirmed, Michael

Curran, M.A., M.B., Assistant Medical Officer, St. Patrick's Hospital, Dublin, was proposed for membership by Drs. Molony, Leeper, and Finegan, and unanimously elected.

The PRESIDENT read a letter of apology from Dr. O'Neill, of Limerick, in whose name a notice of motion stood on the paper. Dr. O'Neill explained that he had met with a serious accident and was unable to be present.

The PRESIDENT proceeded: The first resolution is in the name of Dr. O'Neill. In his absence no doubt some one will propose it for him.

Dr. O'MARA.—Dr. O'Neill asked me to propose the resolution standing in his name, which I do. It runs as follows:—"That the Irish Division of the Medico-Psychological Association of Great Britain and Ireland earnestly desires to call the attention of Government to the injustice inflicted on Irish asylum officials by the permissive clause of the existing Act of Parliament dealing with the question of superannuation. It respectfully urges on the Government to make more secure the provision for old age in the asylum service. The arduous duties, responsibilities, and constant contact of asylum officials with the insane call for exceptional consideration as regards superannuation. It was apparently intended that the granting of pensions under the Act 53 and 54, cap. 3, though nominally permissive, should practically be recognised as a matter of right, but the word 'may' leaves it entirely at the discretion of committees to grant anything they wish, and from which decision there is no appeal. The Division respectfully urges on the Government an alteration of the said clause by the introduction of the word 'shall,' instead of 'may,' or by the introduction of a pension scheme securing assured pensions. That a copy of the foregoing resolution be forwarded to the Right Hon. George Wyndham, M.P., Chief Secretary for Ireland." In addition to that I got a circular this morning from Dr. O'Neill, containing a very important modification of this resolution.

The circular, which was here submitted by Dr. O'Mara for Dr. O'Neill, contained the draft of an entirely fresh scheme for pensions, altering the terms under which superannuation could be sought in many important particulars.

Dr. FINEGAN proposed that, as there were several schemes to be considered, it would be well if they were discussed together first before coming to a conclusion with regard to any one of them.

The President approving it was agreed to adopt this course.

Dr. HARVEY seconded Dr. O'Mara's resolution for purposes of discussion. He said: That it is desirable to get compulsory pensions which the resolution aims at no one has any doubt. But the questions arise, Is the present a desirable time to approach this matter? and What are our chances of success? As regards the point whether this is an opportune time or not, there is no doubt that under the changes which the asylums in Ireland have recently undergone there is a strong feeling in favour of keeping authority as much as possible in local hands. At the same time it is practically acknowledged we are entitled to a pension. I know that my committee so far have dealt very fairly in the matter. I summoned my staff together and explained the matter to them, and we decided that at present we have no complaint; but we are prepared to follow any course which the majority of the asylums decide on. With regard to the possibilities of the success of a scheme for compulsory pensions, I do not think there would be great opposition. It might be a very wise course to ask the asylum committees to meet a committee of this body to consider the question. I think the asylum committees might be very glad to have a regular fixed scale when giving their decisions. I had the honour of being appointed, when the Local Government Bill was going through, to go over to the House of Commons with Dr. Norman and Dr. Finegan, and we interviewed a great many members of Parliament. They all acknowledged that if any service was entitled to a pension that ours was. I am sure Dr. Finegan will bear me out. The Government also acknowledged the justice of our contention, but they said they would not give us anything except what we already had.

Dr. NOLAN moved, on notice, "That the attention of the Chief Secretary for Ireland be directed to the grave disadvantages to Irish asylum officials arising out of the repeal of secs. 3 and 4, 53 and 54 Vic., cap. 31, by the Local Government (Ireland) Act, 1898, and that he be urged to introduce an amendment at the first opportunity restoring the deleted sections of the Pauper Lunatic Asylum (Ireland)

Superannuation Act, 1890." With regard to this resolution, it does not attempt to discuss any new scheme; it merely suggests we should strive to get what Dr. Harvey said he was assured we could easily secure, namely, the same terms as we had before recent legislation. My resolution claims for us at least the right we had under the Pensions Act of 1890, the right of appeal. This we are now deprived of under the Local Government Act. Dr. Nolan went on to say it appears to be an extraordinary thing that we should be asked at one of our divisional meetings to formulate a scheme right off which can be taken up by the Legislature at any time. Instead of one well-considered scheme being brought up for ratification there are several schemes, none of which, except the one Dr. Finegan honoured us by sending round, have been considered by the superintendents or the people interested. I do not think any other body of men occupying the position we do would approach a subject of this magnitude in the same complacent manner. No real attempt has been made to formulate any one scheme that could be put before Parliament. I do not think there is the slightest chance of getting any new scheme passed at this particular time. All we can hope to do is to secure the rights we had under the old Act. The whole conduct of this business seems to be most unfortunate. One of our superintendents goes over to the English meeting and puts forward a proposal there. We have not heard what came of this. Then we are asked to attend to-morrow a meeting of our subordinate officers without having had full time to consider all the schemes before us. I think it a very unhappy occurrence that we are summoned to attend the meeting to-morrow, considering how we are placed with reference to our staffs. These men will come to consult us on the question of pensions, and we ought to be in a position to advise them. Up to this year in the history of the Association the medical officers always managed their own affairs. On the question of superannuation, in which the interests of the superintendents are identified with those of the staff down to the most junior servant, it might have been assumed that whatever the superintendents decided was the wisest and best course would prove to be for the benefit of all in the institution. Instead of that we are called to meet to-morrow a number of people coming up from different parts of the country with ideas of different schemes. I do not know how we could possibly in the short interval think over the schemes that are here to-day. In England, when they had a similar movement, it was only proposed after the most elaborate statistical investigation, with the aid of chartered accountants, and all the information that could be possibly brought to bear from every possible source was in the hands of the members for months previously. Here we are brought up to-day and we see on the agenda paper several schemes, and we have agreed to meet our subordinates to-morrow, who will have a number of schemes. It appears to me to be altogether most unwise. The only course at this eleventh hour is to decide on some unanimous line of action which will commend itself to common sense and to the people from whom we have to ask favours, and not to ask for an absurd scheme of pension which would not be sanctioned, or allow the meeting to-morrow to ask for an absurd scheme.

Dr. HETHERINGTON.—We had better discuss the thing generally before going into any special scheme. We have to ascertain whether there is any probability of any scheme whatever being adopted by our own committees. I thought most of the medical superintendents would have consulted their own committees before coming to this meeting, and ascertained the general feeling about adopting any scheme. I did it with my own committee, and found, on the whole, they were rather in favour of having some definite scheme adopted; they said it was unfair that the amount of the pension should be left to the opinion or caprice of a committee. It may happen that when one man comes up for a pension the members of the committee are in a bad humour, and may thus give him very much less than he deserves, while on another occasion they may deal too generously with an applicant. The first thing we should ascertain is whether our committees are really in favour of anything of the sort; otherwise there is not the slightest use in going on. Dr. Harvey's suggestion that there should be a sort of conference between the representatives of the committees and the medical superintendents to see if they can agree on any scheme, or even on the principle of any scheme, leaving the details to be proposed afterwards, should be decided on before we can advance one step. I sent forward a scheme to my friend Dr. Finegan; I did

not expect to see it on the notice paper. My sole object was that we might have something before us. I do not think any man can expect his scheme, or any scheme, to be adopted as a whole; I think that what Dr. Nolan says is very reasonable. My committee has always, and in a great many cases, dealt liberally, and given up to the full amount that the Act allowed, and seem inclined to do so as far as I can see. For these reasons I would not like to have any scheme adopted without submitting it to my committee. If the committees oppose us I think we could do nothing. We drew up what we thought might be the lines of a scheme. It is quite a different scheme from some of the others I have heard of. I do not think that there is any use in reading it over. We made it permissive as regards some of its provisions; it is merely a matter to bring before you for discussion. It never crossed my mind for a moment that at our proceedings to-morrow on this very important question we could arrive at any definite conclusion. I think that the meeting to-day should spend its time in arriving at some conclusion how to conduct the meeting to-morrow. There are a great many deputations from various asylums, and I am sure some of them will be so sanguine as to want to pass an Act of Parliament to-morrow.

Dr. DONELAN.—The whole matter is a question of expediency. We would all be very glad to have permission changed to certainty, but is there much likelihood of it being done? Outsiders will say, If this change is effected, there must be a certain amount of giving up on our side. With regard to many of the asylums, pensions seem to be dealt with fairly and reasonably, and the same certainly applies to the asylum I am connected with—the Richmond. The important question is, Would we prefer a certainty on a lower scale? Would we thus do better than by leaving things as they are? Dr. Nolan's suggestion is probably the wisest. If we can secure its adoption, we shall be placed in the same position as we were before the Local Government Act came into operation.

Dr. MOORE pointed out the futility of discussing proposals on this occasion, when, as the Division was aware, a meeting of representatives of all the asylum employés in Ireland had been summoned by one of our members to assemble in Dublin next day to discuss the same subject. If we adopt one scheme to-day, what guarantee have we that the majority at to-morrow's meeting will not vote against it?

The PRESIDENT regretted that the matter was brought forward at the present time, which he considered inopportune, but, he said, there is no help for it; the matter has been brought forward, and it is better to discuss it, and, if possible, formulate a scheme. If we go forward as a united body with recommendations to the staffs to-morrow, I think we will go very far to secure the adoption of our views. There are four schemes in the air. There is the scheme proposed by Dr. O'Neill. Dr. Finegan takes up different lines altogether; Dr. Hethrington has another scheme which he has not read to us; and I think an unfortunate proposal is emanating from the Killarney Asylum—the staff of which is already canvassing the members of Parliament to have it carried. In bringing forward any scheme I think we must consider the possibility of carrying it, and my opinion is, it is out of the question to think of getting any pension scheme without unanimity of opinion amongst the Irish members—Nationalists and Unionists. In order that the members of Parliament may take it up, I think we must have the support of our committees of management. Without their support I think we might as well do nothing. If we get their support, and they would approach the local members of Parliament, the latter would probably consent to bring in a Bill which would be practically unopposed, and which I think would pass; otherwise I think our schemes are bound to fail. With regard to what has been done in England, I have here in my hand the confidential report that has been drawn up by the committee formed to consider the pension question in England. I received this letter only this morning, and it shows the enormous difficulty with which this pension question is beset.

Dr. FINEGAN said: My impression is that we can never get assured pensions unless they are on the same basis as the Poor Law Medical Officers' Association, that is, that we should make some small contribution from our salaries towards the pension fund or towards the expenses of the asylum. In Ireland, above all places, there is an outcry against rates. In another few months we will have asylum government more democratic even than the present, and the democratic members

of our Committee object in the strongest terms to giving pensions to individuals who they consider at the present time are too well off. I have come to the conclusion that neither the members of Parliament nor the local boards throughout the country will support the pension we have been in the habit of getting heretofore. They will not support giving any such pension because they are not given to any other class of officials. You may say that asylum officials are more entitled to it than any other class. I grant you that, but I am an official myself. Other people do not see it in that light; they think we are too well off. Possibly we might be told to join in with the Poor Law Officers' Association, which would be a great misfortune to asylums. I myself am under the impression, if we do adopt anything, that the only one form of pension scheme that we can carry out with any prospect of success is that in which there is a deduction made from the salaries by way of contribution. Some eighteen months ago a very old and efficient official of Mullingar Asylum got phthisis. I reported her to my board as being in the last stages of consumption and unfit for duty. The woman had twenty years' service; she was a most excellent nurse in every sense of the word, in one of the most trusted positions in the house. The committee asked what she was entitled to, and I said £40 a year, and they said, "Preposterous! how can the rates stand that? If we are going to pension all at that rate we will have to come into the asylum ourselves." After a very great appeal from a clerical member not to allow this woman to go into the workhouse after her twenty years' service in the asylum, they at last consented to give her £30 a year, taking 25 per cent. off what she should have got. They then proposed a resolution that this should be the last pension. In the discussion which followed it was stated that it would be very hard that officials of long service should not get pensions, at least in the case of existing officers. At last a compromise was effected in the matter, they saying, "We are agreed to give pensions if the officials themselves make contributions to these pensions, otherwise we will give no pensions." I was directed to draw up a pension scheme and submit it to my board, which I did. It was approved of by my committee, and I was directed to send it round to the other asylums and see what they had got to say, and also to communicate with the Local Government Board. The Local Government Board sent us a communication to the effect that the committee's action in establishing such scheme was altogether *ultra vires*. Then the committee passed a resolution asking the Chief Secretary to legislate so as to enable our own asylum in Mullingar to establish a scheme of this kind.

The Chief Secretary, in replying, said that "fresh legislation would be necessary to legalise any pension scheme such as that submitted by the committee, but that it would not be advisable to legislate on this subject for a particular asylum, as any such legislation should apply to all district asylums. His Excellency is further advised that if legislation could be introduced to grant asylum officials assured instead of permissive pensions, it would be a great boon to a very deserving class of public servants, especially if such a scheme could be arranged with the concurrence of the local authorities. In this connection I am to refer the Joint Committee of Management to the actuary's report on Poor Law officers' superannuation which is being circulated to local bodies."

My committee then decided to ask the other Irish asylums to co-operate with them in establishing some form of pension scheme on a similar basis, that is, making deductions from salaries. Furthermore, my staff, who are particularly anxious for pensions, seeing that the other asylums did not take up the matter, said if the other asylums in Ireland do not wish to take action it is their own loss. I called a meeting of the officials, and they instructed me to get a Bill drawn up by a lawyer and submitted to the Government, to secure permissive legislation if possible for this Mullingar scheme. The Bill is actually being drafted at the present time by a member of Parliament and a lawyer in Dublin. Of course that has to go on in any case, as I have been acting from the beginning not on my own initiative, but on the instructions of my committee and of my staff. By the instructions of my committee I have had to draw up a scheme, and by an instruction from my staff I am getting a Bill introduced. A member of the House of Commons has promised to introduce the Bill when drawn, but he states that it is certain to be opposed. I dare say most of the officials know this scheme. If you bear with me

for a few minutes, I will just run over the heads of the scheme. First, the officials to be not less than fifty years of age, and to have served no less than fifteen years, excepting in the case of permanent incapacity for duty through illness, when the committee may think fit to grant a pension. Second, on the completion of fifteen years' service, a minimum pension shall be awarded of fifteen thirtieths of the salary and value of allowances, and a maximum of twenty thirtieths on the completion of twenty years' service; one thirtieth of salary and value of allowances to be granted for each year served between fifteen and twenty years' service. Third, any official who may be dismissed by order of the committee of management without the privilege of resigning forfeits all claim to pension or refund of money paid in. Fourth, in the event of any official dying in office all right to a refund of contribution ceases, except in the case of married people, when the committee shall allow the contribution to the relatives of the deceased. Fifth, deductions to be on the scale laid down by the Poor Law Officers' Superannuation Act of 1896 as follows, viz. officials with less than five years' service, 2 per cent.; officials with more than five years' service and less than ten years' service, 2½ per cent.; officials with more than ten years' service and less than fifteen years' service, 3 per cent. on their salaries and value of allowances. Sixth, all deductions to cease after twenty years' service. This latter is a most important provision, for the simple reason that the majority of men who have got twenty years' service at the present time have nothing to pay. I myself have not a service of twenty years, but have served fifteen, and I shall have to pay for five years; there are others would have to pay for longer; there is a very large majority of the medical officers of the Irish asylums who would have to pay nothing at all because they have served over twenty years. There are several here with twenty years' service, and from that point of view it is extremely good. Seventh, officials resigning voluntarily under five years' service shall forfeit all right to a refund of contributions, except in the case of illness, when the committee may allow a refund of part or the entire of the contribution. Eighth, officials resigning voluntarily after five years' and under ten years' service shall be entitled to a refund of 75 per cent. of the contribution. Ninth, officials resigning voluntarily after ten years' and under fifteen years' service shall be entitled to recover all deductions contributed. This scheme aims not alone at benefiting the officials, but also aims at improving the condition of the asylum service in this way: The course of asylum service as regards officials at present is that those who serve for one, two, three, or four years leave when they are trained and are beginning to be of some use. If the service is less than five years all contributions are forfeited. If he remains for five years he gets back 75 per cent. of his contributions; if he remains for ten he gets the whole of his contributions; and if for fifteen years he gets half his salary and allowances. I think that it is an extremely fair and liberal method. It will also improve the service and make an enormous pension fund—just consider the number of employés coming into the asylums, and the number of changes for the first five years. In Mullingar Asylum sixty-seven of the officials are under five years, eighteen over five, seven over ten, seven over fifteen, and three over twenty years. To bring matters to a head I propose definitely that this scheme of the committee of Mullingar Asylum be accepted as a basis for the pensions of asylum officials generally throughout the country. If the Division would approve of this scheme it would strengthen my hands to go to the members of Parliament and the other asylums to get permissive legislation.

Dr. HARVEY said that since he heard that the scheme had not emanated from the officials, but from the committee of the asylum, he was favourable to it, and would therefore be very glad to withdraw in favour of it.

Dr. O'MARA.—I am quite sure Dr. O'Neill is not in favour of withdrawing his scheme in favour of the Mullingar scheme. I put the Mullingar scheme before the staff, and they would not consider it; they unanimously rejected it. As far as my staff are concerned, they are very badly paid, and they could not offer to contribute anything at all. Some of my female attendants are only paid £9 a year. My committee marked the Mullingar scheme "read," and would not consider the matter any further. That scheme places us in a rather awkward position, inasmuch as it is going before Parliament, embodied in a Bill at present, and any scheme that is propounded by the Association will be rather upset, I think, by Dr.

Finegan's scheme. How can we go and ask members of Parliament to support one scheme for Mullingar and another scheme for other asylums? We must go before the meeting to-morrow with some definite scheme from the Association; there is no use going in and saying, "Dr. Finegan has a scheme; Dr. O'Neill has another scheme." I want to have the assured pension under the old rules if I possibly can; even if the time is extended to twenty or twenty-five years I do not object. I am sure Dr. O'Neill would not.

The PRESIDENT.—I think it very important some decision should be come to about this scheme. I do not think there is very much good in putting it before the meeting to-morrow. I believe it will be rejected by ten to one. However, if we approve of it, it should go forward. It is too favourable a good deal to say that any attendant with a salary of £80 a year, if he contributed for twenty years a sum of £1 10s. a year will be absolutely entitled for the rest of his life to a pension. If we commit ourselves to a contribution, when we go forward to Parliament, and it is rejected as inadequate, we shall then be told, "You are in favour of a contribution, now get up a scheme, as the Chief Secretary says, on the lines of the Poor Law officers' scheme." For asylum officials with their arduous work and many risks this would be altogether an insufficient scheme.

Dr. NOLAN.—I am bound to say that the history of the evolution of the Mullingar scheme has been so completely startling that I really feel we are in a much more serious position than before. I merely thought these schemes were on paper for the committee; now I find that actually a Bill for Parliament is being drawn up which we are asked to sanction. It appears to me an easy way of determining; what we ought to do to-morrow is to record definitely our complete disapproval of the Mullingar scheme, and unanimously reject anything of the sort. Now what have we heard from Dr. Finegan? He has told us the history of what happened about the committee and the attendants and the members of Parliament; and the mere fact of his touching the question at all landed him in this grave position, that he actually finds himself now in the hands of a Parliamentary lawyer, who is presumably a Nationalist member of Parliament, and who does not hold out good hopes of even getting the Bill through as it stands. It is appalling to me to think that the members should find themselves in the position of coming here, not with a free hand, but merely to endorse the Mullingar scheme, which is open to so numerous objections that it is absolutely impossible to deal with them. I would hope that at to-morrow's meeting, whatever is done, one resolution should be certainly hostile to the Mullingar scheme, and unanimously refusing to be bound by it in any way.

Dr. CONOLLY NORMAN.—Owing to the unfortunate circumstances of being in court all the morning, and not being able to be present here in the early part of this most valuable discussion, I do not know what is in order for discussion just at present. Is the agenda paper still before the Chair, or are we only discussing the question of Dr. Finegan's scheme? Is the proposal of Dr. O'Neill as it stands on the agenda paper at this meeting still before the Chair?

The PRESIDENT.—Yes.

Dr. NORMAN.—The proposal of Dr. O'Neill appears identical with the proposal introduced by Dr. O'Neill at the meeting of the Medico-Psychological Association of Great Britain and Ireland held in London on November 21st. In both these documents the Association is requested to urge upon the Government the alteration of the seventh clause of the Pensions Act, 1890, by the introduction of the word "shall" instead of "may." The resolution put before the Medico-Psychological Association in November last was adopted, and you are asked now to reaffirm it. I have read very carefully and repeatedly the Act 53 and 54 Vict., cap. 31,—the Pensions Act of 1890. It has been pointed out to me, and I can endorse it by my own observation, that the Act in question does not contain the word "may," and therefore I beg to submit that we are considering a proposition that has no reference to fact at all, and that we are asked to endorse the action taken in London in November, calling upon the Government to alter an Act by leaving out a word that is not in it, and by substituting the word "shall," which is already there. Was a more pregnant Irish bull ever delivered? With regard to Dr. Finegan's scheme in connection with the proposed rebate out of our incomes to provide a pension fund, I do not see where the fund is to come from. It seems a case somewhat similar to the proposed Poor Law Superannuation Bill, with reference to which the

Government actuary, when called upon to look into it, stated that the scheme would require a fund, money advanced by somebody or other, of at least £10,000 to start the thing. I do not know where we are to get that £10,000 from. Reference has been made to a meeting to be held to-morrow; it has been said at this meeting here to-day that we should adopt some definite formula for to-morrow. I think that is a very bad line of reasoning. The meeting to be held to-morrow was summoned without consultation with this Association. It was summoned by gentlemen who no doubt had the most amiable intentions, but without consultation with anyone, and summoned for the day after this meeting, which was, in my mind, a very grave error. I think that that meeting, supposing it to have been duly authorised, supposing that there was proper authority for convening it at all, should have been summoned for some day which would have given us time to have made up our minds after to-day's discussion, and time to have communicated with the various persons interested, ascertaining their views and finding out how we really stand before taking action. Are we to be told, forsooth, that because without any authority of ours a meeting has been called for to-morrow elsewhere we must therefore make up our minds to-day? Is not this very like bull-dozing this meeting? These matters require very careful consideration. I do not think it competent to any member of this Association, or any individual who happens to be connected with asylums, to go, ring a bell, and call up anybody he likes at any moment he pleases and pass a resolution affecting our gravest interests without any due consideration. I fail to follow the argument addressed to us that we must make up our minds to-day on a matter of importance as to which we are probably quite incapable of deciding on so short notice, in order to present to-morrow a programme to another meeting, when the organisers of that meeting had not the courtesy or common sense to wait until they heard our views before calling themselves together.

Dr. FINEGAN.—I do not like to have Dr. O'Neill condemned wholesale on this point: he is entirely responsible for that meeting; he communicated with me unofficially to say he wished for representatives of all officials of asylums to appear at our Medico-Psychological meeting. I told him that this would be impossible, and that if he wished to have a general meeting of the asylum officials he should convene that meeting himself, that I could have nothing whatever to do with it. Whether he had taken that letter from me as an official sanction from the Association I do not know. I can assure you that is all the authority I have given in the matter. Dr. O'Neill is entirely responsible for his own actions with reference to this second meeting.

Dr. DRAPES.—Several members have said before it is absolutely impossible for this meeting to decide in favour of any particular scheme; the most we can do would be to decide on the principle whether the members are in favour of a scheme involving contributions from the staff or are wholly opposed to it. If the majority are against the scheme which involves contributions, the thing there and then ends. If, on the other hand, they are in favour of some scheme which involves contributions, then it will be time to go into some definite scheme. I regret extremely that the action of Mullingar was so precipitate. Anything adopted here by the medical superintendents should at least have the authority and approval of the Medico-Psychological Association. I think in a thing of this kind that nothing could be done by one asylum, but with the unanimous consent of all asylums and the almost practical consent of the committees something might be done. I still think that if any scheme is going to be adopted, to have any chance of success, there should be a conference between the representatives of the committees as well as the representatives of the asylums. If we can get them to agree on some scheme there is some chance of it passing, otherwise there is not the smallest possibility of success. Dr. Norman alluded with particular point as to where the funds were to come from; if these contributions are an annual aid to paying pensions under that scheme, no fund can be formed whatever unless a certain proportion is set aside to augment every year. We merely pay a certain amount of contributions, but where a fund is to come from I do not think we have heard.

After some further discussion, in which Drs. Mills and Ellison, among others, took part, it was proposed by Dr. NOLAN, seconded by Dr. CONOLLY NORMAN, and adopted:

"That this meeting resolves that at the meeting of the asylum officials to be held on the 19th inst., the action of the members of the Medico-Psychological

Association present be confined to a suggestion that a representative committee of all classes of asylum officers be formed to consider and report as to the best scheme for superannuation."

Dr. LAWLESS proposed, and Dr. MOORE seconded—"That this meeting does not approve of a contributory scheme for pensions." The resolution was carried on a show of hands.

Dr. Nolan's original notice of motion was then again considered at some length. Finally, Dr. DRAPES moved, and Dr. DONELAN seconded, an amendment thereto in the following terms:

"That Dr. Nolan's resolution with regard to restoring the deleted sections of the Superannuation Act of 1890 be referred to a committee to be appointed to deal with the question of pensions generally, and that if a committee for this purpose be not appointed at to-morrow's conference, a committee of this Association be so appointed."

This amendment was adopted on a division, and being put as a substantive motion was unanimously adopted.

A rather protracted discussion took place (introduced by the President) upon the claim of Dr. Taylor (Medical Superintendent of the Monaghan Asylum) to be assisted to meet the expenses in his action against the Irish Local Government Board, taken with success to compel that body to assess under the Local Government (Ireland) Act the amount of increase in salary due to him for increased duties imposed upon him by the Act. It was recognised that Dr. Taylor's case was a valuable precedent, but as he is not a member of the Association it was felt that the matter should be left rather to the individual discretion of the superintendents than dealt with by the Division.

The proceedings then terminated.

On the same evening fifteen members, including the President, dined together at the Shelbourne Hotel.

A MEDICO-LEGAL CASE.

COMMUNICATED BY SIR JOHN BATTY TUKE.

[The Editors request that members will oblige by sending full newspaper reports of all cases of interest as published by the local press at the time of the Assizes.]

The following curious trial is taken from records of criminal trials before the High Court of Justiciary in Edinburgh, in volume iii of 'Ancient Criminal Trials in Scotland,' compiled from the original records, etc., by Robert Pitcairn. Printed for the Maitland Club, 1833.

"16 Decr. 1561 James Guyld, indicted for Stealing etc. as after specified.

"Mr. Alexander Sym, as prelocutour for James Guyld, beand callit to underlye the law upone his lyff, allegit that he is minor, within the zeiris of xviij their ald, as it may be considerit be inspectione of his face, lyik as he is in deid, and salbe profin gyff neid beis; and thairfoir aucht nocht to underly ane Assyse upone his lyif, nor to thoill jugement thairupone, nother be the Commoune law, nor Municipale law, or use of this realme. And attour the barne him selff is ydiot of natur, nor hes nocht the knawlege to decerne the perrell and the feir of deid; and thairfoir aucht not for to underly ane Assyse, as said is, of lyif: And forder, is subdewit to ane malancolius humour, naturallie descendand from his progenitouris, swa that he is mair desyrus to dee nor to leif, as be experience is notour, the samekill that his fader exponed himselff sindré tymes to the perell of deid, and wald have drowned him selff in the North Loch, wer nocht he wes releved theirfra be nychtbouris; and syclyik Maister Walter Guyld, his fader bruder, occupiit with the same humour, slew him selff in Paris. And thairfoir, the said James, beand bayth minor, and approacheand mair to pupillaritie nor maioritie, and occupiit with the said humour, mair willing to dé nor to leif, and haifand na cuyr of deid, aucht not to underly the law for the lybellit pretendit cryme, etc.

"And eikis allegeance, that the same boy ranne sindrie tymes nakit to Ingland, and left his claythis behind him: and swa may be understuid that he hes this said humour, as said is: and offeris him to preif the said allegeance sufficientlie.

"The Justice findis be Interlocutour that the said mater sould pass to Assyse, nochtwithstanding ony allegeance, because of the practik sene of befoir.

"*Verdict.*—James Guild, Convict, be deliuerance of the said Assyise, of arte and parte of the thiftius steling and taking furth of the purse of Elizabeth Daniel-stoune, the spous of Neill Layng, hingand under hir aprone, in the moneth of Apryill, upoun ane Monunday, ane mercat day of Edinburgh, scho being upone the Hie Streit, standand at the crame of Willeam Speir, indueller in the said burgh, in comoning with him, the tyme of the putting of ane string to ane penner and yncome quhilk scho had coft fra the said cramer, of ane signet of gold: ane vther signet of gold, sett with ane cornelene; ane gold ring sett with ane grite sapheir: ane vther gold ring with ane sapheir formit like ane harte; ane gold ring sett with ane turquhase; ane small dowble ring of gold sett with ane dyamont and ane rubye, ane ald Angell-Nobill, and ane Cussett dukett."

Appended is a rendering of the above into English or Scotch of the present day:

Mr. Alexander Sym, as counsel for James Guild, called to underlie the law for his life, pleaded that he is a minor, under eighteen years old, as may be judged by inspection of his face, and as he is indeed, and shall prove if need be, and therefore ought not to undergo an assize for his life, nor to suffer judgment thereon, either by the common law, municipal law, or usage of this realm. And, moreover, the bairn himself is a natural idiot, and has not knowledge to discern the peril and fear of death, and, further, is subject to a melancholy humour, naturally inherited from his progenitors, so that he is more desirous to die than to live, as by experience is notorious, so much so that his father exposed himself sundry times to the peril of death, and would have drowned himself in the North Loch had he not been rescued therefrom by neighbours. And so also Walter Guild, his father's brother, possessed by the same humour, killed himself in Paris. Therefore the said James, being a minor, and nearer pupillarity than majority, and possessed of the said humour, more willing to die than to live, and having no fear of death, ought not to underlie the law for the pretended crime, etc. And it is further alleged that the same boy ran sundry times naked to England, and left his clothes behind him, and so it may be understood that he has the said humour, and offers to prove the said allegation.

The Justice finds by interlocutor that the said matter should pass to an Assize, notwithstanding any allegation, because of former practice.

Verdict.—James Guild, convicted by deliverance of the said Assize of being art and part in the theftuous stealing and taking out of the purse of Elizabeth Danielstoun, wife of Neill Laing, hanging under her apron, in the month of April, upon a Monday, a market day of Edinburgh, she being on the High Street, standing at the booth of William Speir, resident in the said burgh, communing with him while he was putting a string to a pencase and inkhorn which she had bought from said booth-keeper, a gold signet ring, another gold signet ring set with a cornelian, a gold ring set with a great sapphire, another gold ring set with a sapphire formed like a heart, a gold ring set with a turquoise, a small double ring of gold set with a diamond and a ruby, an old angel-noble, and a cusset ducat.

The editor of this collection of trials mentions that the Assize or jury in the above case consisted of thirteen burgesses, and further observes, "No traces are left on record of the fate of this poor creature, but it is likely that the punishment was trivial, and that his relations would be bound over under penalties for his future good behaviour."

THE PROPOSED PSYCHIATRIC CLINIQUE IN EDINBURGH.

A special meeting of the Edinburgh Medico-Chirurgical Society was held on February 19th, 1902, in the Royal College of Physicians, for the purpose of dis-

cussing "the treatment of incipient and transient mental disorders in the Royal Infirmary." Professor Fraser presided over a large gathering.

The CHAIRMAN explained that this subject had been brought into prominence by Dr. John Macpherson, Commissioner in Lunacy, and Sir John Sibbald, who formerly held that office. The Edinburgh Medico-Chirurgical Society very completely represented the medical views of the city and of a large part of Scotland, and it was therefore of some importance that the views of its members should be obtained. There were two great problems before them. They had in the first place to endeavour to define what kinds of mental disorder were likely to be beneficially and properly treated in a general hospital, and in the second place to come to some conclusion as to the best place in which provision could be made for that treatment. They had also to let the public know what accommodation was required, how many cases were proposed to be treated, how far that provision could be obtained in the Royal Infirmary, to what extent the pecuniary resources of that institution would be drawn upon, and in what respects treatment in the Royal Infirmary would confer benefit upon the patients and upon the general public.

Sir JOHN SIBBALD then read a paper entitled "The Treatment of Incipient Mental Disorder and its Clinical Teaching in the Wards of General Hospitals" (see page 215 of this number of the JOURNAL).

The MASTER OF POLWARTH, Chairman of the General Board of Lunacy, said it had been the Board's policy to encourage every new movement which seemed likely to conduce to the benefit of those who had the misfortune to suffer from the most terrible forms of all disease. Such a scheme as now proposed would help to remove the stigma attaching to sufferers from mental disease, and to enable those cases to be dealt with in which there was strong aversion to going to a lunatic asylum.

Sir JOHN BATTY TUKE expressed the great feeling of satisfaction he had when he heard that this movement had taken shape. For the last twenty years he had on every available occasion tried to lay before the public the advantage that would accrue by the treatment of early and incipient cases of insanity in the general hospitals of the country. Sir Arthur Mitchell, when the new Infirmary buildings were in course of erection, made a strong and earnest endeavour to get wards such as were now proposed, but even his great influence failed. The scheme would reduce the number of lunatics, and would exercise a great and wide-spread educational influence. The burden of expenditure under which the taxpayer was groaning was spent for the most part in the interests of the chronic lunatic, whereas little was done to avert the manufacture of chronic lunatics. He believed that if they excluded general paralytics and epileptics, and treated cases in the earlier stages, they would get 70 per cent. of recoveries. The increase of chronic lunatics was not in the upper classes, which could afford early and efficient treatment, but in the lower classes, which could not. The educational influence would be important and wide-spread. It would break down popular misconceptions, and probably in time affect legislation. Above all, the gradual education of the public mind would rapidly do away with the stigma which attached to insanity, and which had no more right to attach to it than to any other form of disease. It would be the duty of that meeting to press upon the Infirmary managers as strongly as possible the propriety of entertaining such a scheme as this. If the managers did so they would have the credit of being the first hospital authorities to take a wide, a broad, and a munificent view of the nature and treatment of insanity.

Dr. AFFLECK said that, from his experience as an infirmary official, he was convinced of the need of some place—in the Infirmary if at all possible—where patients suffering from mental disturbance through ill-health or hardship could be admitted for rest and treatment, so that their temporary derangement might be prevented from becoming permanent. He admitted that there were serious practical difficulties in the way of the Infirmary managers, but he believed they were not insuperable.

Dr. CLOUSTON mentioned that of the 900 admissions to Morningside during the last two years only eighty were discharged recovered within six weeks, and about 160 within two and a half months. This pointed strongly to the conclusion that it would be a very economical thing for the parish council to come to some business arrangement with the Royal Infirmary to treat incipient cases, and thereby prevent

the rates being burdened by their becoming chronic. Such a scheme would give the poor the same chance as the rich now had of securing recovery by the aid of the best possible advice. He was not inclined to speak in an apologetic way about the clinical teaching in mental diseases. It had enormously improved, and the asylums were not devoid of the milder cases from which to teach. At the same time he admitted that the Infirmary wards for such cases would afford a much larger field. He estimated that about forty beds would be necessary.

Dr. ALEXANDER BRUCE, of the Royal Infirmary, also supported the scheme, and said the removal of the stigma of having been in an asylum was one of the strongest arguments for the proposed change.

Dr. URQUHART said he believed the speakers had been preaching to the converted, for the members of the Society were apparently of one mind as to the establishment of a psychiatric clinique in the University of Edinburgh.

Dr. CARSWELL, Adviser in Lunacy to Glasgow Parish Council, described a scheme which that body has had in operation for several years, and is now about to put on a permanent footing for the treatment of insanity in its early stages. A mental block for fifty patients was being erected in connection with one of the poor-house hospitals, where the patients would be treated on hospital lines. Last year 212 patients were treated. Of these 28 were afterwards removed to asylums, 10 died, 167 were discharged recovered, and 7 remained under treatment at the end of the year. With better facilities and a larger staff he believed they would be able to pass through the wards about 300 patients per annum, or more than one third of the cases of mental disorder. The parish council hoped also to establish an outdoor clinique, and thereby anticipate the stage at which asylum treatment became necessary.

Dr. WILSON, Mavisbank, hoped that at least an out-patient department for mental cases would be established in Edinburgh Royal Infirmary, and if a special department could not be instituted, the rules of the Infirmary might be modified so as to admit such cases to the general wards.

Sir JOHN BATTY TUKE then formally moved—"That this meeting urges strongly on the managers of the Royal Infirmary to seriously consider the expediency of providing wards within or in the immediate vicinity of the institution for the treatment of incipient, transitory, and recent cases of insanity."

The MASTER OF POLWARTH seconded the motion, which was unanimously adopted.

Professor RANKIN mentioned that a committee of the Infirmary managers had been appointed to meet a deputation from the Society. The committee had considered the question of *locale*, and it seemed *primâ facie* as if it would be impossible to have mental wards within the walls of the Infirmary.

Sir JOHN SIBBALD thanked the members for the attention they had given the subject, and the meeting then adjourned.—*Scotsman*, February 20th, 1902.

THE PATHOLOGICAL STUDY OF INSANITY.

DOWN DISTRICT ASYLUM.

At a meeting of the committee of management of the Down District Asylum, held in the board room of the institution on Saturday, Dr. M. J. Nolan, Resident Medical Superintendent, having submitted the statement by the Special Committee (of which he is a member) of the Medico-Psychological Association of Great Britain and Ireland on the necessity for the establishment of a central laboratory in Ireland for the more particular investigation of the pathology of insanity, it was unanimously resolved—"That we, the committee of management of Down District Asylum, desire to express our warm approval of the proposed central laboratory for research in the pathology of insanity. We hereby state our readiness to affiliate this institution with such an undertaking when it assumes a practical shape, and to contribute towards its maintenance a sum of £25 per annum. We are of opinion that the project is deserving of general support, believing as we do that the prevention and the most effective treatment of mental disease must be

largely aided by an accurate knowledge of the morbid physical conditions associated with it, and feeling that any step that tends to promote such knowledge must ultimately prove an important factor in the reduction of the burden of the lunacy charges of the country.—*Northern Whig*, March 17th, 1902.

ASYLUM ACCOMMODATION IN LANCASHIRE.

A meeting of the Lancashire Asylums Board was held at the County Hall, Preston, yesterday afternoon, Mr. Scott Barrett presiding over a large attendance of members. A deputation attended from the Lancashire unions with reference to asylum accommodation in the county.

Mr. G. Rooke, of Manchester, who was chairman of the Conference of Boards of Guardians held in Manchester in January, introduced the deputation, and said that twenty-four out of the thirty-one unions were there represented. At the Conference it was decided to ask the Asylums Board to receive a deputation from the guardians, not in any complaining or critical spirit, but simply to ask the Board to confer with them as to the best means that could be taken to prevent the difficulties under which the guardians of the county were placed, owing to the congested state of the asylums. The members of the deputation had themselves large establishments to administer, and could therefore well understand and appreciate the ability, consideration, and anxiety with which the Board's huge establishments were conducted throughout the county. At the same time they thought they might ask the Board to confer with them, seeing the difficulties they had been placed in had been so great in the past, so as to obviate as far as possible such a condition of things again occurring.

Mr. Leech, of Rochdale, who acted as secretary of the meeting, read the resolution passed at the Conference, which was as follows:—"That in the opinion of this Conference it is desirable to appoint a deputation to wait upon the Lancashire Asylums Board for the purpose of urging upon the Board the absolute necessity of providing sufficient accommodation for pauper lunatics dangerous to themselves or others, or requiring curative treatment. The Conference also authorises the deputation to discuss with the Lancashire Asylums Board all questions arising out of the present insufficiency of such accommodation."

Mr. Humphreys (Prestwich) and Mr. Grimshaw (Chorlton) also addressed the Board.

The Chairman said the deputation would be aware that the Asylums Board were fully conversant with the wants of the county, and that they had been doing everything in their power in order to provide accommodation for the increase in lunacy. But they understood it was a thing which could not be done in a day, a week, a month, or in a year. (Hear, hear.) With regard to the 4*s*. grant, the effect had been to crowd the asylums which were built for acute cases, and therefore they had been obliged to spend these large sums of money to provide accommodation. He ventured to think that if the 4*s*. grant had never been made the asylums that day would have been large enough for the patients. Already 510 patients had been taken in at the Winwick Asylum, and in a short time they expected there would be 200 more, and there were only 231 vacancies in the asylum. It showed how rapidly lunacy was increasing. They had found, however, that different boards of guardians had sent a large number of patients to Winwick, and the class was of the very lowest type. They were nearly idiots, and, as he had said, they were not the sort of people that asylums were built for. (Hear, hear.) The Winwick Asylum was built for chronic cases, and if they were going to have it filled with imbeciles they were going to be in the same place as they were in before. (Hear, hear.) The Board thought the workhouses would have to provide for people of that class as paupers. They had that afternoon three sites before them, and he assured them it was a very difficult matter to select a site that would be suitable in every way for an asylum, seeing that it meant the spending of £300,000 or £400,000. On this asylum he was sure they would not wish the Board to hurry over the selection of a site. The deputation then retired.

In accordance with notice of motion, Mr. J. Miles moved—"That in view of the pressing and urgent need of increased asylum accommodation, as emphasised by the recent Conference of Boards of Guardians, the report of the Sites Committee (appointed May, 1900) stating that they had reserved the three sites named below for further inquiry be forthwith considered, and that, in pursuance of the resolution passed on August 29th, 1901, directing two sites to be acquired, one at least, if approved, be forthwith selected and submitted to the Lunacy Commissioners for their sanction." The sites referred to were respectively at Chadswell, near Clitheroe; Longworth, near Bolton; and Shuttleworth, near Bury.

After some discussion an amendment to the effect that the previous resolution of the Committee be adhered to was carried by a large majority. Mr. Miles's resolution was therefore rejected.—*Manchester Guardian*, February 28th, 1902.

THE TREATMENT OF EPILEPTICS.

The Manchester and Chorlton Joint Scheme.

In view of the fact that the capacity of the Manchester and the Chorlton Union workhouses has been severely tried, and of the needs of epileptic patients, considerable interest attaches to the joint scheme of the two unions for the treatment of these sufferers. It appears that there are between six and seven hundred inmates of the imbecile wards of the workhouses. The joint committee of the Boards of Guardians for Manchester and Chorlton have decided to establish at Langho, near Blackburn, buildings for a "colony" (so called from the system, as distinct from the "barrack" system at present in force) for the accommodation of epileptics and imbeciles. The type of building which it has been decided to erect at Langho is similar to that adopted in the Poor Law cottage homes. It is thought that by this method better classification of the patients will be secured, whilst their surroundings will be of a more home-like character than can be attained in asylums. The homes, some detached and some semi-detached, will be built in different parts of the estate—which comprises 165 acres—and grouped for the respective classes after the fashion of villages. The buildings are to be so designed as to afford facilities for the extension of the accommodation for every class, but at the outset there will be accommodation for 370 imbeciles (in homes of about fifty or sixty), 100 adult epileptics classed as insane, 30 epileptic children, 150 sane epileptic adults, and 50 sane epileptic children, making a total of 700 patients, exclusive of sick and probationers. The villages or colonies may be 300 to 400 yards apart, and the homes in them from 50 to 150 feet apart. The homes will vary in size, and will accommodate from twenty-five to fifty or sixty patients. The buildings will include, beside the homes, a central administrative block containing the offices and apartments for the resident staff, also the general kitchen offices, stores, laundry offices, a committee room, and the superintendent's and clerk's offices and workshops. The cooked food from the kitchen will be distributed to the various homes, probably by motors furnished with arrangements for keeping the food warm. A receiving ward is to be built near the general hospital. The hospital will contain two general wards of twelve beds each for each sex, the remaining accommodation for each sex being comprised in separation wards for from two to four patients each, one of these separation rooms on each side being reserved for purposes of isolation. Residential accommodation for six nurses, a recreation or assembly room, and possibly a chapel, are also included in the plans. The resident staff will be provided with accommodation in the central administrative buildings. None of the staff, except the foster-mothers in the homes for sane epileptic children, will reside in the homes. The plans, however, provide for the accommodation for the other members of the staff as follows:—Steward and chief engineer in semi-detached cottages; an assistant engineer and ten male attendants in an independent block; two assistant medical officers, one matron, and an assistant matron, one cook and an assistant, laundry woman, superintendent nurse and assistant, forty female attendants, and twenty domestic servants. The equipment will be completed by the provision of stores, receiving-houses, coal stores,

places for an electric light installation, a power-house, a railway siding, and storage tanks for at least a seven days' supply of water.—*Manchester Guardian*, January 7th, 1902.

CORRESPONDENCE.

The following communication has been addressed to the Editors of the JOURNAL.

GENTLEMEN,—It is a matter of general faith that all of us in this free country are the better for having our public doings or writings criticised from time to time. This no doubt is the *motif* of the review of the Commissioners' Blue Book which appeared in your last number. I have but little hope of attaining that success in improving the critical abilities of the gentleman who undertakes the annual scolding of those officials, which probably he expects from his own attentions to their Report, but with your permission I will do my best.

One thing is certain about criticism: if the manner is to be vigorous, the matter must be more than reasonably accurate. On the other hand, shakiness in inferences and conclusions is readily condoned by suavity.

I am forced, as probably others are forced, to the conclusion that your reviewer's manner is vigorous, too vigorous, and I am equally forced to the conclusion that some of his complaints and many of his recommendations cannot be justified. For instance, at the outset he is much exercised by the manner of taking the yearly census of the insane as on December 31st of each year. Every one knows that this process is not accurate; indeed, no lunacy calculations can be exactly accurate in the absence of certain definitions. But he proposes to take the average residence of the year as a more accurate basis. Has he considered what this entails? On the one hand, we must leave out of consideration all the lunatics in the metropolitan district asylums, those in workhouses or with their friends, or, on the other hand, we must have the average yearly residence of these classes. The first would be wrong on account of the perpetual *osmosis* going on between asylums and other institutions; the second would be unattainable in these days of fretful boards and variolous tramps. But really the increased accuracy of his method, as far as it could be adopted, would be immaterial, as will appear from the following figures:

Total enumerated insane, exclusive of paupers in workhouses or residing with relatives.

	Resident on December 31st.	Discrepancy.		Average number resident in the year.	Discrepancy.	
1900.	85,189		...			
	84,246	+292	...	83,954		
1899.	83,304		...	*83,310*	+6	
	82,486	−180	...	82,666		
1898.	81,673		...	*81,537*		−136
	80,302	−106	...	80,408		
1897.	78,931		...	*79,026*	+95	
	77,677	+32	...	77,645		
1896.	76,423		...	*76,422*		−1
	75,000	−200	...	75,200		
1895.	73,577		...	*73,740*	+163	
	72,444	+161	...	72,281		
1894.	71,314		...	*71,314*		
	70,406	+58	...	70,348		
1893.	69,499		...	*69,608*	+107	
	68,367	−301	...	68,868		
1892.	67,236		...			

The figures in italics are the means between those immediately above and below them, and would represent the actual residence on a June 30th or December 31st, as the case may be, if the movements proceeded in regular fashion.

An aberration from even progression which in eight years varies from nothing to 0·004 per cent. can surely be contemplated with some approach to calmness.

Your reviewer wants an analysis table to show the reasons for, the results of, the antecedent residence of, and the nature of each case of transfer. There were only 2800 last year, and 3500 the year before. The bulk of these probably are due to opening of new asylums or of new enlargements, and would give no results of any value. The purpose of the suggestion is to "guide alienist physicians to a due appreciation of the practical utility of transfer as a mode of treatment." Truly if these alienists do not know the fact without support from figures they had better turn to general practice.

Your reviewer seems also rather mixed on the subject of recovery ratios. "We go further, however, and maintain that, considering the magnitude of the yearly aggregate increase in non-recoverable cases, and the merely fractional diminution in the recovery rate, the inference that the asylums show no improvement in their recoveries is altogether a false one." In passing I may say that I find no such inference in the Blue Book. There is a statement that the recovery *rates* calculated on admissions do not show any substantial advance or much variation, which is a patent fact and not an inference. Your reviewer chooses to read in an inference that the number of recoveries is more satisfactory than would appear from the stated facts, but the Commissioners appear to be more cautious in their remarks. Returning, however, to the sentence quoted above, if he, in using the term recovery rate, refers to that which is calculated on admissions, he is doing that which is not lawful to a statistical expert by considering it in relation to yearly aggregate increase. On the other hand, if he is meaning the recovery rate in proportion to average numbers he is clearly wrong in talking of its diminution as "fractional," for in the next sentence to that on which he founds his criticisms the Commissioners state that the recoveries when computed in the latter method show a fall from 11·54 per cent. in the quinquennium 1873—1877 to 9·99 in the quinquennium 1893—1897. This fall can hardly be called fractional, as it is over 12 per cent.

Then he makes a suggestion which I feel might well be called disastrous if it were adopted. Dissatisfied with both of the accepted methods of computation, he suggests the following reckoning of all cases admitted in a given quinquennium. (I apprehend that the quinquennium would be altered each year by knocking out the stalest and taking in a fresh one.) He proposes to show that out of all the cases admitted so many recovered, so many died, so many left in the quinquennium, and so many remained at the end thereof. Touching the recoveries, the first effect would be that to get an approximate rate the computation must be delayed at least for two years; to get an exact rate it would have to be held over for many more. Taking the first asylum report which comes to my hand (Aberdeen), I find that in 1900, of the 136 recoveries thirty-seven were admitted in 1899, six in 1898, while one entered as far back as 1891, and another in 1890. Touching the deaths, matters would be far worse, for of the eighty-one deaths no less than five occurred in patients of thirty or more years' residence! Many of us will be angels, or otherwise, before we get to know what we have been doing in the present year of grace if the suggestion is adopted.

He quarrels with the Commissioners' method of statistically showing that there are ratably fewer general paralytics than there were, while the fact is patent that, in spite of increase of numbers of all patients, there are absolutely less suffering from that disease.

He scouts the "obsolete" division of causes into "moral" and "physical," though the Association is responsible for it and not the Commissioners. It is not so long ago that, *consule* Hack Tuke, the causation table was reviewed and ratified by a strong committee of the Association.

He is pleased by the disappearance of the table of causes of general paralysis. Why? Is he wedded to the belief that syphilis or any other given cause is a sole factor in any given case? His Scottish *confrère* takes up a much sounder position.

I cannot weary you any more in this matter. It is not my business, nor, indeed, the business of any one of us, to appear as the champion of the Commissioners in their statistics; but a sense of justice compels us to state that, so far, they have been ready to listen to representations. As stated above, they have adopted our causation table, and, if I remember rightly, they asked assistance in constructing a satisfactory death causation table. It is open to us to believe that they would

gladly accept any well-grounded advice offered them by a responsible committee of our body with the sanction of an annual meeting. Justice also compels us to own that the blame for any shortcomings in scientific information which appears now in the Blue Book lies more at our door than theirs, and the excuse on our part would be the same as they are entitled to offer, *viz.*, the intolerable pressure of other routine duties. One little improvement I would suggest to them on my own responsibility is that each table should have at the head or foot a reference to the corresponding table of the preceding Report. To those who seek solid information it is somewhat embarrassing to follow the changes in order, which have necessarily to be made from time to time.

I hardly like to ask further space from you, gentlemen, but a word about the reviews of the Scottish and Irish reports seems justifiable.

It is a word, indeed, as to Scotland, for to my mind that review is cast in absolutely correct form. It points out the value in the volume rather than the value of the reviewer.

As to Ireland there is plentiful hammering of the Report, but the tone is jovially direct. There is distinct humour in the suggestion that the Blue Book should be exalted to a mission of earnest exhortation, warning, and advice as to what a man should do (eat and drink?) to save himself and his kin from the scourge of insanity. Were Dr. Courtenay to fall to the temptation I am sure that no one would more enjoy the task of cutting the manifesto into ribbons than your delegate. Why, gentlemen, there is only one man in England—or to be more correct, in the United Kingdom—who could preach this thing roundly and effectively. And when Ezekiel had prophesied could he teach a stronger lesson to the people than is daily taught to them by the removal to the asylum from their midst of those who, to their knowledge, have neglected the duties of life of morality and sobriety? The man in the street and the man in the cowshed alike know the road there as well as any one can teach it to them.

A suggestion, made by way of humour apparently, to include birth as a cause has some real scientific value, for I remember to have seen somewhere in the JOURNAL not long ago some statistics about injury to the head in cases of instrumental delivery. But it is a wonder that the suggestion did not go farther back—some 280 days. If it were possible to obtain and digest accurate facts as to parental state at the time of conception—poverty or wealth, disease or health, vice or virtue, worry or happiness, fear or resignation—we should go some way further towards solving vital problems.

With many apologies for so lengthy an intrusion,

I am, Gentlemen,

Your obedient servant,

RESARTOR.

OBITUARY.

WILLIAM CHARLES HILLS.

We regret to announce the death of Dr. Hills, which occurred on January 18th last from cardiac failure, shortly after retiring to rest at his house in the Chantry, Norwich. He had been in indifferent health for some eighteen months past, but the end came suddenly and unexpectedly. Dr. Hills was the second son of Mr. Monson Hills the elder, Resident Apothecary and Cupper of Guy's Hospital, and was born within its precincts on February 25th, 1828. He was therefore nearly seventy-four at the time of his decease. On leaving Merchant Taylors' School he commenced his medical training at Guy's Hospital, where he was intimately known to Sir W. W. Gull, Mr. Bryant, Sir Samuel Wilks, and many others. Upon obtaining the diplomas of M.R.C.S. and L.S.A. in 1850, he was elected House Surgeon at the Surrey Dispensary, and subsequently, in 1854, Assistant Medical Officer at the Kent County Asylum at Barming, under Dr. James Huxley, who is still living, the brother of the late Professor Huxley. In 1859 he graduated as M.D.Aberd., and in 1861 was promoted to the Medical Superintendency of the Norfolk County Asylum at Thorpe, near Norwich. He succeeded a lay superintendent, and many troubles and difficulties beset him at the outset, but his tact and sympathy, combined with firmness, carried him safely

through these to the lasting benefit of the patients and institution. He quickly gained the entire confidence of the committee of county magistrates who controlled the asylum, and retained it to the full until his retirement in January, 1887, when he was granted a pension of £600 a year. The remaining fifteen years of his life were employed in consulting practice in mental diseases, and in gratuitous medical work amongst the poor of Thorpe. He was laid to rest on January 22nd in the picturesque churchyard of Postwick, beside his second wife and only son, whose death at Charterhouse School in 1886 was a grievous blow to his parents. He leaves one daughter, Mrs. Aubrey A. Blake, to mourn his loss. The funeral was largely attended by medical friends, including Messrs. Wm. Cadge, Charles Williams, Charles Muriel, Thomas H. Morse, Dr. Ernest White, and Dr. Law, the Acting Superintendent of the County Asylum in the absence of Dr. Thomson through ill-health. Chief Attendant Fox and several of the older members of the staff of the institution were also present as a mark of respect for their old superintendent.

Samuel Alexander Kenny Strahan.

Many members of our Association will hear with regret of Dr. Strahan's untimely death, which took place on February 21st in London.

Born in Belfast in August, 1853, the second son of John Strahan, Esq., of that city, he was educated privately and at Queen's College, Belfast, where he had a distinguished career. He gained distinction also in his clinical work, being awarded the Malcolm Exhibition at the Belfast Royal Hospital, and the Gold Medal at the Belfast Hospital for Children. He graduated in medicine and surgery in 1879. He began practice at Callington, in Cornwall, in 1880, but not liking general practice he abandoned it for the appointment of Assistant Medical Officer at the East Riding Asylum, Beverley. In 1881 he obtained a similar post in Northampton County Asylum, where he remained until November, 1897, when he resigned, having the previous year been admitted a barrister of the Middle Temple.

In 1898, owing to poor health, he went for a tour round the world with Dr. Perry Patterson of Canterbury, returning to England the following year. After this he divided his time between living in the Middle Temple and travelling until the outbreak of the war in South Africa, when he offered to go to the front as surgeon, but on account of his age was not successful. Subsequently he made several voyages to Natal, where he frequently assisted in the military hospital at Durban and up country. His last visit was in 1901, when he had a very severe attack of dysentery, and after his return home he lived chiefly at Brighton in order to recuperate. While on a short visit to town he died suddenly from heart failure on the date mentioned.

From the beginning of his professional career Dr. Strahan devoted much of his energy to literary work. His first contribution was in 1890 to the *Lancet*, and his last in October of last year to the *Humanitarian*. Most of his writings were on professional subjects, especially dealing with questions relating to mental diseases. Besides his numerous articles on these subjects in our own Journal, the *Lancet*, *British Medical Journal*, *Westminster Review*, etc., he published works on *Marriage and Disease* and *Suicide and Insanity*. These had a wide circulation.

In 1891 he read a paper before the British Association on "Instinctive Criminality," which was the subject of a long and bitter controversy in the Press. Dr. Strahan did not confine his literary activity to professional subjects, but contributed a good deal of fiction to magazines and published two short novels; all of these were published anonymously.

Dr. Strahan was a man of brilliant abilities and wide sympathies, kind-hearted to a fault, and was as an assistant loyal to the backbone. Politically he held extreme views, but had a great respect for his opponents. For many years he was a member of the Savage Club in London, and its members cancelled the Saturday night house dinner on the occasion of his death.

He never married. He leaves two brothers, James Andrew Strahan, barrister-at-law, Assistant Reader of the Law of Property, Lincoln's Inn; and George William Strahan, a solicitor and partner in the firm of Biggar and Strahan, Belfast. His only sister is the wife of Dr. McKee, of Belfast.

APPOINTMENT OF REGISTRAR.

Dr. Alfred Miller, Superintendent of the Warwick County Asylum, was, at the Council Meeting on February 14th, 1902, appointed to fill the post of Registrar until the next Annual Meeting.

NOTICES BY THE REGISTRAR.

Next Examination for Nursing Certificate.

The next examination will be held on Monday, May 5th, 1902.

Note.—As the names of some of the persons to whom the Nursing Certificate has been granted have been removed from the register, employers are requested to refer to the Registrar in order to ascertain if a particular name is still on the roll of the Association. In all inquiries the number of the certificate should be given.

Examination for the Professional Certificate.

The next examination for the Certificate in Psychological Medicine will be held in July, 1902.

The examination for the Gaskell Prize will take place at Bethlem Hospital, London, in the same month, and the examiners are authorised to award a second prize in this competition should one of the candidates attain such a standard as would justify them in doing so. Due notice of the exact dates will appear in the medical papers.

For further particulars respecting the various examinations of the Association apply to the Acting Registrar, Dr. Alfred Miller, Warwick County Asylum, Hatton, Warwick.

Prize Dissertation.

Although the subjects for the essay in competition for the Bronze Medal and Prize of the Association are not limited to the following, in accordance with custom the President suggests—

1. On the advantage of providing hospitals in asylums for acute mental cases.
2. Causation of colitis in asylums, and how it can be prevented.
3. State care of the insane.

The Manuscript Prize Dissertation and every accompanying drawing and preparation will become the property of the Association, to be published in the Journal at the discretion of the editors. The dissertation, for the Association Medal and Prize of Ten Guineas, must be delivered to the Acting Registrar, Dr. Alfred Miller, Warwick County Asylum, Hatton, Warwick, before May 30th, 1902, from whom all particulars may be obtained.

By the rules of the Association the Medal and Prize are awarded to the author (if the dissertation be of sufficient merit) being an assistant medical officer of any lunatic asylum (public or private) or of any lunatic hospital in the United Kingdom. The author need not necessarily be a member of the Medico-Psychological Association.

THE CRAIG COLONY PRIZE FOR ORIGINAL RESEARCH IN EPILEPSY.

Dr. Frederick Peterson, of New York City, offers a prize of $200.00 for the best original unpublished contribution to the pathology and treatment of epilepsy. Originality is the main condition. All manuscript should be submitted in English. The prize is open to universal competition. Each essay must be accompanied by a sealed envelope, containing the name and address of the author and bearing upon the outside a motto or device, which is to be inscribed also upon the essay. All papers received will be submitted to a committee, consisting of three

members of the New York Neurological Society, and the award will be made upon its recommendation at the annual meeting of the Board of Managers of the Craig Colony, October 14th, 1902.

Manuscripts should be sent to Dr. Frederick Peterson, 4, West Fiftieth Street, New York City, on or before September 30th, 1902. The successful essay becomes the property of the Craig Colony, and will be published in its medical reports.

NOTICES OF MEETINGS.

Medico-Psychological Association.

General Meeting.—The next General Meeting will be held in London on Wednesday, May 21st next.

A discussion on "The Treatment of Sleeplessness in Mental Disease" will be opened by Dr. Rayner. All asylum medical officers are invited to join in the discussion and record their observations. The following, among others, have promised to take part:—Drs. Blandford, Harry Campbell, Hyslop, Mercier, Savage, Claye Shaw, and Outterson Wood.

Annual Meeting.—The Annual Meeting will be held at Liverpool, under the presidency of Dr. Wiglesworth, on July 24th and 25th next. Any member desiring either to contribute papers, to record cases, or to give a demonstration should, at the earliest date possible, communicate with the Hon. Secretary at 11, Chandos Street, Cavendish Square, London, W.

Northern and Midland Division.—The Spring Meeting will be held on Wednesday, April 16th, at Shaftesbury House, Formby, Liverpool. Papers will be read on "Calcification of the Pericardium," by Dr. F. V. Simpson, and on "Pupillary Symptoms in the Insane and their Import," by Dr. T. P. Cowen.

South-Western Division.—The Spring Meeting will be held at the County Asylum, Cotford, near Taunton, on Tuesday, April 22nd. Business meeting at 2.45 p.m. Papers will be read on "The Evolution of Delusions in some Cases of Melancholia," by Dr. Weatherly, and on "The Care of Idiots and Imbeciles," by Dr. Sproat.

South-Eastern Division.—The Spring Meeting will be held at the Surrey County Asylum, Brookwood, on Wednesday, April 30th. Papers will be read on "The Treatment of Colitis," by Dr. Niel Harrismith MacMillan, and on "Some Cases of Morphinomania," by Dr. Robert Jones.

Irish Division.—The next meeting will be held at the Royal College of Physicians, Dublin, early in May, 1902.

AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.

Annual Meeting at the Windsor Hotel, Montreal, June 17th, 18th, 19th, 20th, 1902.

President, R. J. Preston, M.D., Marion, Va.; Vice-President, G. Alder Blumer, M.D., Providence, R.I.; Secretary and Treasurer, C. B. Burr, M.D., Flint, Mich.; Auditors, Wm. M. Edwards, M.D., and Nelson H. Beemer, M.D.

The fifty-eighth annual meeting of the American Medico-Psychological Association will be held in Montreal the third Tuesday, Wednesday, Thursday, and Friday in June (17th, 18th, 19th, and 20th), 1902. The meeting follows that of the American Medical Association at Saratoga, which occurs in the second week in June. The matter of transportation has been placed in the hands of the Committee of the latter Association, and it is hoped to obtain special railroad rates for both meetings.

The annual address will be delivered by Dr. Wyatt Johnston, Lecturer on Medical Jurisprudence, McGill University Law Faculty. Subject: "The Medico-Legal Appreciation of Trauma in its Relation to Abnormal Mental Conditions."

Papers have been promised as follows:

Dr. Henry M. Hurd, Baltimore, Md., "Folklore of Insanity."
Dr. E. G. Carpenter, Columbus, Ohio, "Insanity and Degeneracy."
Dr. J. H. McBride, Pasadena, Cal., "Boarding out for the Chronic Insane."
Jas. M. Buckley, D.D., LL.D., Morristown, N.J., "The Possible Influence of Rational Conversation on the Insane."
Dr. A. B. Richardson, Washington, D.C., "Women Nurses in Hospitals for the Insane."
Dr. Geo. Villeneuve, Longue Pointe, Que., "Conjugal Jealousy as a Cause and Excuse for Crime from a Medico-legal Standpoint."
Dr. Jas. Russell, Hamilton, Ont., "The Psychology of Anarchism."
Dr. William Rush Dunton, Towson, Md., "Dementia Præcox."
Dr. E. D. Bondurant, Mobile, Ala., "The Early Diagnosis of General Paresis and the Possible Curability of the Disease in its Initial Stages."

Several other papers, of which the titles are not yet announced, are promised.

CONGRESS OF FRENCH ALIENISTS AND NEUROLOGISTS.

The Annual Congress of French alienists and neurologists will be held this year at Grenoble, from August 1st to 8th, under the presidency of Dr. E. Régis, Professor of Psychiatry in the University of Bordeaux. The questions proposed for discussion are—(1) Nervous Pathology: Tics in General (to be introduced by M. Noguès, of Toulouse); (2) Mental Pathology: Anxious States in Mental Maladies (to be introduced by M. Lalanne, of Bordeaux); (3) Forensic Medicine: Self-accusers from the Medico-legal Point of View (to be introduced by M. Ernest Dupré, of Paris). The Secretary-General of the Congress is Dr. Bonnet, Physician of the Asylum of Saint-Robert, Isère.

APPOINTMENTS.

Gemmel, J. F., M.B., C.M.Glasg., appointed Medical Superintendent of the Whittingham Asylum, Preston, Lancashire.

Jackson, Arthur M., M.D.Oxon., appointed Medical Superintendent of the Notts County Asylum.

Jones, Helena G., M.B.Lond., appointed Assistant Medical Officer to the District Asylum, Mullingar.

Zimpré, Adolph, M.B., M.S.Aberd., appointed Junior Medical Officer to the Lunacy Department of New South Wales.

THE

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PART I.

REPORT OF THE TUBERCULOSIS COMMITTEE OF THE MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

To the President and Council of the Medico-Psychological Association of Great Britain and Ireland.

Origin of the Tuberculosis Committee.

In the October number of the JOURNAL OF MENTAL SCIENCE, 1899, appeared an essay, which was awarded the Bronze Medal of the Medico-Psychological Association, by F. G. Crookshank, M.D.Lond., entitled, "The Frequency, Causation, Prevention, and Treatment of Phthisis pulmonalis in Asylums for the Insane."

On November 9th, 1899, Dr. Eric France read a paper before the Association, "The Necessity for Isolating the Phthisical Insane."

After a discussion, in which, among others, Sir William Broadbent, Bart., Sir James Crichton-Browne, and Professor Clifford Allbutt took part, the following resolution, brought forward by the Council of the Association, was unanimously adopted:

"That it be referred to the Council of the Association to consider the appointment of a sub-committee for the investigation and collection of evidence and for practical suggestions as to the isolation of phthisical patients in asylums."

At a Council Meeting held on May 10th, 1900, a Tuber-

culosis Committee was duly appointed to carry into effect the resolution passed on November 9th, 1899.

The Committee consisted of Drs. D. M. Cassidy, A. Campbell Clark, T. S. Clouston, F. A. Elkins, Eric France, Mr. G. T. Hine, Drs. F. W. Mott, Conolly Norman, R. Percy Smith, J. B. Spence, L. A. Weatherly, J. R. Whitwell, and J. Wiglesworth.

Dr. Cassidy and the late Dr. Campbell Clark resigned on July 27th, 1900, and Drs. Perceval and Turnbull were appointed in their place on August 17th, 1900.

Mr. Clifford-Smith, not being a member of the Association, was added to the Committee, after reference to the Council, in an advisory capacity.

Mode of procedure.

As it was evident that we had to obtain various statistics before coming to any conclusion as to the prevalence of phthisis in asylums, causes for such prevalence, if ascertainable, and as to sundry other matters, we decided to draw up a series of questions to be answered by the medical superintendents of the asylums of Great Britain and Ireland.

[These questions will be found in Appendix B, p. 429.]

We have to here thank those medical superintendents who so kindly responded to our wishes.

The answers to the questions were brought before us, and were duly arranged by us in certain groups, but it became quite clear to all that only one person could compile and arrange these statistics.

We deputed Dr. Eric France, our Honorary Secretary, to do this, and from time to time he brought up his reports, which were duly and carefully considered and amended where necessary. His full report, approved of by this Committee, is herewith appended, and will be found on p. 411, together with the Tables and Charts in Appendix A, p. 427.

We here desire to record our warm appreciation of his work, his energy, and his ability, and we feel that not only this Committee, but the whole Association, owe him a deep debt of gratitude for all the time and care he has so well bestowed upon this difficult subject.

Phthisical death-rate in asylums.

Generally we may say that the statements made by Drs. Crookshank and France in the papers which originated this Committee have been, to our minds, fully proved by our investigations, *and that it is a fact beyond contradiction that*

phthisis is prevalent in our public asylums to an extent which calls for urgent measures.

We are satisfied that large numbers of patients contract phthisis *after* admission into the asylums. Production of phthisis in asylums.

Dr. Cassidy (Lancashire Asylum) has, during the past few years, isolated as many as possible of his phthisical cases in an isolation hospital; and Dr. Brain, in his paper on this subject in the April number of our JOURNAL, 1900, mentions the fact that of the seventy-four consecutive cases of phthisis so treated, with ages ranging from twenty to sixty-two, only three had acquired phthisis *before* admission to the asylum.

The character of the population of all asylums has evidently much to do with this acquired phthisis, for it is proved that the death-rate from this disease is twice as high in those asylums which have an urban population, as in those filled from the rural districts. The susceptibility to develop this disease is considerably increased in the town dwellers (*vide* Hon. Secretary's report, p. 422).

Influences bearing on the Phthisical Death-rate in Asylums.

As Dr. France has pointed out in his report, it is very difficult to demonstrate with any degree of certainty any one particular fact which especially influences the death-rate, and which could be proved by the figures which have been brought before us.

Yet there is no doubt in our minds that overcrowding and consequent deficient day and night cubic space must be the most important factor conducing to this high death-rate. We are satisfied that there is not sufficient cubic space per patient in the great majority of our large asylums. Overcrowding.

It will be seen that the asylums which stand on a good and dry soil have a considerably lower death-rate than those built on a bad and damp soil. Soil.

We find that the death-rate bears a ratio to the number of hours spent in the open air by the patients, which proves conclusively the benefit arising from giving the inmates of our large asylums as much time in the open air as is possible. Insufficiency of hours in the open air.

We refer the Council to the special report on this subject, drawn up for our Committee by Messrs. Hine and Clifford-Smith, which will be found on p. 405. Defects in ventilation and heating.

Elevation of asylums.

We are unable to come to any conclusion on this point, as our data are insufficient. It is now generally considered that elevation has but little to do with the incidence of phthisis, and that other factors must be brought in to prove definite influence.

Uncleanly habits.

We need not emphasise the great danger there must of necessity always exist to the inhabitants of our large asylums unless the greatest care is taken to prevent the habit of spitting. We refer to this later on.

SUGGESTIONS.

His Majesty the King when, as Prince of Wales, he inaugurated The National Association for the Prevention of Tuberculosis, asked the question: "If consumption is preventable, why not prevented?"

That question must be ever present in the minds of all who take an interest in the health of the nation.

That it is a preventable disease we all now know, and whatever value may be placed upon the lives of those members of the community who have to be treated in asylums, our duty is clear.

We must do all in our power to prevent the ravages of this deadly scourge, not only in order to diminish the death-rate from this disease in our institutions for the insane, but also to lessen the danger of disseminating consumption among the general population. We all know the large numbers who are discharged each year from the asylums of this country, and we also know what a considerable number of the staff of these asylums migrate from place to place, and although no statistics are available on this point there is evident risk that the public asylums of this country, with their large number of phthisical inmates, may act as disseminators of the disease among the general community.

It becomes our duty, now, to recommend for your serious consideration the measures which we feel must be taken if success is to be the result of our efforts.

These may be dealt with appropriately under the following two heads:

1. What we should do in the interests of the uninfected.
2. What provision should be made for the infected cases.

(1) In the Interests of the Uninfected.

Air and cubic space.

Overcrowding must be checked before we can hope to lessen our phthisical death-rate. More especially does this apply to the sleeping accommodation in our large asylums. We are of opinion that in a very considerable number of our asylums there is not sufficient *cubic space* per patient. Not only should dormitories be free from overcrowding, but the greatest care should be taken that plenty of renewed fresh air passes through these rooms during the night time. We are of opinion that the predisposition to, and the actual infection of, phthisis is to a very large extent started in the sleeping rooms of our overcrowded asylums, and is likely to be increased by large numbers of patients being congregated in huge dormitories. No dormitory, we think, ought to contain more than fifty beds.

We feel bound to enter our protest against the present tendency to build huge asylums. The Lunacy Commissioners have, we know, tried their best to limit this dangerous method of dealing with our insane population, but so far their opinion seems to have been set at defiance. Professor Clifford Allbutt has told us that when he was a Commissioner the Board urged that henceforth no asylum should be built for more than 1000 patients. We most cordially support this opinion, and we go further, and would urge that when once the Commissioners have passed the plans of an asylum for a definite number of patients, that number should under no circumstances be allowed to be increased without a corresponding increase of accommodation. It is evident that more power should be given the central authority, in order that this dangerous overcrowding of asylums may be put a stop to.

The special report on "Ventilation" deals so fully with this question that we need not dilate any further upon it here.

Hours in open air.

We desire to point out the great importance of keeping patients out in the open air as much as possible. While the wards and corridors are empty care should be taken that plenty of fresh air passes through these spaces. We consider this of vital importance.

Cleanliness.

The careless, dirty habits of many of the inmates of asylums render the danger of infection from the expectoration of phthisical patients a very grave one. The utmost care should

be taken to prevent the filthy habit of spitting on the floors, the paths, etc. Rules and warnings against such habits should be enforced, and we see no reason why specially designed spittoons should not be placed in the wards and corridors. A wide-mouthed cup with contracted neck could be fastened to the walls by a padlocked band, and could contain some disinfectant.

The nurses and attendants should have definite rules given them to deal with the objectionable habit of spitting indiscriminately, and a mop, with rag or paper, which should be afterwards burnt, must always be handy to immediately wipe up any sputa seen.

Mattresses and bedding of every patient should be frequently and freely exposed to the fresh air and sunlight.

Dietary.

It is essential that in order to diminish the disposition to become infected by the tubercle bacillus, everything must be done to build up the constitutional vigour of our patients.

Plenty of good fresh air by day and by night has been shown to be of great importance, but added to this we must be watchful that our dietaries are carefully balanced as regards their different constituents, contain a sufficiency of fatty elements, and are arranged to be as varied as possible. Dr. Clouston has brought to our notice a most excellent *Report on the Dietary of Pauper Lunatics in Asylums and Lunatic Wards of Poor-houses in Scotland*, which was furnished to the Scotch Commissioners in Lunacy by Dr. J. C. Dunlop, of Edinburgh. This report has been published by the General Board of Commissioners in Lunacy in Scotland as a supplement to their Forty-third Annual Report, and we cordially recommend it for the consideration of all interested in this important question of asylum dietary. In this report Dr. Dunlop insists upon a variation of dietary as essential, and we are quite with him on this point.

Early diagnosis of phthisis.

If we all recognise great difficulties in the positive diagnosis of consumption in its early stage among our sane population, how much more difficult must it be to determine, with any degree of certainty, that an insane patient is developing this disease; and yet how important it is, not only for the patient, but also for those among whom the patient is living, that this diagnosis should be made as early as possible.

We would advise that patients in whom there is the least

suspicion of this disease should be weighed once a week, and have their temperature taken at least four times a day, *viz.* morning, noon, at four o'clock, and in the evening.

A rise of temperature at any part of the day, with loss of body weight, are two most important symptoms of the early stage of phthisis, but as this rise may vary as to time in different cases, it is wise to have the chart kept as suggested. We have seen cases of consumption in which, while the morning and evening temperatures were normal, there was a definite rise at about four o'clock in the afternoon, while in others the increase has been noticed at noon.

It must be remembered that in the very early stage of phthisis we cannot expect to find the presence of the tubercle bacillus in the sputum.

The tuberculin test, advocated by Dr. Eric France in the JOURNAL OF MENTAL SCIENCE, October, 1897, and January, 1900, has been fully discussed at the International Congress last year, and though we fully recognise its value, if most carefully and judiciously used, we think its general adoption may be left to the discretion of individual superintendents.

Hæmoptysis, however slight, must be looked upon with the greatest suspicion, and it is undoubtedly often the earliest objective symptom of the disease, before any definite physical signs are present (vide *Le Diagnostic précoce de la Tuberculose pulmonaire*, par Drs. Jourdin et Fischer).

Röntgen rays have been used with some measure of success in determining the early diagnosis of phthisis (*vide* Dr. Hugh Walsham's paper, read at the International Congress).

We consider that the isolation of phthisical cases in asylums is imperative. Isolation.

We recognise the difficulties to be overcome to carry this into effect, but we are of opinion that it is so urgent a matter that no efforts should be spared to impress upon the committees of our large asylums the utmost importance of this measure. Our suggestions as to the ways and means of isolating these cases will be found under "Treatment."

The following asylums have already adopted the isolation of phthisical cases, and the good effects on the death-rate of phthisis in these institutions is clearly proved:—Lancaster County Asylum, Rainhill Asylum (partial), Whittingham Asylum (partial), Leavesden Asylum (partial).

At Leavesden the tubercular patients are housed in separate wards, 346 beds being apportioned to them. Two female and two male infirmary wards of thirty-five beds have been allotted to the more advanced cases, with 100 square feet of floor space per patient by night and by day, while the incipient cases of phthisis have sixty square feet of floor space by night and thirty square feet by day. Rustic shelters have been erected in the four airing courts used by the tubercular patients and they spend as much time as possible in the open air (*vide* Dr. Elkins' Annual Report for year 1901).

At the County Asylum, Lancaster, Dr. Cassidy has isolated his phthisical cases in separate wards for the past twelve years. He has utilised a detached isolation hospital for female phthisical cases for some four or five years, and has now plans before the Commissioners for an isolation hospital for male cases. Since isolation of these cases has been carried on the phthisical death-rate in this asylum has decreased 50 per cent.

At Whittingham Asylum Dr. Perceval tells us that during the last three years portions of wards have been reserved for phthisical cases, and that for some years every precaution against infection for these cases has been taken.

At Rainhill Dr. Wiglesworth reports that a few female patients have been treated in the isolation hospital for infectious cases.

In the District Asylum of Belfast the committee has advised the building of special cottages for isolation of phthisical cases.

The new Leicester and Rutland Asylum is to have detached isolation blocks for consumption. Plans have also been passed for two isolation blocks at the Warwick Asylum.

In our opinion it must, of necessity, take some few years after the adoption of isolation of these cases before the full benefit of this measure can be realised.

Hair picking.

We are of opinion that the occupation of hair picking, unless most carefully supervised, is a dangerous one having regard to phthisis.

The patients chosen to work in the upholsterer's shop in order to pick hair are usually the feeble, demented, and imbecile patients who are unfit for other occupations, and themselves, therefore, peculiarly liable to become infected with phthisis.

Work amongst hair is always dangerous to the lungs. Small particles of sharp-pointed hair dust are inhaled, wound

the lung, and so allow the ready access of germs such as the tubercle bacillus.

In this way persons working amongst hair become predisposed to pulmonary tuberculosis. On account of the dirty habits of insane patients the mattresses used in asylums often contain hair which may be impregnated with germs of many kinds, so that hair picking in asylums may be considered more dangerous than outside asylums.

An upholsterer's shop in which hair picking is done should be specially well ventilated and absolutely above suspicion with regard to sanitation and cleanliness, and each individual working there should have not less than 1000 cubic feet of air. Whenever the weather admits of it, the hair picking should be done out of doors under sheds.

The hair to be picked should first be disinfected by steam, or by some other equally approved method of disinfection.

No consumptive patient, or any patient with such a predisposition, should be allowed to have anything to do with this occupation.

(2) Provision for the Infected Cases.

However we decide to isolate our consumptive patients, we must bear in mind that we have to arrange at the same time for their treatment on the most modern lines.

The great difficulty in carrying out this idea of isolation and treatment of the phthisical insane arises from the fact that provision must be made for patients with every phase of mental disorder. A sanatorium or isolation hospital for such cases must therefore be built on lines to meet all exigencies—must, in fact, be an asylum in miniature. The requirements as to situation of such an asylum sanatorium should be pure air, a sandy or gravelly soil, absence of damp and fog after sunset, free exposure to the sun, adequate protection from north and east winds, an environment suitable for outdoor life. The ideal plan.

We think such a sanatorium should be built for not less than 50, and for not more than 200 patients.

We are satisfied that if the asylum to which such a sanatorium belonged had not sufficient phthisical cases to fill it, the accommodation would be gratefully accepted by other institutions for the insane not so well situated.

The Commissioners in Lunacy have, we believe, advocated

the union of two or more asylums for the purpose of erecting a joint sanatorium for isolation and treatment of the phthisical cases in a suitable position, and we most cordially support such a plan. We cannot see that anything against it, on the ground of expense, can for a moment be entertained.

Increased accommodation for our insane is continually being required. Why should not such increased accommodation be given by the erection of these asylum sanatoria, which, while enabling medical superintendents to carry out the imperative work of isolating and treating on modern lines their consumptive patients, sets free in their existing institutions beds for their ever-increasing admissions?

We may here at once state our opinion that if an asylum is badly situated as to soil, protection from winds, and free exposure to the sun, although isolation of phthisical cases must be a benefit to the uninfected patients, we cannot expect much result from treatment. We would strongly urge that the consumptive cases of such an asylum should be boarded out in other institutions which have not only suitable accommodation for such cases, but which are also, from their situation and surroundings, adapted for the now accepted open-air treatment of this disease.

It must be, therefore, evident that each asylum whose site and surroundings fulfil requirements already stated, might, with great advantage, build such an asylum sanatorium, which should be large enough to accommodate not only its own phthisical cases, but those from adjoining asylums lacking these advantages.

We think that such a sanatorium should be kept for the recoverable cases of phthisis, and that the unfortunate hopeless cases, with, may be, a few months only to live, should be isolated in a separate block of the hospital, as has been already carried out by Dr. Elkins at Leavesden.

This, then, should be the plan to be aimed at, but it must of necessity take some time before it can be generally adopted. We, however, urge upon the Association to do all in its power to hasten the adoption of our suggestions, believing that such a plan would be of the greatest possible use in restoring many lives otherwise doomed, and in greatly lessening the death-rate from this dreaded disease.

In the meantime isolation and treatment should be carried

out, either in temporary buildings erected in suitable situations, or in special wards and airing courts set aside for such cases.

It would serve no purpose to make any more definite suggestions. Each asylum must devise a plan for isolation and treatment according to its position, surroundings, and general construction.

Isolation and special treatment of the consumptive insane must be carried out in some way or other if we are to hope to lessen the death-rate from this disease in our asylums.

It is not in the province of this Committee to suggest plans of sanatoria suitable for asylums, or plans of temporary buildings, or alterations to existing wards, and airing courts for the carrying out of these measures.

Once let the principle be recognised as imperative, the details are easy of solution, and can be safely left in the hands of the medical superintendents of each asylum.

SUMMARY.

Phthisis is prevalent in our public asylums to an extent which calls for urgent measures.

A very large number of cases of phthisis have acquired that disease after admission to the asylum.

The special causes for this increased prevalence of phthisis in our asylums are, in our opinion :—

Overcrowding, with consequent insufficient day, and especially night cubic space per patient,

Insufficiency of hours in the open air,

Defects in ventilation and heating,

Uncleanly habits,

Faults in dietary.

The Means of Prevention should be,

Early diagnosis of phthisis,

Isolation of all phthisical cases,

Limiting the size of future asylums,

Checking overcrowding,

Increasing day and night cubic space,

Restricting number of beds in dormitories,

Increased and more thorough natural ventilation per patient

The greatest care to prevent the spread of this disease by promiscuous spitting,

A careful supervision of dietary,

Properly constructed and situated hospitals and sanatoria with adequate and suitable surroundings for the isolation of these cases, and their treatment on the most modern lines,

Failing such special hospitals or sanatoria, then either temporary isolation hospitals or special wards and airing courts set apart for this purpose.

(Signed) C. W. CLIFFORD-SMITH, M.I.C.E.
T. S. CLOUSTON, M.D.
F. A. ELKINS, M.D.
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R. PERCY SMITH, M.D.
J. B. SPENCE, M.D.
A. R. TURNBULL, M.B.
J. R. WHITWELL, M.B.
J. WIGLESWORTH, M.D.
LIONEL A. WEATHERLY, M.D. (*Chairman*).
ERIC FRANCE, M.B. (*Hon. Sec.*).

REPORT ON HEATING AND VENTILATION.

The Tuberculosis Committee of the Medico-Psychological Association have referred to us in their difficulty of dealing with the complex question of heating and ventilation, inviting us to give them a supplementary report on the subject; and, while we see the difficulty of treating fairly a matter of such magnitude in so necessarily condensed a form, we have done our best to comply with their request.

Heating and ventilation, as applied to most buildings, are more or less inseparable, but it will be convenient to deal with the latter subject first, as being, for the purpose of this report the more important, and to which the question of heating should be made subservient.

Broadly speaking, ventilation may be obtained by natural or artificial means. Natural, by constructing a building in such a way as to obtain all the advantages of atmospheric pressure and, consequently, free passage of air into and out of every habitable room. Artificial, by various mechanical methods described later on.

To obtain natural ventilation is sometimes a difficult task, as only a limited number of rooms have an outside wall on more than one side; but much can be done by using properly constructed windows, such as those of the isolation hospital type, with a fanlight over a transom and sliding sashes below, by which air can be admitted without a direct draught, also by well-arranged inlet and exhaust ventilators. In a well-designed and properly administered asylum a natural system of ventilation can be made effective in, perhaps, 320 out of the 365 days in the year, and by utilising the heating system to assist ventilation, the non-effective days can be further reduced.

We shall probably be met with the objection that to ensure successful ventilation by natural means a more intelligent and watchful type of attendant is required than is generally met with in asylums; but while we feel that it is perhaps not for us to criticise administration, we are of opinion that it is better to aim at training the staff to a higher degree of efficiency than to resort to automatic appliances for every emergency, in which there is always a danger of lowering the intelligent usefulness of the attendant.

Artificial ventilation is obtained by various methods, generally either by the fan or the so-called air-pump ventilator as an extracting power, or by the application of heat in the extraction shaft, which rarefies the air and induces an upward current. Sometimes both these forces are applied reversely on the plenum system, by using the fan as a propelling power to drive fresh air into the building, or by applying heat for the same purpose in a ventilating radiator fixed with its back to an outer wall, having an inlet flue through which air is drawn from the outside by the heat of the coil and admitted with some velocity into the room, thus displacing polluted air, which escapes up the chimney or through outlet flues provided for the purpose.

Both these systems are more or less elaborated in various ways, which it is neither necessary nor possible for us to enlarge upon in this report.

The disadvantages of artificial ventilation are those arising from mechanical construction and the upkeep of the plant; the dangers resulting from the fouling of the air flues, many of which are necessarily too small to be possible of proper and constant cleaning; and, where combined with heating, as these systems generally are, the difficulty of regulating the temperature in rooms of varied size and position. In this connection, however, we would express the opinion that, while, on a suitable soil and under careful direction, the plenum system may be made a more perfect substitute for natural ventilation, combined with heat, than any method we know of, there is, perhaps, *generally* less danger in an extraction system than in one of propulsion, as in the former the inlets may be direct from the outer air, with a flue limited in length to the thickness of the wall; while in a plenum system the air must be passed through a considerable length of underground trunks

and branch flues, which may become contaminated in a variety of ways, and from which the air might, possibly, be driven into the wards in a noxious condition.

There is similarly a danger of fouling in the extraction flues, though to a lesser extent, but as the air generally passes *out* of the wards through these extraction flues, the danger arising from contamination of these trunks is minimised.

While on this subject we must not omit to refer to cubic space, to which ventilation is so closely allied.

It is an axiom that an adult requires 3000 cubic feet of fresh air per hour, and it is frequently asserted that to obtain this 1000 cubic feet of space is necessary. We would, however, point out that the hygienic properties of a room are not so dependent on the amount of air it contains, as on the frequency of its change; and, while probably a large room, where the air is only changed two or three times in the hour, may be more agreeable to live in, it is quite possible, as we have proved in experience, to change the air in a properly ventilated room five or six times in the hour without undue draught.

Without any desire to minimise the urgency of the plea against overcrowding, we foresee the difficulties that would arise in enlarging our asylums to give more cubic space per patient, owing to the great increase of cost that would be involved in the erection of these already too costly buildings; and we would, therefore, more emphatically urge the importance of efficiently ventilating all day-rooms and dormitories, even at the risk of occasional complaints of draught.

We are, however, satisfied that the Lunacy Commissioners' standard of space is sufficient to ensure a healthy condition in a well-constructed building, if properly maintained and ventilated.

Turning to the question of heating, there are, as is well known, a variety of methods in use. The open fire-place, which is, perhaps, as a question of hygiene, the most perfect, is also the most extravagant; the hot-air principle, either by propulsion or induction; the hot-water and steam systems, both of which involve an elaborate arrangement of pipes and coils in every room where heat is required, have all been tried with more or less success in a variety of forms.

It is impossible for us here to enlarge upon the details of

these numerous heating systems, and it will be sufficient if we point out the salient objections in most of them.

In the hot-air system there is the danger already referred to of contamination of the flues, and also, as some medical writers assert, the unhealthiness of breathing air warmed artificially to a sufficient extent to impart heat externally to the body, as distinct from heat radiated from the open fire or hot-water coil, which necessarily does not warm the air equally throughout the room.

In the steam or hot-water system the main objections are the presence of pipes and coils in the room, which need constant attention and repair, the interstices in the heating batteries proving most dangerous receptacles for dirt and refuse secreted by patients. It will be objected that if these radiators are regularly and properly cleansed the danger is removed, but we would point out that in phthisical cases, when the patients frequently expectorate into the heating coils, the mischief is done before the cleansing can be effected.

Moreover, in this cleansing there is both difficulty and danger; for if cleaned, as they should be, with damp cloths, it is troublesome, if not impossible, to get to all parts effectually; and if cleaned with brushes, or by other dry methods, the air around becomes immediately laden with the dry and pulverised products of phthisical lungs.

Other objections to heating systems in the wards arise from the mechanical inefficiency of the fittings, such as valves, pet cocks, coil cases, and opening gear to the inlet ventilators; but greater than all is the difficulty of regulating the heat to suit the varying external temperature, the result very frequently being excessive heat in the wards.

In our experience this last-named evil is met with in too many asylums which are artificially heated, particularly in the dormitories, where a temperature is frequently maintained injurious to health, and very much higher than the patients have been accustomed to in their own homes.

It will be gathered from the foregoing remarks that we do not view with absolute favour any artificial systems of either ventilation or heating, and we must admit that we have still much to learn, and until a perfect system of artificial ventilation is discovered we are of opinion that it is better to depend on natural ventilation, and to aim at constructing our buildings in

such a way as to make the forces of Nature available to the greatest possible extent, rather than resort to artificial means which are open to so many objections.

For phthisical cases we would urge the importance of providing separate buildings properly constructed to freely admit fresh air, with louvred openings all round the rooms immediately below the eaves; and to a lesser degree the same principle might be introduced into some of the wards of the main asylum, so that the air inlets could not be entirely closed, thus rendering powerless the efforts of the attendants to obtain the comfort which frequently kills.

When we have attained the ideal, and, possibly, most economical form of construction, viz. one-storey buildings, for our asylums, we shall be able to do more towards simplifying our methods of heating and ventilation. With a properly constructed and protected stove in the centre of a room, which radiates heat on all sides, as well as from the stove pipe carried up bare to the ceiling, the present wasteful coal fire will become, perhaps, the most economical and effective mode of heating; and by enclosing this pipe, from the ceiling upwards, in an air shaft carried through the roof, a most effective and simple form of extractor is provided. Fresh air can be admitted through draughtless windows of the type before referred to, or by some other simple form of inlet ventilator.

To revert again to the subject of heating; while waiting for the discovery of means to store up the sun's rays by day and release them when he has gone below the horizon, we have conceived the idea of converting the walls of our asylums into heating radiators, the hollow cavities in them filled with warm air, which, circulating again and again through the calorifier, loses none of its heat except by radiation, and thus warms the rooms without entering them, like steam in a jacketed pan. There is thus no danger of the atmosphere becoming vitiated by overheated air, and with the walls maintained at a moderate heat, fresh air may be admitted freely without danger of the patients suffering from chill. We throw out this as a suggestion for some inventive mind to bring to practical effect.

Before concluding we desire to say a word on the improvement of the sanitary condition of old asylums, which,

according to the statistics submitted, show generally a higher death-rate than that of more modern buildings.

It has been suggested that in an old and decayed building there are greater opportunities for the secretion of dirt and disease germs than in a more modern structure. This is true, particularly when we consider the rough type of construction in asylums of an early date, where the walls were merely pointed and colour-washed, and the floors covered with wide boards, or sometimes stones, both having open joints.

Much, however, might be done, and at no great cost, to restore these older buildings to a sanitary condition; the unplastered walls might be coated with cement, or with one of the modern forms of hard plaster, worked up to a fine smooth surface; the floors laid with papyrolith or some other material impervious to moisture, and without joints or cracks. The woodwork, which would probably require renewing, should be introduced in limited quantities; plain sash window frames; no linings nor architraves, but rounded angles worked in cement; no framed dadoes nor moulded skirtings; no moulded door linings, but solid frames with rounded edges, and doors constructed without ledges to catch dirt.

This form of construction would perhaps appear bald to the educated or artistic eye, but to the majority of the patients a bright coloured dado of paint would compensate for the absence of the more elaborate wooden one.

By thus treating our old asylums we should improve their hygienic properties, and we venture to think that their present death-rate of 4 or 5 per cent. could be reduced to something like 1·6 per cent., as has been done at Hanwell.

(Signed) G. T. HINE, F.R.I.B.A.
C. W. CLIFFORD-SMITH, M.Inst.C.E.

FINAL REPORT ON STATISTICS COMPILED FROM SCHEDULES.

Presented to the Tuberculosis Committee of the Medico-Psychological Association by the Honorary Secretary.
Approved and accepted February 10th, 1902.

GENTLEMEN,

I have the honour to present to you my Final Report on the statistics compiled from the schedules sent to the various superintendents.

Of the 203 schedules which were sent out to the medical superintendents of the asylums of Great Britain and Ireland, 111 were returned. Of these 83 were considered by the Committee as being sufficiently valuable to be used.

The statistics which have been tabulated and compiled from these 83 returns I now present to you (*vide* Appendix A).

The information has been arranged in two main Tables, A and B. Each of these Tables has been divided into four groups:

Group I.—County asylums of *England and Wales.*
Group II.—Borough, city, royal hospitals, metropolitan district, idiot, and naval and military asylums of *England and Wales.*
Group III.—Royal and district asylums of *Scotland.*
Group IV.—District and criminal asylums of *Ireland.*

In Group	I	statistics from	49	asylums	are shown.
„	II	„	17	„	„
„	III	„	10	„	„
„	IV	„	7	„	„
			83		

Table A. Table A deals with the purely numerical data received from these asylums. These figures have been arranged in seven columns:

Column 1 shows the number of average daily residents during the five years 1895–9.

Column 2 shows the ratio per cent. to average daily residents of deaths from all causes during the five years.

Column 3 shows the ratio per cent. of deaths with active tubercle during the five years.

Column 4 shows the ratio per cent. of deaths from all causes during 1899.

Column 5 shows the ratio per cent. of deaths with active tubercle during 1899.

Columns 4A and 5A indicate the percentage-comparison between col. 4 and col. 2, and between col. 5 and col. 3 respectively.

Column 6 gives the average length of residence in asylums of those dying during 1899 with active tubercle.

Column 7 gives the form of insanity at death of the same cases.

Table B contains in columns (from 1 to 10) the remainder of the information received, and deals with the general hygienic conditions of the asylums, the average time spent by patients out of doors, the cubic space allotted to patients by day and night, the character of the population from which the patients are drawn, and like matters. This Table will be referred to in detail later.

Table A*. Table A* is a summary of Table A (cols. 1 to 5A), showing the average totals in the four groups.

This Table shows very clearly that the figures at our disposal represent, with a degree of accuracy never before attained, as far as I know, in asylum statistics, the true facts regarding the number of patients who die in the asylums of Great Britain and Ireland with active tubercle. This arises from the fact that we have been able to collect our information from two sources, first from death certification, and, secondly, from post-mortem examination. As has been previously pointed out,[1] the fallacy of the statistics on this subject which are given in the

[1] *Journ. Ment. Sci.*, January, 1900, p. 2.

Commissioners' Blue Books arises chiefly from two sources: (*a*) The fact that the cause of death is certified in many cases in asylums before the post-mortem is made. (*b*) The fact that only one disease may be returned as a cause of death in the Commissioners' forms for the Blue Book.

It was pointed out in 1899 by both Dr. Crookshanks (1) and myself (2) that we had reason to believe that the proportion of cases dying in asylums with active tubercle to those shown in official returns stood in the relation of nearly 2 to 1. Here we find confirmation. While the ratio of deaths from all causes to average daily residents is, as worked out from the schedules, naturally the same as that to be found in the Blue Books, the ratio of deaths with active tubercle to average daily residents, comparing our figures (Table A*, cols. 3 and 5) with the Commissioners' official returns, stands thus:

Public asylums (England and Wales).	From Blue Book figures.	From schedules.
Average for five years (1895–9) . .	1·4 per cent.	2·1 per cent.
For year 1899	1·5 per cent.	2·3 per cent.

It will be noticed also from Table A* (col. 5A) that in each group of asylums in the United Kingdom, deaths with active tubercle show an increase when we compare the ratio in 1899 with the average ratio for the five years, 1895 to 1899. The highest increase occurs in Irish district asylums (·6 per cent.), and the lowest (·1 per cent.) in borough, city, etc., asylums, England and Wales. But, inasmuch as it will be seen from the same table (col. 4A) that there has been a corresponding increase in the ratio of deaths from all causes to average daily residents in these institutions, too much importance should not be attached to this point.

With regard to the incidence of tubercle in the various asylums (as shown in Table A, col. 5), I find that in the public asylums of England and Wales (Groups I and II) twenty-seven asylums out of sixty-six (41 per cent.) show a tubercular ratio which is above 2·3 per cent., the average ratio for these institutions.

(1) *Journ. Ment. Sci.*, October, 1899, p. 659.
(2) *Ibid.*, January, 1900.

The asylums which stand highest are:

		Per cent.
County	Stafford county	8
	„ Burntwood	5
	Lanc., Rainhill	4·7
	Derby	4·6
	Northumberland	4·3
Borough, city, metropolitan district, etc.	Leavesden	3·8
	Newcastle city	3·4
	Middlesbro' borough	3·2

In Scotland (Group III) five asylums out of ten (50 per cent.) show a tubercular ratio above their average of 1·9 per cent.

The highest are:

	Per cent.
Roxburgh district	2·7
Perth (Murray's Royal)	2·4

In Ireland (Group IV) two asylums out of seven (28·6 per cent.) are over the average of 2·2 per cent.

The highest are:

	Per cent.
Limerick district	4·6
Cork	3·4

Length of residence in asylum.

In Table A, col. 6 shows that the AVERAGE LENGTH OF RESIDENCE in asylums of those cases dying with tubercle during 1899, was as follows:

	Both sexes.
England	$6\frac{2}{12}$ years.
Scotland	4 „
Ireland	$5\frac{1}{12}$ „

This gives an average length of residence for all asylums of Great Britain, for both sexes, of $5\frac{1}{12}$ years.

These figures have an important bearing upon the question as to whether the majority of patients are infected in asylums or bring the disease in with them, and will be alluded to later in connection with that point.

Form of insanity at death.

Col. 7 shows that the FORM OF INSANITY of the tubercular deaths during 1899 occurred in the following order of frequency. The average number of patients dying with active tubercle under each form of insanity in each asylum also works out as follows:

In England:

		Average.
1.	Dement and Imbecile	17
2.	Mania	6
3.	Melancholia	4½
4.	General paralysis	3¾
5.	Epileptic	2¾

In Scotland:

1.	Dement and Imbecile	3½
2.	Mania, Melancholia	2¼
3.	Epileptic	¾
4.	General paralysis	1/10

In Ireland:

1.	Mania	7
2.	Dement and Imbecile	4¾
3.	Melancholia	4¼

But the numbers are too small to enable one to draw any very definite conclusion from them.

The whole of the information contained in the schedules returned from eighty-three public asylums of Great Britain and Ireland is to be found in a concise and, it is hoped, a clear form in Tables A, A*, and B.

Coming now to Table B, it will be seen that it has been divided into four groups (as in Table A), dealing respectively with: Table B.

Group I. England and Wales, county asylums.
„ *II.* „ „ borough, city, etc., asylums.
„ *III.* Scotland.
„ *IV.* Ireland.

In the four groups the GENERAL HYGIENIC CONDITIONS relating to each asylum are arranged in ten columns:

Column 1 shows the tubercle death-rate.

Column 2 shows height of asylum above Ordnance data.

Column 3 shows nature of soil.

Column 4 shows average number of hours spent out of doors.

Column 5 shows cubic space per patient by day and night.
Column 6 shows character of population.
Column 7 shows type of ventilation.
Column 8 shows type of heating.
Column 9 shows whether floors are scrubbed or polished.
Column 10 shows whether milk is sterilised or not.

General remarks.

It will be at once remarked that the facts contained in these columns are for the most part of very varying and dissimilar characters, and although it may justly be presumed that they all have collectively some definite influence upon the general health of an asylum, yet when these varying facts are regarded separately, as they apply to any particular asylum, it is found to be a matter of considerable difficulty to discover, and of still greater difficulty to demonstrate satisfactorily, what degree of importance is to be attached to any particular fact as regards its influence upon the incidence of a particular disease, such as tuberculosis.

For instance, one asylum may stand on a good soil, provide for its patients an air supply above the average, and carry out the most modern ideas as to heating, ventilation, and the cleaning of floors, etc., yet show an alarmingly high tubercular incidence rate.

Another asylum may be lacking in many or all of these advantages, and yet be comparatively free from tubercle.

Yet, again, in other asylums—and this applies to some with a high as well as to some with a low tubercular death-rate—the hygienic conditions may be neither wholly good nor wholly bad, but simply conflicting. In all cases the difficulty was to find a common denominator. My duty, however, was, if possible, to so arrange these varying facts that definite conclusions might be drawn from them, and then to present these conclusions in a way that would be convincing, not only to you as a Committee, but to those who will read your final report. It was not until I had studied and worked at these tables for some time that I fully realised that it was quite impossible, from the facts at our disposal, to state dogmatically why Asylum Y should have a higher tubercular death-rate than Asylum Z.

On the other hand, it appeared possible that one might be able to suggest why one set or group of asylums differed from

another set or group in this respect. The question then arose as to what basis was the best to use as a standard of comparison—a basis which would give the most accurate results in the clearest way without an embarrassing complexity of tables and charts.

After trying many methods, I decided that it was advisable to adopt the method presented in the accompanying tables.

The asylums in each of the four groups in Table B have been divided into two divisions.

In each division the asylums are arranged in the progressive order of their tubercular death-rate.

Division I.—Contains the asylums in which the tubercular death-rate is below the average tubercular death-rate for that group.

Division II.—Those asylums in which the tubercular death-rate is above the average.

On the line immediately below the titles of the various columns in each division is given the averages for the whole group, while on the bottom line appear the averages for the division itself.

Thus, in the first group (Table B 1) (with a general average tubercular death-rate of 2·4 per cent.) twenty-eight county asylums of England and Wales, whose tubercular death-rates range from ·5 per cent., to 2·2 per cent., are compared with twenty-one in which the death-rate ranges from 2·4 per cent. to 8 per cent.

In the second group (Table B 2) (with a general average tubercular death-rate of 1·7 per cent.) seven city, borough, etc., asylums of England and Wales, with a tubercular death-rate ranging from ·1 per cent. to 1·3 per cent., are compared with ten ranging from 1·7 per cent. to 3·8 per cent.

In the third group (Table B 3) (with a general average tubercular death-rate of 1·9 per cent.) five royal and district asylums of Scotland, with a tubercular death-rate ranging from ·9 per cent. to 1·9 per cent., are compared with five ranging from 2·1 per cent. to 2·7 per cent.

In the fourth group (Table B 4) (with a general average tubercular death-rate of 2·2 per cent.) four district asylums of Ireland, with a tubercular death-rate ranging from ·6 per cent. to 2 per cent., are compared with three ranging from 2·2 per cent. to 4·6 per cent.

Col. 2: Elevation of asylum.

We come now to the examination of the facts in detail in each group:

First, HEIGHT OF ASYLUM above Ordnance datum. Group 1 (Table B 1, col. 2). The general average elevation above O. D. is 213½ ft. The average for Division I is 158 ft., and for Division II is 280 ft.

Thus the asylums below the average death-rate (Division I) are situated on ground which is, on an average, 122 ft. lower than those with a higher rate (Division II).

In Group 2 (Table B 2, col. 2) a similar condition exists. The asylums in Division I are, on an average, 35 ft. lower than those with a higher death-rate in Division II.

In Group 3 (Table B 3, col. 2) the asylums in Division I stand, on an average, 235 ft. higher than those in Division II.

In Group 4 (Table B 4, col. 2), as the height above O. D. is given in only two cases out of seven, no average can be struck.

It would seem that no definite conclusion can be drawn from this particular column, inasmuch as only forty out of the eighty-three asylums give any information on this point; further, it is generally held that mere height above sea level has little effect upon the incidence of tubercle. Besides, we have no information regarding such important points as prevailing winds and the extent of shelter from them.

Character of soil.

The influence of the soil upon the health of the community living on it depends upon several factors—the slope of the land, the distance below the surface of the impermeable stratum, the depth of sub-soil water, and the efficiency of sub-soil drainage, for instance. On none of these points have we any information. In col. 3, Table B, however, we have some information respecting the character of the soil and sub-soil of the various asylums.

Regarded especially with reference to their effect upon the incidence of tubercle, these soils have been divided into "good" and "bad," according as they were considered to be porous, dry, and warm; or impervious, damp, and cold.

In the first, or "good," category come gravel, sand, limestone, or chalk; in the second, or "bad," list are clay, marl, and peat.

It may be pointed out here that the warmth of a soil is important, and generally corresponds to its porousness.

The power of absorbing heat differs in different soils, and has been proved by Schübler to be as follows :

	(Standard 100.)
Sand with some lime . . .	100.
Pure sand	95·6.
Gypsum	72·2.
Clay	66·2.

Reverting to our table, it will be seen that in—

Col. 3: Soil.

Group 1.—Division I (Table B 1, col. 3), twenty-one asylums (or 78 per cent.) are on "good" soil, while only six asylums (or 22 per cent.) are on "bad."

In Division II, with the high tubercular death-rates, there are only six asylums (30 per cent.) on "good" soils, and fourteen asylums (70 per cent.) on "bad."

Group 2.—In Division I, five asylums (71 per cent.) are on "good" soils, and two (28 per cent.) are on "bad."

In Division II, "good," four (40 per cent.); "bad," six (60 per cent.).

Group 3.—In Division I, "good," three (75 per cent.); "bad," one (25 per cent.).

In Division II, "good," one (20 per cent.); "bad," four (80 per cent.).

Group 4.—In Division I, "good," three (75 per cent.); "bad," one (25 per cent.).

In Division II, "good," one (33 per cent.); "bad," two (66 per cent.).

Taking the groups together the results stand thus—

	Division I.		Division II.	
	Good.	Bad.	Good.	Bad.
Group 1 . . .	78 per cent.	22 per cent.	30 per cent.	70 per cent.
„ 2 . . .	71 „ „	28 „ „	40 „ „	60 „ „
„ 3 . . .	75 „ „	25 „ „	20 „ „	80 „ „
„ 4 . . .	75 „ „	25 „ „	33 „ „	66 „ „
Average . . .	74 per cent.	25 per cent.	31 per cent.	69 per cent.

This shows an overwhelming majority for the whole king-

dom of an average of 74 per cent. of "good" soils in Division I, against 31 per cent. of "good" soils in Division II. While there are only 25 per cent. of "bad" soils in Division I against 69 per cent. in Division II.

Looked at from another point of view, I find that the average tubercular death-rate in asylums on "good" soils is 19 per 1000, as compared with a tubercular death-rate of 30 per 1000 in those on "bad" soils.

Col. 4: Hours out of doors.

In col. 4, which gives the AVERAGE NUMBER OF HOURS spent daily by each patient OUT OF DOORS, both in and beyond airing courts, little disparity exists between Division I and Division II as far as the public asylums of England and Wales are concerned. In the county asylums (Group 1) the average is six hours in each division.

In city, borough, etc., asylums (Group 2) there is an average of half an hour more in Division II than in Division I.

In Scotland (Group 3), on the other hand, Division I shows an average of one hour per head more than Division II.

In Ireland (Group 4) the difference is still more marked.

Division I gives an average of 8½ hours as against 3⅝ hours in Division II.

Taking Scotland and Ireland together, therefore, we find that the patients in the asylums with the lower tubercular death-rates (Division I) were out of doors on an average seven hours, as compared with four hours in those asylums with the higher death-rate (Division II).

But this point need hardly be laboured, as the advantage of an abundance of exercise in the open air is universally acknowledged. On the other hand, the practical absence of disparity on this point between the two divisions of the English asylums seems to show that exercise in the open air is alone of small service in lowering the incidence of tubercle if the patients have to return to work and sleep in an atmosphere charged with the tubercle bacillus.

Col. 5: Cubic space.

We come now to the important question of CUBIC SPACE PER PATIENT by day and night. Col. 5 gives the figures under this head.

Group 1.—In Division I the average cubic space for each asylum is 499 cubic feet by day and 650 by night.

In Division II it is 483 by day and 618 by night.

Division I thus giving an average of 16 cubic feet

by day and 32 cubic feet by night more per patient than Division II.

Group 2.—In Division I the average cubic space is 516 cubic feet by day and 699 by night.

In Division II it is 534 by day and 641 by night.

Division I thus giving an average of 18 cubic feet less by day, and 58 cubic feet more per patient by night than Division II.

Group 3.—In Division I the average cubic space is 453 by day and 843 by night.

In Division II it is 437 by day and 798 by night.

Division I thus giving an average of 16 cubic feet by day and 45 cubic feet by night more per patient than Division II.

Group 4.—In Division I the average cubic space is 472 cubic feet by day and 697 by night.

In Division II it is 353 cubic feet by day and 600 by night.

Division I thus giving an average of 119 cubic feet more by day, and 97 cubic feet by night than Division II.

Taking all the groups together the results stand thus:

	Division I.		Division II.			
	Cubic feet.		Cubic feet.			
	By day.	By night.	By day.		By night.	
Group 1 . .	499	650	483	(− 16)	618	(− 32)
„ 2 . .	516	699	534	(+ 18)	741	(− 58)
„ 3 . .	453	843	437	(− 16)	798	(− 45)
„ 4 . .	472	697	353	(− 119)	600	(− 97)
Average . .	485	772	451		664	

It is at once apparent that, taking the asylums of Great Britain, those with the lower tubercular death-rate (Division I) provide on an average 34 cubic feet per patient more by day and 108 cubic feet per patient more by night than do those with the higher death-rate (Division II). Or, taking the cubic

space by day and night together, the patients of asylums in Division I have, on an average, 142 cubic feet each more than those in asylums in Division II.

General remarks on cubic space.

It may be pointed out here that Parkes has laid it down—and his calculations are still quoted in the most modern books on hygiene—that the average healthy adult requires, per hour, 3000 cubic feet of air, and as it has been hitherto extremely difficult to ensure by the ordinary means of ventilation that the air in any room be entirely changed more than thrice in the hour without inconvenience to the occupant, it follows that every person should have in his sleeping room at any rate 1000 feet of cubic space.

It is acknowledged by sanitary engineers that a room of this space should not be more than 12 feet in height. Every healthy adult, then, should have at least 83 square feet of floor space allotted to him for sleeping on, and that would only be sufficient if the air were completely changed three times in the hour. For the unhealthy and sick, 100 square feet (giving 1200 cubic feet) per patient should probably be the minimum provided.

Over-crowding.

In this connection it may be pointed out that, according to the Commissioners' 54th Report for 1899 (Table II, col. E), it is admitted that, out of the seventy-nine County and County-Borough asylums in England and Wales, only forty-nine provide their patients with even the inadequate air supply upon which the Commissioners are supposed to insist. It is a lamentable fact that on January 1st, 1900, thirty of these seventy-nine asylums contained amongst them 1273 more patients than they were built for, or were sanctioned by the Commissioners to contain.

Col. 6: Character of population.

Passing to col. 6, Table B shows some interesting facts regarding the effect upon the tubercular death-rate of the CHARACTER OF THE POPULATION from which the patients are drawn.

It would be rational to assume that those patients who, previous to their admission to an asylum, had lived an outdoor life, and whose work had been chiefly of an agricultural kind, would be more likely to resist the attacks of the tubercle bacillus than those who were drawn from the unhealthy environment of the factory and the slum, and although the facts shown in this column run only on the broadest lines, and

do not pretend to deal with the finer distinctions, yet it is interesting to find that, as far as the county asylums of England and Wales are concerned, our figures show a distinct difference between the susceptibility of the rustic and the town-dweller.

In Division I (Table B 1) there are thirteen asylums with a rural population, but there are only three such asylums in Division II.

Taking the character of the population as a basis, I find that the average tubercular death-rate is nearly twice as high in the asylums with an urban population as it is in those with an agricultural population, thus:

County asylums (England and Wales).	Asylums with agricultural population.	Asylums with urban population.	Asylums with mixed population.
Tubercular death-rate (per 1000)	16	30	25

Cols. 7 and 8: Ventilation; heating.

The results obtained from the remaining columns 7, 8, 9, and 10 cannot be considered to be striking. With regard to columns 7 and 8, for instance, the questions of VENTILATION AND HEATING are so complex and difficult, and involve so many considerations upon which we have no data here, that one could hardly have expected otherwise. The mere statement that an asylum is ventilated by natural means conveys no idea of the thoroughness with which it is done, neither have we here any means of knowing whether the artificial system adopted works efficiently or not.

Col. 9: "Cleaning" of floors.

With regard to the question of METHOD OF FLOOR CLEANING (col. 9), only six asylums out of the eighty-three return scrubbing as the sole method. These six are among the county asylums of England and Wales. All the other asylums of Great Britain polish their floors either wholly or in part, so that no basis of comparison is afforded on this point. (The six scrubbed asylums have an average tubercular death-rate of 26 per 1000, and the polished 24 per 1000.)

Col. 10: Sterilisation of milk.

In col. 10 it will be seen that only eighteen out of the eighty-three asylums state that their milk is sterilised, and these eighteen are divided equally between Division I and

Division II, so that no definite deduction can be drawn from this fact.

This completes the analysis of Table B.

I must now refer to the question (to which I have already alluded), *viz.* are the majority of the cases of tuberculosis produced in the asylum?

Duration of phthisis.

It has been already shown (Table A, col. 6) that those patients who died with active tubercle in the public asylums of Great Britain and Ireland during 1899 had been in residence, on an average, over five years (those in the county asylums of England and Wales having been inmates for over six years). About the average duration of phthisis various opinions have been expressed by experts. The mean duration has been thus stated:

"In 50 per cent. of cases less than nine months." (Louis.)

"Twenty-three months." (Louis and Boyle.)

"Two years." (Laennec and Andral.)

"Four years." (C. J. B. Williams and Sir J. Clark.)

"The average duration of 3500 cases attending the out-patient department of the Brompton Hospital was two years and nearly seven months." (Pollock.)

The general conclusion from a consideration of these facts and authorities is that by far the greater number of patients who die in asylums with active phthisis have acquired the disease in the institution.

It is not for a moment suggested that no patients enter asylums with the disease, but it is most strongly my opinion that the number of such patients is comparatively small, and that the large majority contract the disease after admission. If the contrary were the case, and the majority of cases were introduced from outside, it would be reasonable to argue that the tubercular death-rate in each of the county asylums of England and Wales would be likely to bear some relation to the tubercular death-rate of the particular county from which the majority of its patients were drawn. But I find that this is not the case.

The tubercular death-rate in each registration county was shown in the Registrar-General's sixty-second Annual Report for 1899 (Table 26) to be for 1899 (to estimated population in the middle of 1899) in England and Wales 1·3 per 1000, and it ranged from ·9 to 1·8 per 1000.

The average tubercular death-rate for the asylums of these counties for 1899 (as shown in our table) was 24 per 1000, and ranged from 5 to 80 per 1000.

I find that there is not the faintest relation between the variations in the county tubercular death-rates and the variations in the tubercular death-rates in the corresponding asylums. This appears to me to be another strong reason for believing that a large proportion of patients contract tuberculosis in asylums.

In this connection I wish to make it quite clear that no comparison is being drawn between the tubercular death-rate outside and that in asylums, as not only are the circumstances vastly different, but the methods of obtaining the figures and results cannot with any propriety be compared.

A further question to which I consider that considerable interest attaches is :

Chart I. Age of asylum in relation to tubercle.

In how far does the age of the asylum affect the incidence of tubercle?

Upon arranging the asylums of Great Britain and Ireland in groups, according to their respective ages (Chart I), I find that the average tubercular death-rate gradually rises in direct ratio to the antiquity of the asylum.

Thus while the tubercular death-rate of asylums built less than twenty years ago stands at 18 per 1000, it reaches 28 per 1000 in those asylums built from eighty to a hundred years ago. It will also be observed that the tubercular death-rate rises about 10 per cent. for every twenty years added to the age of an asylum.

This may, of course, be accounted for, to a slight extent, by the general superiority of the modern asylum ; but, that being admitted, one cannot escape from the conclusion that the older a building of this kind is, the more opportunity it has, not only of becoming infected with the tubercle bacillus, but, by the general tendency to decay of its structure, of providing more and more suitable sites for its growth and dissemination.

Another reason seems to be that the older an asylum grows the more numerous becomes the residuum of hopeless wrecks, whose faulty habits are so inimical to the general sanitary conditions of their immediate surroundings.

This appears to me to be, among others, a strong reason for not classing the irrecoverable dement with the patient for

Separation of recoverable patients.

whom recovery is to be expected. The modern tendency to provide a separate detached mental hospital for recoverable patients has certainly this marked merit, that quite apart from mental advantages, it prevents them from being exposed to the physical contamination of irrecoverable wreckage.

Chart II. Number of patients in relation to tubercle.

I have also worked out the relation of the total number of patients in the public asylums of Great Britain and Ireland to their respective tubercular death-rates (Chart II) with most interesting results.

Arranging the various asylums in groups according to their average daily number resident, I find that the tubercular death-rate in those asylums with less than 300 patients is 17 per 1000, while those asylums which accommodate from 1100 to 2000 have an average tubercular death-rate of 29 per 1000.

The death-rate bears a direct ratio to the number of patients living in one institution, and as in the other chart (I) is seen to increase about 10 per cent. for every increase of 200 in the number of patients.

The herding together of large numbers of patients has frequently been protested against. Here the consequent results, on the incidence of tubercle at any rate, are clearly tabulated.

I have the honour to be, Gentlemen,

Your obedient servant,

(Signed) ERIC FRANCE,

Hon. Sec.

APPENDIX A.

TABLES AND CHARTS.

DIS… CRIMI…	…nt. to …esidents …rom …RCLE.	5A	6				7							
		Com-parison of 1899 with Av. of 5 yrs.	Average length of RESIDENCE in Asylums of these Cases (Column 5).				FORM of INSANITY at DEATH of these Cases dying in 1899 (Column 5).							
	Total.		M.		F.			G. P.	Man.	Mel.	Ep.	Dem.	Imb.	Other forms.
DISTRICT			Yrs.	Mos.	Yrs.	Mos.								
1. Be…	1·6	+ ·7	4	7	1	0	M.	…	4	2	…	1	1	
							F.	…	2	2	…	2	1	1
2. Co…	3·4	+ ·4	3	0	2	6	M.	…	10	5	1	4		
							F.	…	15	8	…	7		
3. Li…	4·6	+ 2·1	7	0	5	0								
4. M…	2·	− ·3	9	1	5	3	M.	…	1	3	…	3	1	
							F.	…	2	3	1	2		
5. W…	2·2	+ ·7	4	0	9	0	M.	…	4	1	1	2		
							F.	…	2	…	…	1		
6. W…	1·2	+ ·2	7	6	…	…	M.	…	2	1	…	1	2	
							F.							
CRIMINA…														
7. D…	·6	+ ·3	4	6	…	…	M.	…	…	1				
							F.							
Average =			5	8	4	6⅔	M.	…	3·5	2·1	·3	1·9	·7	
Average for 6 Asylums =							F.	…	3·5	2·1	·1	2·	·2	·2
									7·	4·2	·4	3·9	·9	·2

‡ P.Ms. for 1899 only.

BLE B.

ND WALES—COUNTY

10	TWENTY-ONE ASYLUMS.	8	9	10
Milk Ilised.		Heating.	How floors are cleaned.	Milk sterilised.
—	Average all asylums .	—	—	—

.—*Tubercular Death-rate* = 1·7 to 3·8.

SEVEN ASYLUMS.	4	5		6	7	8	9	10
	Aver-age hours outside.	Cubic space.		Character of population.	Ventilation.	Heating.	How floors are cleaned.	Milk steri-lised.
		Day.	Night.					
Average, al asylums	6½	526	668	—	—	—	—	—
OXFORD. 12. Warnefor	9	500	600	Urban	Artificial	Both	Polished	—
BERKS. 16. Broadmo	—	—	—	,,	Natural	Artificial	,,	—
LONDON (City 4. Stone	4	600	700	,,	—	Both	Both	No
MET. DISTRIC DARTFORD. 13. Darenth	5	480	600	,,	—	Artificial	Polished	,,
LEICESTER 3. Humbe stone	—	—	500	Mixed	Artificial	Open fires	Both	Yes
GLOUCESTE 11. Barnwoo House	9	1000*	1000*	—	,,	Artificial	,,	No
PLYMOUTH 8. Ivybridg	5	600	650	Urban	,,	,,	,,	,,
	9	492	800	,,	,,	Open fires	Polished	Yes
	7	—	—	,,	Natural	Artificial	,,	No
Totals	5	—	—	Mixed, imbecile, and infirm	,,	Both	Both	Yes
Averages,	53	2672	3850	Agricul. 0 Mixed 2 Urban 7	Natural 3 Artificial 5 Both 0	Fires 2 Artificial 5 Both 3	Polished 5 Scrub 0 Both 5	Yes 3 No 3 Both 5
	6½	534	641					

YLUMS.

II.—*Tubercular Death-rate* = 2·1 *to* 2·7.

3	4	5		6	7	8	9	10
Soil.	Aver-age hours outside.	Cubic space.		Character of population.	Ventilation.	Heating.	How floors are cleaned.	Milk steri-lised.
		Day.	Night.					
—	5¾	445	818	—	—	—	—	—
Stiff clay	6	430	850	Urban	Both	Artificial	Polished	No
Gravel and clay	3½	360	800	Agricul.	,,	,,	,,	,,
Clay on rock	5½	600	720	Mixed	Artificial	Both	,,	—
Clay	8	—	900	—	Natural	Artificial	,,	No
Clay	—	360	720	Mixed	,,	Both	,,	—
(Good 1 to per cent.) Bad 4 to per cent.)	23	1750	3990	Agricul. 1 Mixed 2 Urban 1	Natural 2 Artificial 1 Both 2	Fires 0 Artificial 3 Both 2	Polished 5 Scrub'd 0 Both 0	Yes 0 No 3
—	5	437	798					

YLUMS.

II.—*Tubercular Death-rate* = 2·2 *to* 4·6.

FOUR ASYLUMS	3	4	5		6	7	8	9	10
	bil.	Aver-age hours outside.	Cubic space.		Character of population.	Ventilation.	Heating.	How floors are cleaned.	Milk steri-lised.
			Day.	Night.					
Average asylums	—	5½	421	655	—	—	—	—	—
7. Dundr criminal	ay	4	300	600	Mixed	Artificial	Artificial	Polished	Yes
6. Wexfor	avel n wn one	3	360	600	Agricul.	„	„	„	„
1. Belfast	mp	4	400	600	„	Natural	„	„	—
4. Meath West Mea	ood (33 er nt.) d 2 per nt.)	11	1060	1800	Agricul. 2 Mixed 1 Urban 0	Natural 1 Artificial 2 Both 0	Fires 0 Artificial 3 Both 0	Polished 3 Scrub'd 0 Both 0	Yes 2 No 0
Totals.									
Averages,	—	3½	353	600					

Chart 1.—*Relation of Age of Asylum to Tubercular Death-rate in 78 Public Asylums of Great Britain and Ireland.*

Age of Asylum (in years)	Under 20	21—40	41—60	61—80	81—100
Number of Asylums (78) ...	15	23	21	12	7
Tubercular death-rate (per 1000)	18	21	23	26	28

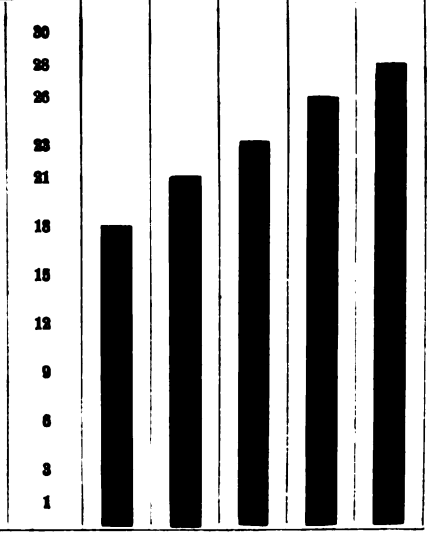
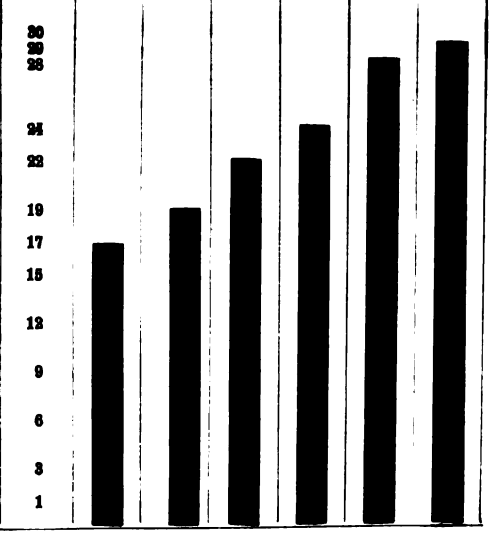


Chart 2.—*Relation of average number Resident to Tubercular Death-rate in 77 Public Asylums of Great Britain and Ireland.*

Average daily residents	Under 300	300—500	500—700	700—900	900—1100	1100—2000
Number of Asylums (77) ...	13	14	16	15	9	10
Tubercular death-rate (per 1000)	17	19	22	24	28	29



APPENDIX B.

(COPY OF SCHEDULE SENT TO MEDICAL SUPERINTENDENTS.)

London County Asylum,
Claybury,
Woodford Bridge,
Essex;

October, 1900.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

TUBERCULOSIS COMMITTEE.

MEMBERS OF COMMITTEE.

Dear Sir,

At the last meeting of this Committee it was resolved that a circular letter should be sent to the medical superintendents of all public asylums in Great Britain and Ireland, and of those private asylums with thirty patients and upwards, inviting them to answer certain questions herewith appended. The Committee is aware that this will involve the spending of some time and labour on the part of those medical superintendents who are willing to supply the information asked for. It is earnestly hoped, however, that the importance of the subject, and the very great value of the information you can give, will encourage you to co-operate with the Committee in their work.

I am, dear Sir,

Your obedient servant,

(Signed) Eric France,
Honorary Secretary.

To the Medical Superintendent,

1. Average daily number of patients in your Asylum ... ...

2. Total number of deaths (all cases) ... ...

3. Number of deaths (certified) from Tubercle ... ...

4. Number of cases in which *active* Tubercle was found P.M. (not including those cases returned under No. 3) ... ...

5.—(*a*) Average length of residence in Asylum of those dying of Tubercle or in whom *active* Tubercl

(*b*) Proportion of these cases in which Tubercle was recognised on admission ...

(*c*) What was the form of Insanity at death of these cases? ... ...

6.—(*a*) Site, soil, and drainage of your Asylum

(*b*) Dietary, including sterilisation of milk, etc.

(*c*) Average time spent by patients in the open air

(*d*) Cubic space for patients:—(i) by day

(ii) by night

(*e*) Character of population from which patients are derived

(*f*) Ventilation, light, and artificial heating

(*g*) Are your floors scrubbed or dry-polished?

7. Has anything been done in your Asylum to isolate or specially treat tuberculous patients? If so,

8. Have you any further remarks or suggestions to offer on this subject?

1895		1896		1897		1898		1899	
Males	Females	Males	Females	Males	Females	Males	Females	Males	Females

Males	Females

was found on P.M. during **1899** ... ...

.. ..

Gen. Paralysis.		Mania.		Melancholia.		Epilepsy.		Dementia.		Imbecility.		Other Forms.	
Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females

what and for how long, and with what results?

Original Articles.

Toxæmia in the Etiology of Mental Disease. A Discussion opened by T. S. CLOUSTON, M.D., at the Spring Meeting of the Scottish Division of the Medico-Psychological Association, Glasgow, March 28th, 1902.

DR. CLOUSTON said that when he suggested toxæmia to the secretary as a suitable subject for a discussion at this meeting he had not intended to be the first speaker, because his object was to bring out more fully the views of the younger members who had recently committed themselves so strongly to the toxæmic and bacterial etiology of insanity, and so to get light thrown on some of the difficulties which he and others had felt in applying this theory to many of their cases in practice. It was not that he did not believe in the toxic theory as explaining the onset of many cases, or that he under-rated its importance, but that he could not see how it applied so universally or generally as some of the modern pathological school were now inclined to insist on. He knew that it was difficult for those of the older psychological and clinical school to approach the subject with that full knowledge of recent bacteriological and pathological doctrine which the younger men possessed, or to breathe that all-pervading pathological atmosphere which they seemed to inhale. He desired to conduct this discussion in an absolutely non-controversial and purely scientific spirit. To do so he thought it best to put his facts, objections, and difficulties in a series of propositions which could be answered and explained by the other side. He thought it important to define toxæmia, but should be willing to accept Dr. Ford Robertson's definition of toxines, viz., "Substances which are taken up by the (cortical nerve) cell and then disorder its metabolism." He took the following extracts from his address at the Cheltenham meeting of the British Association (1) as representing Dr. Ford Robertson's views and the general trend of much investigation and hypothesis on the Continent.

"The various toxic conditions which tend to affect the nerve cells may result from:—(1) Exogenous toxic agents; (2) infections; and (3) auto-intoxication and auto-infection. . . .

"In concluding, I would reiterate my conviction that by far the most important factor in the pathogenesis of insanity is toxic action.

"I would further say that the large majority of cases of insanity are not primarily diseases of the brain at all, but are dependent upon the action of toxines derived from elsewhere, which affect the functional activity of the cortical nerve cells by disordering their metabolism and often permanently damaging or even destroying many of them. The common view that the 'mental disease' is the primary condition, and that any accompanying 'bodily disease' is secondary, is, in general, founded upon an erroneous conception of what is taking place."

He took Mott's recent views as to the auto-poisoning of the cerebral cortex by choline and other products of nerve (2) degeneration as representing another strong toxæmic current in our scientific literature. Dr. Lewis Bruce's views represented the most recent conclusions of the younger clinico-pathological school.(3) Those views must be fully proved, to be accepted, in the vast scope which their authors clearly intended. Were they so proved? Must they now concentrate their attention on toxines in nearly every case of insanity as the chief etiological factor? He had already discussed the question as it concerned melancholia.(4)

1. In considering the general pathology and etiology of every case of mental disease they must keep in mind certain relevant psychological and physiological considerations as to brain working, the chief of which were the following:—The kinetic action of the nerve cell was explosive in character, and in many ways rhythmical and periodic, its normal explosiveness passing most readily into pathological explosiveness with no line of demarcation between the two. In those and many other ways it was markedly different from the processes of nutrition, secretion, and excretion, so that analogies between the effects of bacterial and toxic action in the two kinds of function were apt to be misleading. Mind was so unique, so great, and so dominant that it could not be rightly regarded as an "effect" and not a "cause." It seemed to him unphilosophical and unscientific to say it "could not rank as an etiological factor" of mental disease. This seemed contrary to plain clinical fact. The action of "mind on mind" was too palpable a thing to be

thus put aside. To set aside the mental treatment of insanity would be to deprive themselves of their chief therapeutic resource in many cases.

2. Consciousness and mental conditions generally might be changed enormously in physiological states, as in sleep, dreaming, hypnotic states, etc. Why should not an exaggeration of such physiological states produce still more divergent conditions of consciousness and feeling, such as they found in mental disease? Clinically, this seemed to occur constantly.

3. Many cases of mental disease were so absolutely sudden in onset and disappearance that they seemed inconsistent with any known forms of toxic action, but quite consistent with exaggeration or perversion of such physiological conditions as produced sleep and dreaming.

4. The quality of reactiveness of the cortical cell to stimuli, irritants, and depressants from within and without was the most important of all its physiological attributes in relation to insanity. Its mental function certainly reacted most strongly of all to purely mental stimuli, but it also reacted markedly to sensory stimuli, to the endogenous stimuli from every organ, and to the chemical influences of body secretions and toxines. When this quality of reactiveness was in a condition of morbid activity or abnormal torpor they unquestionably might have, arising from mental and sensory stimuli, pathological states of mind, sensation, and motion, those taking the forms of mental depression, volitional paralysis, loss of consciousness, delirium, paræsthesia, neuralgia, and convulsions or motor paralysis, with no proof of causal toxic action. This was often well seen in neurotic children.

5. The reactiveness of any brain was determined by its ancestral hereditary qualities more than by any other cause. Clinical and statistical facts went overwhelmingly to show that the typical insanities occurred far most frequently in persons with an heredity towards mental and nervous disease. This was, therefore, the first factor in all such insanities. Given a high degree of tendency to a morbid reactiveness in the cortical cell from a bad heredity in any brain, it seemed to be following on physiological lines that it should be subject to mental disturbances from any kind of unusual stimulus, whether it be mental, toxic, or otherwise. The clinical evidence was far too strong to be set aside that such over-action frequently took the

form of attacks of various forms of insanity—in many such cases the mental disease thus arising being simply an exaggerated mental physiology.

6. The processes of brain and mental development up to the age of twenty-five, and those of involution and decadence after sixty, and their mental accompaniments were strictly physiological. But where a bad heredity existed those processes were frequently irregular and accompanied by mental disturbances. Why were not adolescent, climacteric, and senile insanities thus pathologically explicable on a purely developmental and involutional hypothesis without toxic influences, which in most cases were not clearly proved to exist? More than half the cases of mental disease occurred in and took their special character from the physiological characteristics of those periods of life. A cortical cell grew, energised, decayed, and died by virtue of its inherent law of life. Given hereditary weaknesses, those processes became abnormal in character, and the result was naturally mental disturbances, which usually take their colour from the dominant mental life of the period. During development they were mostly explosive, periodic, and sexual; during involution they were depressive, anergic, and asexual. Toxines might disturb the action of the nerve-cell, but they would not give a special age character to the mental symptoms.

7. In many cases the mental disease was merely the gradual evolution of the original character of the brain, over-sensitiveness passing into melancholia, suspicion into delusion, irritable temper into uncontrollable violence, weak volition into obsession. Such cases did not seem to need any toxæmic theory for their explanation.

8. The conditions of nerve exhaustion, fatigue, and anæmia, which they had hitherto reckoned of such enormous etiological importance, seemed sufficient to cause many cases of insanity without the intervention of toxines, or, at all events, in such cases the toxines came in as secondary and resultant phenomena.

9. If insanity was as toxæmic and bacterial as smallpox, etc., might they not expect immunity in some form in many cases? There was no phenomenon in the least analogous to immunity seen in the clinical or pathological history of mental disease. Why did not toxic and bacterial action on the brain-

cells have a period of incubation of active destructiveness and then exhaust their destructive energy like such action elsewhere?

10. Mere elevations of temperature might be produced by stimulation or over-action of the thermic centres in the brain apart from toxic action.

11. Was it not a more scientific view of many cases of insanity to suppose that they had as the initial fact a morbid weakness through heredity in the cortical cell, as the second fact some unusual stimulus acting on and disturbing its kinetic action, the third fact nutritive disturbances in many organs with bacterial over-development and consequent toxæmia, this last, no doubt, accentuating and prolonging mental disturbances? Was it a scientific view of such a case to put the toxæmia first in importance? Did they not in many cases of incipient mental disease correct and cure the mental disturbances by mental treatment, by change of environment, and by nerve tonics before the toxæmic stage was reached?

12. On the modern pathological theory that disease consisted in non-resistiveness, or a weakness of the defences against forces inimical to life, were not nerve exhaustion, a bad heredity, mental depressants, and processes of development and involution, as sufficient an explanation of the morbidly kinetic conditions of brain cortex as toxic action? The toxæmists seemed sometimes to forget that to account for toxæmia they must first account for the non-resistiveness out of which it arises.

13. One might grant that the trend of the modern theory of disease generally was bacterial and toxic. Yet when they had to do with mind and nerve kinetics that were *sui generis*, supplementary and different etiological factors of disease might have to be introduced to attain scientific truth.

14. The medical psychologist must hold strongly to the view that the cerebral cortex was the real controlling centre of the whole organism, the regulating centre of secretory and excretory processes, and of nutrition, thus in its inaction and action causing and counteracting those states of non-resistiveness through which injurious bacteria and toxines were developed or destroyed. By this theory toxæmia might be accounted for in many cases as a secondary and not a primary factor in mental disease. It would not be good practice to disregard the weakness of the animal on which the vermin had fastened. They

must strengthen the organism, otherwise some enemy would certainly find its weak point and end its life.

15. It was admitted on all hands that there were some cases in whom the toxic element was the primary cause, such as in most of the puerperal, alcoholic, syphilitic, rheumatic, and gouty insanities, as well as in general paralysis, and possibly in stupor or confusional and markedly hallucinatory cases, in phthisical and many epileptic cases, though in most of those cases an hereditary predisposition to the neuroses seemed to determine the toxic point of attack. But, on the other hand, simple melancholia and mania, the milder delusional and obsessional cases, the developmental and decadent insanities, mental disease from deprivation of the senses and of social stimuli, cases where periodicity and alteration were the chief features, and hysterical cases seemed to be more explicable on other etiological lines.

16. It was of the highest importance to recognise the *rôle* of toxæmia in the causation and prolongation of mental disease, and one would like to get hold of and believe in the general application of a theory of insanity so simple and satisfactory; but he could not see that the physiological, hereditary, and clinical facts would bear it out. Mental disease seemed, in fact, too complex a result of brain exhaustion, of evolution on wrong lines or of reversion to be explained by any single etiological factor.

Dr. W. FORD ROBERTSON said he did not know that he had any right to follow Dr. Clouston in this discussion, as there were many older members of the Association present, but since he had been called upon he would say, in the first place, that he was sure they were all very much indebted to Dr. Clouston for bringing this important subject before them. They were indebted to him especially for the clear manner in which he had stated his views. Dr. Clouston had alluded to his recent paper in the *Scottish Medical and Surgical Journal*, and he (the speaker) trusted it was in order to answer certain statements which Dr. Clouston had made in that paper. He thought that the differences of opinion that existed between Dr. Clouston and himself arose chiefly from the fact that they were regarding insanity from two very different points of view. Dr. Clouston looked at it especially from the standpoint of the clinician and

the psychologist; he, on the other hand, regarded it from that of general pathology. It was, however, an error to say that the modern pathology of insanity ignored the hereditary element in mental diseases, and that it attributed all insanity to toxæmia. Practically the difference of opinion amounted mainly to this, that Dr. Clouston did not admit that so many cases of insanity were associated with toxæmia, as certain other persons contended.

Dr. Clouston had asked for a definition of toxæmia. He thought that it was rather for Dr. Clouston to define the term, and for them afterwards to try to pick holes in his definition if they could. For his own part, he thought that the term should be used in its widest sense. Any chemical substance which, on being brought to a cell and taken up by it, caused disorder of its metabolism, was a toxine for that cell.

One of the chief respects in which Dr. Clouston's point of view seemed to him to differ from that of modern general pathology was in regard to the *rôle* assigned to heredity. Included under "hereditary predisposition to insanity" there were at least three entirely different conditions which ought always to be distinguished, namely (1) cerebral anomalies that are essentially the product of ontogenetic evolution (degenerative conditions); (2) cerebral derangements, the result of intra-uterine or early extra-uterine toxæmia or traumatism; and (3) inherent characters of brain reactivity to its environment. Extremes of these reactive characteristics were not necessarily degenerative in nature; biologically they merely represented directions of individual variation. They were not special to the brain; they might concern any organ or tissue in the body. Indeed, it had lately become apparent that some conditions that were commonly regarded as manifestations of special inherent brain-weakness, were really dependent upon inherent defects in other organs, in consequence of which special toxines were developed. For example, this had recently been maintained in regard to idiopathic epilepsy. Dr. Clouston, who, in speaking of hereditary brain weakness, was clearly dealing chiefly with special individual reactive characters of the cerebral tissues, contended that this weakness was the prime factor in the causation of insanity, even in those cases in which the mental disturbance was "secondarily caused by something *ab extra*," such as toxæmia. He (the speaker) argued that from the point

of view of general pathology such inherent reactive characters could not be allowed to rank as determining causes of disease. They were simply properties of the material upon which the pathogenetic forces operated. They merely rendered a person liable to disease, just as a man sailing in a boat was liable to be drowned, whilst a man on the top of a mountain was not.

With reference to a case of melancholia which had been cited as one in which the mental disease was determined by a cataclysm, and in which toxæmia could be excluded, he said that he quite recognised that insanity could be determined in this way, but he was strongly inclined to the view that in such cases there was generally an already established state of toxæmia, such as was obviously present in another very similar case that Dr. Clouston had described. He had been severely criticised for refusing to admit strong mental impressions as causes of insanity. In this matter he was simply being misunderstood. He fully recognised that from the psychologist's point of view it was perfectly correct to regard such mental impressions as causes; but from the standpoint of general pathology, which was the one he was taking up throughout the paper to which Dr. Clouston directed so much of his criticism, such mental phenomena could not rank as causes, because they were manifestations of the functional activity of an organ, and therefore effects. He had analysed mental phenomena as the combined products of a highly elaborated physical basis, sensory impulses, and a nutritional state. The sensory impulse was the determining cause of the mental phenomena; their nature depended upon the original physical basis and the elaboration it had undergone, and upon the nutritional state of the cell-elements forming the physical basis. Therefore, in cases of the kind cited by Dr. Clouston, he had tentatively regarded the sensory impulses as the determining cause, in order to endeavour to bring the pathology of mental diseases into line with general pathology. If the psychologists could tell him a more scientific way of dealing with mental phenomena in considering the pathogenesis of insanity, he would be glad to learn from them; but he was certain of this, that in general pathology they could never allow what was obviously the manifestation of the functional activity of an organ to rank as a cause of disease. It was an effect, and its causes must be analysed.

He could not admit that the cerebral cortex had the great

importance that Dr. Clouston attributed to it in controlling the development of bacteria in the body. According to modern observations both natural resistance to bacteria and specific immunity were due to vital and chemical conditions in the establishment and maintenance of which the nervous system played at most only a very subordinate part.

With regard specially to melancholia, Dr. Clouston maintained that its *fons et origo* was in the cerebral cortex, and that it was far better explained by a neurotic than a toxæmic hypothesis. He took just the opposite view, and believed that melancholia was pre-eminently a disease that depended upon toxæmia. The determining cause was not necessarily in every instance toxæmia, but, as he had already indicated, he thought that even in cases in which the onset of the malady could be attributed to a strong mental impression, there was generally an already established toxæmic condition of some kind without which the mental shock would not have been able to determine the development of the melancholia. But whether the condition was determined by a mental shock or by toxæmia, it was essentially maintained by toxæmia. He pointed out that profound mental depression could be produced in some persons by certain chemical substances, such as oxalates and salicylates, and that melancholia often supervened in the course of various diseases known to be of a toxic nature, such as influenza, chronic gastric catarrh, qualitative anæmia, septic uterine disorders, etc. The evidence of experimental pathology and of pathological anatomy also most strongly supported the view that melancholia was constantly associated with toxæmia. He could not accept the view that this toxæmia was sufficiently explained as being caused by the cortical disturbance. Melancholia of the climacteric period was obviously dependent upon a toxic condition connected with the involution of the reproductive organs. He did not think that senile melancholia could be satisfactorily explained upon the hypothesis that it was the result of senile involution of the cortical nerve-cells. It was essentially a toxæmic condition. The fact was that there was now the most abundant scientific evidence that it was not the nervous system that generally first broke down in the struggle of the body with the inimical forces in its environment. The organs that first gave way were those that bore the brunt of the battle, those that stood in the first line of

defence, such as the gastro-intestinal tract and the bone marrow. In his opinion the gastro-intestinal tract was the *fons et origo* of the toxins that produced senile insanity as well as many other clinical types of mental disease. He agreed with the view maintained by Agostini that, with a few exceptions, all forms of insanity occurring in persons in whom the personality had developed normally, were of toxic origin. He would go further, and say that all cases of insanity occurring in such persons, without any exception whatever, depended upon the action of a pathogenetic force in the environment of the nerve-cells. The healthy, living nerve-cell was in the condition of a body in motion, and it would maintain its rate of motion and its direction unless these were changed by some external force applied to it. To assert that the change could arise from within the cell, amounted to arguing for the creation of kinetic energy. The applied pathogenetic force was not necessarily in every instance a toxine.

To look upon insanity as merely a disease of the brain, was similar to regarding chronic Bright's disease as a disease of the kidneys, locomotor ataxia as a disease of the cord, pernicious anæmia as a disease of the blood. A pathology of that kind had served a useful purpose, but he was convinced that its day was done. Modern pathology demanded that the whole field of operations should be considered, and that pathological processes should be traced right to their origin. It attached as much importance to the nutritional environment of an organ as to the organ itself, for it saw that a kidney, or a brain, apart from continued correspondence with its environment was simply an anatomical specimen and nothing more. It looked on disease as disordered nutrition, the reaction of the living tissues to inimical conditions which were threatening their life. He contended that morbid states, such as chronic Bright's disease, locomotor ataxia, pernicious anæmia, and acquired insanity, were not primary diseases at all, but late events in what was often a very long series of pathological processes. He maintained that, in the light of modern science, melancholia depended upon the occurrence of a disorder of metabolism, and that to endeavour to ascertain the nature and the cause of this disorder should be the great aim of the physician when a case of the kind came before him. As yet the means at their dis-

posal for the attainment of this end were most imperfect, and hence arose the urgent necessity for the equipment of laboratories in which investigations into such subjects could be carried out.

Dr. G. R. WILSON said that it seemed to him that they could not treat this subject except as controversial matter. He was what Dr. Ford Robertson would call a toxæmist. He did not think that Dr. Clouston understood Dr. Robertson's paper, and he was sure that he himself did not understand it. He thought that was because the statement as set forth in Dr. Ford Robertson's paper was an unintelligible statement and full of many errors and fallacies—logical, physiological, and psychological. He particularly objected to the discussion of any case as a test case, and he thought they would agree with him. Dr. Robertson had said that they must not take a pin-hole view of the subject, but he thought it was taking a pin-hole view of it to speak of the cause of a case of insanity. Insanity was a long process, developing very slowly, and depending upon an infinite number of factors, and the only way they could get a grasp of it was to take the internal and external conditions of the case and consider each of them dispassionately, and get as far as possible to the bottom of them. If they were going to discuss the whole relation of insanity and toxæmia they might talk for hours. They must confine themselves to a few points. One of the points that he wanted to insist upon was that their friends, who had brought to them this very valuable conception, were inclined to say that deficiency of nutritive material was not of very much practical importance. The nervous system and the heart during starvation would live, they were told, at the expense of the other organs. Now, he thought that that was just the kind of consideration in which clinical observation took the place of histological observations. He thought that they all knew that when they were hungry they were irritable and excitable; if hunger was prolonged, and if they were deprived of the necessities of life, their tissues did not have the same chance as if they were fully supplied with food and drink, and the mere fact that in cases of inanition the toxines got the better of the living cells, and so induced toxæmia, showed that the presence of sufficient food or oxygen, or sufficient water, was an important condition. He was not

going to use the word "cause" if he could help it. His chief quarrel was on the psychological side. The pathologists could not be expected to have any psychology, but if they did not enter into the psychological side they might refrain from slanging those who did. There was one point he would like to put to Dr. Ford Robertson, and he thought it was a very fair one. Dr. Robertson said that the deprivation of sense sometimes caused insanity. He had a case recently of double cataract in a lady who became melancholy and later on excited. There they had shut off from the highest centres the processes which were necessary for those cells. To take an analogous case, suppose a man and a woman who had grown up together as husband and wife, and that the man had worked all his life in relation to the thought of his wife, and suppose that some day that wife was abducted or killed. Did not this deprivation of a wife have as much effect on the nutrition of the whole brain as the deprivation of an eye or an ear? These domestic activities had a physiology just as vision had, and yet they were asked to disregard that. The other point he wished to raise was that about the conception of primary disease occurring in the brain. He would like to ask Dr. Robertson, or any of the others, what determined the durability of the somatic structures. As to the question of the durability of the cells, Dr. Robertson and Dr. Clouston both spoke of a physiological process of involution; but senile degenerations cannot properly be called physiological. Dr. Ford Robertson asked them to believe that there was not a great difference in the durability of cells in different individuals to account for differences in longevity, say between a man who dies at seventy and another at ninety, and he wanted them to believe what they could not believe. They were born into the world with an initial vitality, and there were many who had that very far short of the normal. He was glad to associate himself with those who were entirely out of the line of modern pathological science if modern science taught that we should disregard the constitution of the bodily mechanism in which all vital reactions occur; the construction and quality of a machine were surely as important in determining reactions as the kind of stimuli. He would like to say that he was a toxæmist in principle and in practice, and he thought that metabolism of the excretory organs and in the intestinal tract was of very great importance

in insanity, and that they should direct their attention to it. But because his eyes had been opened to the importance of that factor, he was not going to disregard the other factors that they had been accustomed to so long. Insanity was often due not only to the presence in the blood of things that ought not to be there, but also to the absence from the blood of things that were necessary. Nor was he going to give up the old psychological conceptions to which their friends would come when they had acquired a working knowledge of physiological psychology.

Dr. YELLOWLEES said the Association was rich in enthusiasts. They had enthusiasts in things practical and also in things scientific, as that afternoon had shown. He was sure they all admired the very moderate and reasonable tone in which Dr. Clouston introduced the subject, and he was sure they would regret that the tone in which it was responded to was different. It was a weakness of all enthusiasts to think that people who did not exactly see as they saw were behind the day, and blind to the light of "science." He thought that those who looked at the subject from an opposite point of view were entitled to some consideration, and that men so proud of their science ought to have open minds, and not jump to conclusions so hastily. There was a good deal of needless confusion in mere terminology to begin with. Dr. Robertson spoke of variations in the natural reactivity of the cortical cells, which was only a roundabout way of expressing what Dr. Clouston called hereditary predisposition. His great objection to what Dr. Robertson and his school advanced with such positive certainty and emphasis, was that it excluded mental causes altogether. They degraded mind to a mere secretion or function of brain cells—nothing else and nothing more—and they utterly despised the idea that insanity could arise from the mental side at all. If he (Dr. Yellowlees) had learned anything, it was the very opposite of that. He was certain that the mind reacted on the organism, and that insanity might begin, and often did begin, from the mental side. A patient of his, a bricklayer, was busy at his work laying bricks when a man suddenly said to him, "Your brother has just been killed at the mill over there." Instantly he dropped his tools, became stuporose, then subacutely maniacal, and remained so for several months. Did anyone believe there

was toxæmia there, or any time for it? The pathological enthusiasts had no right to tell them that toxæmia covered the whole field when a case of that kind existed, and no one who looked at cases from the clinical side could accept their dictum. He welcomed all that pathology could tell them, but he did not think it wise or becoming that the pathologists should ignore what was learned in another field than their own. They were told that melancholia followed constipation, uterine disturbance, and many other disorders. This was true, but the opposite was equally true, that melancholia already existing produced constipation and other bodily disorders. He did not know why the pathologists would look at a case only from their side, and never look at it from the other side. One thing had struck him very much, and that was that there had been no allusion to the insanity which, of all others, had seemed to him the one which supported the toxæmic theory, viz. recurrent insanity. It seemed explicable only on the theory that some *materies morbi* gradually accumulated in the organism and produced the attacks, yet their very best efforts failed to eliminate the poison and avert the recurrences. Another thing that struck him was that they had a much simpler toxæmia than this obscure and all-explaining toxæmia which the pathologists proclaim. They had toxæmia produced from without the organism. Some parallelisms might have been expected, but not a word was said on the subject. No doubt the pathologists were doing good work, but they were far too hasty in their conclusions, and far too certain of their correctness. They were too apt to ignore the clinical facts which did not suit their theories, and too ready to tell us that we are all dwellers in darkness unless and until we accept their great revelation.

Dr. BRUCE said that in the causation of insanity no one could deny the power of hereditary predisposition. The fact that the chief insanities appeared during the periods of evolution and devolution of the body was a fact which could equally well support the toxic and the antitoxic views. The real crux of the question narrowed itself down to the following proposition: "Do the mental symptoms precede the physical, or do the physical symptoms precede the mental in the onset of acute mental disease?"

He believed that the majority of insanities were of toxic

origin, and for purposes of description he thought they fell naturally into three great groups:—(1) The metabolic group; example, simple melancholia. (2) A group purely toxic in origin—source of toxine unknown, but probably bacterial—presenting no marked metabolic disorders; example, pure mania and all forms of excitement where the excitement is the predominant symptom. (3) The mixed group, in which you find combined the toxines of Groups Nos. 1 and 2.

In Group No. 1, the metabolic group, he had seen the physical symptoms precede the mental symptoms by quite a week's duration in three cases. Probably the general practitioner saw this much more frequently than the asylum physician. On the other hand, he never remembered a case which recovered in which the physical improvement did not precede the mental improvement.

In Group No. 2, the pure toxic group, he had never seen a case early enough to say that the physical symptoms preceded the mental in the onset of the disease; but here again, upon recovery, the physical always preceded mental improvement. In all cases of this group the leucocytosis is the infallible index as to the condition of the patient. When the patient suffers from a hyper-leucocytosis that patient is mentally excited. The hyper-leucocytosis is nature's method of combating the toxine. When the leucocytes fall the patient is better—nature, by means of the leucocytes, has temporarily overcome the toxines. If you artificially stimulate leucocytosis you produce a temporary improvement in the patient's condition. If by the introduction of antitoxic substances you assist nature in combating the toxine, the leucocytosis falls, and again you produce temporary improvement. To his mind, these facts were very strong proofs that this class of disease was of toxic origin, and that the only treatment of the future likely to meet with success is an antitoxic one.

With regard to Group No. 3, he would only say that the cases combined the symptoms of Groups 1 and 2, and the proofs of toxicity were easily demonstrated. If the brain cells can originate disease *per se*, without any outside cause, then they were probably the only cells in the body capable of such morbid action.

He strongly supported the toxic theory because it held out hope of some advance in treatment. If we are to believe that

the brain cells, *per se*, become diseased, then there can be no treatment.

Dr. MARR said he hardly knew what to say in this discussion, as it had ranged over a very wide field. He was inclined to think that Dr. Clouston and Dr. Robertson did not differ so much as they appeared to do in the discussion. In the neuroses of development by Dr. Clouston it was shown very clearly that cases of developmental general paralysis were due to syphilis. Syphilitic poison in these cases had produced the degeneration known as general paralysis. He expressed his dissent from Dr. Ford Robertson's ideas concerning this disease, and agreed with Dr. Mott, who held that the syphilitic poison had so exhausted the nerve-cells that they succumbed to degeneration on any unusual stress, and this degeneration was accelerated by auto-intoxication. Dr. Clouston had said heredity was a factor in general paralysis, but he (Dr. Clouston) could not conceive of heredity affecting the brain-cells so profoundly as to produce this disease. In cases where heredity was proved, congenital syphilis was invariably found; and if the syphilitic poison could make such an impression on the other tissues of the body as to notch the teeth, change the contour and composition of bones, etc., surely it could make an impression on the nerve-cells and deprive them, as Dr. Mott said, to a large extent of their vitality, and so render them liable to degeneration. He understood that the word toxæmia simply meant poison circulating in the blood, and probably this wide meaning had to do with the variety of opinions expressed. He was strongly of opinion that cases of acute delirious mania were due to toxæmia, and this opinion was accentuated by the fact that many observers, including himself, had found micro-organisms in the meninges of the brain. In such cases they could say with accuracy that the insanity was due to toxæmia. Reverting to the subject of general paralysis, he disagreed with the opinions of Dr. Bruce, who held that general paralysis was the result of microbic toxæmia. In general paralysis the degeneration of the nerve-cells was spread over years. In juveniles general paralysis had sometimes extended in duration to as much as twelve or fourteen years. If this degeneration was due to a microbic toxæmia it would be natural to expect a

parenchymatous inflammation, but such was not the case. He thought that Dr. Mott had more clearly proved his case in stating that the decay in general paralysis was accentuated by the degenerate products of the nerve-cells circulating in the system; in short, by auto-intoxication. He thought that in connection with the whole subject it was better to hasten slowly, and prove by actual research that toxæmia really produced insanity. In all that had been done in connection with this subject in this country he had noticed that not a single corroborative biological test had been made or even mentioned, and until these tests were made regularly with other clinical and pathological work it was well to keep an open mind on the subject.

The CHAIRMAN said that he had listened with very great interest to the discussion, and had pleasure in conveying the thanks of the Association to Dr. Clouston for the very temperate and clear manner in which he had brought forward his views.

(1) *Brit. Med. Journ.*, October 26th, 1901.—(2) *Proc. Roy. Soc.*, London, 1899.—(3) *The Lancet*, August 24th, 1901; *Brit. Med. Journ.*, June 29th, 1901.—(4) *Scottish Med. and Surg. Journ.*, February, 1902.

The Surgical Treatment of Delusional Insanity based upon its Physiological Study. By T. CLAYE SHAW, M.D.

THE manifestation of delusions is so striking a proof of aberration of mind that we seem tempted to inquire if the study of them will in any degree help us to an elucidation of the actual physical change which must either be the cause or, at any rate, the accompaniment of them.

Just as we may study the movements of a piece of mechanism, and by consideration of them work back, as it were, to an understanding of the structure, so may we not possibly inquire into and succeed in postulating certain physical arrangements? more especially as it does not seem likely that by examining the structure we can explain the defects themselves of the resultant or concomitant action.

To argue from effect to cause has before now led to striking results; it is, indeed, to us as physicians the usual way of

working, but with the experimental observer the first thing to do is to modify the conditions which we take to be the proximate cause, and then to record changes in the effect. Why cannot we do the same with this subject of mental physiology? Because to experiment under natural conditions is rarely possible, and pathology has not hitherto helped us much. Experiments upon animals are useless, because, though we can obtain motor effects, we are not able to learn anything about ideas.

If, after deliberation, an act of "will" results, are the cells which have been concerned in the deliberative process the very ones which give the motor impulse? Or is this influence communicated to others which bring about the direct motor result? Are there cells which are susceptible to impress, to change, in a certain way only, or can they be modified differently according to the nature of the presentation, *i. e.* is their receptivity general or particular?

After a group of cells and processes has been impressed in a certain manner (one is bound to use mechanical expressions in discussing this subject), is that group bound to energise in the same manner under recurrent stimuli, or is it susceptible of modification?

We must ignore the objection that has been made (Wundt) that there are not enough cells in the brain for each to have its own *métier*, because it would seem from observation that the material of the brain is never used up, even in a long and active lifetime; there is always present the potentiality of more capital for use than has ever been called upon. Does a man whose brain remains sound ever get to the limit of his knowledge? He is always able to go on acquiring startling new projects, receiving impressions of a kind quite different in quality from any hitherto presented.

If we go on the theory of psycho-physical parallelism as being the most acceptable of all our endeavours to understand the connection between psychical and physical processes, we seem bound to acknowledge that some change, some physical alteration, must occur in cells that are called upon to act in obedience to stimuli. Of the nature of this change we know nothing, whether it consists of a rearrangement of particles, a molecular change, or of one of a chemical nature; but we can scarcely conceive that the condition physically of a brain that

has been stimulated is the same, quâ material static remanet, as one that has never been brought under external influences. The microscope does not enlighten us, nor have any experimental facts as yet thrown light upon any material change either in nerve cells or fibres that we can associate with the objective display of internal mechanism.

Let us then analyse what we may suppose to occur in a psychical content, say the idea of wealth.

There have been more or less frequently and intensely stimuli of sight, touch, and hearing, of a mixed but still definite character, and associated with these the word "wealth," which is the abstract correlate of all these various impressions. Whenever the word "wealth" is brought into consciousness and kept there, there is a revival of the various sense impressions that have, at one time or other, contributed to the idea, be it money, land, size in any direction, or whatever else has been the predominant agent in the process of abstraction; and we can scarcely conceive other than that the same parts are concerned in the revival of the image as were at first concerned with its formation.

In accordance with what we see of ordinary healthy function, the structures concerned with this particular consciousness pass into the background when the stimulus is removed, and do not again obtrude themselves except on occasion.

But suppose now that from disease, such as may be brought on by over-functioning, from an inflammatory process, from an altered composition of blood or what not, some temporary or permanent change is wrought upon the tissue of an irritant nature; it is but natural to conclude that the temporary functioning in response to stimuli is changed into a continuous one by the abnormal local conditions, and that so long as the irritable condition lasts, so long will the impress of the concerned structures continue to assert itself in the absence of external sense stimulation; and inasmuch as consciousness is limited by structural states at the moment existing, so long may the individual be out of harmony with his environment, because he cannot escape from the tyranny of an ever-present possession.

The man who is in an ever-present worry because of straitened circumstances, of some moral or social lapse that he

has committed, is never free from the damnable constancy of the persistent action of his over-acting cells until other stimuli set up relieving processes in other centres and permit functional rest to a jaded tissue.

This I take to be the condition of things in the insane, and with it must be included the emotional tone that accompanies the delusion. Explain it as we may, there is to be acknowledged a pleasurable feeling accompanying ideas of the satisfying order; a painful feeling tacked on to, or part of, those of a dissatisfying kind; and these feeling-accompaniments we seem to be incapable of doing more than note, sufficient it is for us at the moment that they must always be taken into account as part of the result of a functioning element.

So with the man who suffers from delusions of a depressed kind. What we must suppose is that certain cells and connections have been impressed (there is no other word so convenient) in a definite manner; they have been tuned to answer to vibrations of a certain sort, and have their corresponding emotional tone; and if by the advent of a disease-process they become temporarily or permanently involved, so long will excessive functioning in a special direction go on.

Whether any cell and its processes are able to receive stimuli of polar kinds and to exhibit corresponding emotional states is quite unknown; as it is also whether a cell which has once been set to vibrate in one direction can receive impulses of another sort; whether, in fact, the higher structures are subject to the laws of local signature somewhat analogous to the hot and cold points in the skin.

An explanation of this sort seems too simple for so complicated a structure, but in our present inability to comprehend purely psychical processes we seem to be driven to material explanations.

It may be objected that many insane persons are not always in the presence of their delusions, as they should be if their new self is dependent upon a local material change. I believe, however, that they are always in the presence of their new conditions, just as the sane man is always in his own conscious being; and it is quite in accordance with what we clinically know of consciousness that habit should render the insane man less attentive to, and less demonstrative of, his new state, just as it does the ordinary sane person.

Disease of the brain is never universal, and along with the morbid tracts there must be many untouched centres able to function more or less normally; and so we never see a complete lunatic; some residual product is invariably to be detected which shows that "denudation" has only been partial. That motor changes are generally seen in states of mania or melancholia is what we should expect, because sensory and motor processes are so bound together that an alteration in one is sure to affect the other. The man whose brain is tired by overstimulation loses perfect motor control (or, at any rate, has to employ effort to accomplish what before was a reflex), even though his motor side may have been quite subordinately engaged. One very frequent effect of mental fatigue is that the walking co-ordination loses its purely reflex type, and the subject has to pay attention to his steps; so with explosive conditions, such as anger or strain, not only does the person feel unable to walk, but he is also unable to talk without tremor, or to write without shakiness.

No doubt a good deal of this may be attributed to circulatory impairment, but not all; because in the absence of emotion in long-sustained work of a neutral-toned character we may notice the motor prominence; while in the decided emotion-toned ideational states of mania and melancholia the muscular affection is apparent to anyone.

The above reference to local signature is worthy of a little more consideration.

If, as Külpe says, local signs are a specific qualitative colouring, if they are the physiological peculiarities of peripheral excitation, so that every impression is referred to a distinct locality (and this appears to be a much simpler way of explaining localisation phenomena than by introducing "association" to explain them), then why may we not extend Külpe's theory to the higher centres, and say that every idea may be referred to a distinct locality?

I would not, of course, suggest for a moment that cells are capable of receiving impressions only of a certain kind, though many would probably with correctness urge that cells and processes connected with the auditory or any other centre are incapable of receiving direct impressions from any other peripheral organ (except by association) than the one of which they are the local sign.

For anything we know to the contrary, a group of central structures concerned with, say, the idea of a palace, might be the possible physical basis of the idea of a hovel; but having once been made the exponents of a definite local signature, it is difficult to see how they can vibrate in response to a peripheral or central stimulus of another quality.

If we look at any object or listen to any sound, the very fact that we recognise certain parts of the presentation is surely proof that some part of the originally stimulated centre is again responding, and it almost postulates that, as to quality, there is an absolute central local signature; and though it would be absurd to talk of wealth, or poverty, or persecution cells, for these are abstractions which are embodied only in words (which may themselves have a material basis), it is not absurd to suppose that the experimental bases of the abstractions are definite local signatures capable of acting in consonance with the recognised laws of stimulus and result.

If the above be true, or in a measure true, if it is a workable hypothesis, to what does it lead us? To this among other things, that in treating insanity we should first of all address ourselves to ascertain the radical basis of the abstractions—for delusions are chiefly abstract ideas,—to find out which group of local signatures was primarily affected, whether the aural, optical, touch, or smell centres were probably the first affected, and to pay no attention to the secondary centres, which are merely displaying their associative connection with the real seat of disease.

It may be that more than one group of centres is primarily disarranged; if so, the greater in intensity, in diffusion, will be the display of signature.

In examining any patient who exhibits explosiveness or delusions, I always try to focus the primary lesion if possible, to determine which centre was first to show irritative continuance of action, and in some instances we shall, by bearing this in mind, meet with success in dispersing the whole range of symptoms.

In general it is only by attacking the periphery that our localising efforts are rewarded, but I look forward to the time when surgery will be our great aid, by applying direct local treatment to a specific centre. Unfortunately the peripheral mode of attacking central lesions is of little avail, because in

the majority of cases the more highly elaborated internal structures are especially involved, and so the usual methods are simply the employment of symptom-remedies such as sedatives to control excitement, rest by endeavouring to divert processes of thought into other channels, or other indirect means, which either have no effect at all, or are positively harmful by doing nothing to get rid of the fundamental mischief. I own, also, that there may be conditions of the blood, due to the presence of toxins, which may, with advancing knowledge, be capable of treatment, and it also seems feasible that bacteriology may help us in the future.

Some time since I advocated the use of surgical measures in alleviation of pressure symptoms in general paralysis of the insane, and I published cases where there was no doubt about the relief by operation of some of these symptoms. I look forward to the time when operative treatment will be recognised as the only way in which the cortical lesions must at certain stages be dealt with; operations directed to the immedate local treatment of centres inaccessible by the present indirect methods.

It is not always easy to locate the centre first attacked; indeed, there are often many centres involved by the uniformity of action of the cause, especially in lesions due to blood poisons or toxins; at other times there is no uniformity, for a cause involving primarily an auditory centre in one case will attack an optical centre in another; all the same there remains incumbent the duty of finding which centre is the one first or chiefly involved, and of applying our attention to it.

It would seem that the morbid anatomy of special centres is well deserving the attention of pathologists, and as it is seemingly true that every organ is represented in the brain, so must we look to the discriminate recognition of these representative parts as the seat to which treatment should be specially directed. What is done with success in Jacksonian epilepsy should be possible in ideational insanity; and it may be confidently said that many cases of chronic delusional insanity with all the associated symptoms of violence and irregularity are left uncured because we have not the courage to attack them surgically.

Localisation is the immediate and pressing need in the treatment of brain symptoms, whether in the general domain of neurology or in the particular one of insanity.

If what I have written is in any way correct, we must conclude that the presence of delusions is not due to what Dr. H. Jackson calls the positive, *i. e.* the untouched, but to the negative or diseased elements and their associations; recognising always that the normal action of the parts untouched by disease may be temporarily disorganised by interference with their normal associations.

The great difficulty one has is to explain abstract ideas, but it is scarcely necessary to suppose more than that old perception paths are involved, because in all abstraction there is present some embodiment of a former sense impression.

Much of the present-day treatment of the insane is indiscriminate. It is sufficient that a patient is excited to put him in a blue room, or that he is depressed to place him in a red room, when his optic centres may be only secondarily affected; or to send him to hear music or to the theatre when his auditory centres require rest. I have seen out-of-doors treatment aggravate symptoms, and on the other hand, many advise it as the panacea for all sorts of mental impairment.

This I am, I think, warranted in saying, that universal rest treatment, such as is now carried out in some "homes," is often very dangerous to the integrity of the patient; everything calculated to stop general central action being enforced to a painful degree, with the result that either introspective abstraction is the only resource, or that an over-acting centre is left to rush along to an unhindered dissolution.

The surgeon has already usurped much of the territory of the physician. It seems time that he took in hand some of the problems of insanity.

I feel strongly the incompleteness of what I have been urging. It must be that there are diseased elements in the brain that are only remotely connected with sense-centres, and that if any sense-centre is apparently involved, it is in reality only secondarily so.

I can understand that one might say, "Take the case of a person who has ideas of persecution by a secret society; or of a woman who takes objection to her husband and makes statements of an utterly false character as to bad treatment and neglect; or of another individual who passes his time in performing arithmetical absurdities, or in evolving extravagant moral theories; where is the surgeon to begin his work here?"

I can only confess that in the inability to trace the origin of such ideas from the internal senses there seems no remedy to suggest. That there is a tissue change of a definite nature I am bound to believe, but beyond this we can hardly go. For such there seems to be no direct remedy available.

Let us seize upon whatever appears to be the central local sign of each organ in the body; we can afterwards consider the material of abstract ideas.

If, as a last resource, operative measures are taken, it may fairly be asked how far they should go, and what direction should they take. I suggest that a primary trephining to inspect the region of disease indicated can, as an operation, do no harm. Nowadays there is little danger, and it can be quickly performed. There may be found some membranous thickening, or adhesion to the underlying convolutions, and this may be removed, as its continual presence may be causing pressure or irritation. Much good is likely to result from the relief of congestion, and in my experience there need be no fear from after results, such as the growth of membrane over the opening.

If, on removal of the dura mater, the membranes appear misty, they might be punctured and drained. As to interference with the cells themselves, one would be guided by their appearance. Anyhow, we should obtain material for prognosis, impossible by other modes of treatment.

May I invite the attention of pathologists and of those with opportunities for the clinical study of symptoms to the importance of noting specially the condition of the sense centres, with the object of establishing the correctness of the opinion that changes will be found in them which may be of use in leading us to what is very desirable if it be possible, viz. a more complete localisation of perception or ideation than we at present possess?

I remember a case where, with persistent olfactory hallucinations, there was found after death a sclerosis of the olfactory centre. Unfortunately I did not preserve the specimen, but I should know now how to make better use of it, for I believe that operative treatment was really the only one likely to have done any good.

I must apologise to the Society for not producing more clinical support in favour of what I have been urging, but I

hope that others may be able to supply the deficiency, and that members will kindly extend their consideration in the reception of the very debatable question which I have ventured to raise. Success in the medical management of insanity appears at a standstill; it is time that we consider more deep searching means.

Discussion

At the General Meeting, London, May 21st, 1902.

Dr. Hyslop said he would have liked to have had an opportunity of discussing the paper more fully than time now permitted, because many of the points traversed by Dr. Claye Shaw were of the very utmost importance. Whether unconsciously or not, he thought the author had touched upon some points along which many great advances might be made in the future. When one began to discuss the diagnosis of hallucinations, one followed those possible disturbances up the various brain tracts until one came to what was considered to be the psychic centre. The interpretation of the hallucination had to be accounted for, and that, as far as was known, was spread over the whole cortex. Therefore, from the localising point of view, he feared they were not much further forward. If the psychic centres were localised, well and good, but how could the delusions and misinterpretations be accounted for? That was a very much wider subject. He had been working for seven years trying to make out those brain tracts, and he had prepared 350 illustrations while trying to get at the real diagnosis of hallucinations. Hallucinations of taste had nothing whatever to do with the psychic centre for taste. A pure hallucination of taste was an unknown quantity practically. So also with regard to smell. There were many who would disagree with that, but he was prepared to argue it out. Thus those centres were cut out of account. Next there was the centre for touch, and that opened up one of the widest possible fields. Dr. Claye Shaw's words were, to him, pregnant with meaning, and opened out as great a vista in psychology as the origin of species did in biology. He hoped that now Dr. Claye Shaw had started upon the subject he would follow it up. With regard to hallucinations of sight and hearing, one got much nearer, but did not know which side was most concerned with hearing. There were many most important physiologico-anatomical problems which had yet to be determined. One might detect hallucinations and imagine which side they came from, but one did not know the anatomical relations or the cross-relations with the tracts of hearing. With regard to vision, they were getting nearer and nearer, and the work had been multiplied enormously by thousands of writers. Yet they had not reached the point of interfering surgically. One argued that there was an interruption of the current, and that there was some bodily defect sufficient to interfere with the current; but when one came to the ideational and emotional centres, and those for volition, one got into regions with respect to which there were no data, and he thought the time was far distant before surgery could be employed with regard to those regions.

Mr. C. B. Lockwood said that he had been requested by his friend Dr. Claye Shaw to perform some of the operations to which he had alluded. The circumstances, as far as he recollected, under which he had operated for Dr. Claye Shaw were as follows: The patients upon whom he was asked to operate were, to his mind, proper subjects for operation, because there seemed a reasonable prospect of relieving them from the intense pain which they were said to have been suffering from. The question which naturally arose was whether that relief from pain was purchased at too great a risk. From his own small experience of operating upon those people he had come to the conclusion that the risk of opening the cranial cavity and incising the membranes of the brain was, under proper conditions, a very minor one, and the recent advances in the matter of asepsis had rendered the risk considerably less. It would, perhaps, be scarcely agreeable to the Association if he were to enter upon any narration of the details

of the operations he had performed for Dr. Claye Shaw; but in choosing a place at which to open the skull he always selected a point far back beyond the motor areas, for obvious reasons. He concluded it would be wise to remove a very large disc of bone, which was by no means an easy matter, because, in his experience, those people had very thick and hard skulls. Thus it was necessary to have special trephines constructed. He regarded it as quite safe and wise to proceed further and to open the dura mater, and even the arachnoid, so as to expose the cerebral cortex. A further question arose in one of Dr. Claye Shaw's patients. Dr. Claye Shaw asked him to ascertain whether there was fluid in the ventricles of the brain. He did not mind doing that, but thought it was a step which should be avoided, because there was the obvious danger of producing hæmorrhage into the ventricle from puncture of the vascular structures within it.

In reference to the effects, from his own humble point of view—he was not in the least familiar with mental disease—he had been very much struck by the effect in one of his patients. First of all, the headache, which appeared to be very severe, was relieved; his strange and torpid mental condition was entirely altered, and some months afterwards he was surprised to see the man apparently well, and talking in a rational manner. A long time afterwards he was earning his living and conducting his business himself.

Another patient he recalled was shown to him afterwards by Dr. Claye Shaw, very materially improved with regard to his pain, and he believed also in his mental condition, but as to the latter Dr. Claye Shaw could speak better.

He had referred simply to his own experience. He would like to briefly refer, however, to a circumstance which produced a profound impression upon his mind. At the Glasgow meeting of the British Medical Association, Professor MacEwen showed a patient who had passed his life, or the greater of it, as a very pious, God-fearing man, and had brought up a large family in a most exemplary manner. In the course of his work a rivet fell upon his head and caused a depressed fracture of the skull. After that accident the man become irascible, took to drink, and turned out his family. Professor MacEwen trephined him, and he then reverted to his former mental condition. To him (Mr. Lockwood) that was a striking illustration of the profound influence of physical causes on mental states.

Dr. CLAYE SHAW, in reply, thanked Dr. Hyslop for his criticism. He confessed the difficulties of the paper and the subject. He knew people who had been working at the subject for a long time, and he had himself indicated to Dr. Hyslop the way in which, by increasing accuracy in localisation, surgical means could be taken such as were spoken of by Mr. Lockwood. If a surgeon in Mr. Lockwood's position could say there were certain physico-psychical conditions which could be relieved by operation, and that those operations were comparatively harmless, then, after all other means had failed, surgery should be tried rather than allow the patients to lapse into chronic dementia.

Sleep in Relation to Narcotics in the Treatment of Mental Disease. By HENRY RAYNER, M.D.

SLEEP, the state in which man spends a third of his existence, is so intimately related to bodily and especially to mental health, that it must ever be a subject of the greatest interest to alienist physicians. No apology therefore is needed for once again bringing under discussion a subject so familiar.

Sleep involves such a wide extent of physiological conditions, and sleeplessness is related to so many patho-physiological

problems, that to attempt to discuss either in the limits of one sitting would be like trying to measure up a continent with a two-foot rule. I propose, therefore, to limit my consideration of sleep to such aspects of it as are related to the question of the treatment of sleeplessness by narcotics; to consider whether the state of narcotic sleep or narcotic stupor is as reparative as normal sleep, and whether the relief of the symptom sleeplessness by the use of narcotics may not be too dearly purchased by the harm done in other directions.

The question at the present time is an urgent one. New narcotics are being invented every day, are being forced on the profession and the public by the most ingenious quasi-scientific literary devices, and supplied by all chemists in the most easily obtainable, most portable, and tasteless form. Their immediate action is often obvious, while the remote end effects are not so easily traceable. Hence a popular use of these drugs to an extent which is really a very serious danger to the public health. I see so much of their abuse that I am inclined to ascribe to it a considerable proportion of the nervous and mental disorders of the educated classes at the present day.

A brief glance at the nature of sleep and at its relation to other conditions of unconsciousness is a necessary introduction to the subject, although it may appear a repetition of too familiar facts.

A mere enumeration of the theories of sleep would be a serious matter. Sleep has been described as purely psychic rest, or ascribed to tire of the vaso-motor centre, to exhaustion of the nerve-cells, to the contraction of the dendritic processes, to the expansion of the neuroglia cell and processes, insulating the nerve processes, etc. Sleep, however, is older than all these, older than consciousness, older than dendritic processes, or vaso-motor centres. It represents a rhythm of organic habit, going back to the primitive unicellular state, and traceable in all forms of organic life. In primordial life, no doubt enforced by the daily withdrawal of light stimulus, but even now in higher organisms, the effects of light and darkness are still manifest. Shade a plant or a low animal organism, and sleep, with all its reversal of nutritional activities, at once ensues. Eclipse the sun at noonday and the hens go to roost.

In man any definite relation between sleep and darkness is (perhaps unfortunately) lost, except so far as the withdrawal of

light coincides with the withdrawal of other stimuli. In children the removal of peripheral stimuli is sufficient to ensure slumber, and in some primitive races sleep similarly supervenes on their simply assuming an attitude of muscular quietude.

Animals deprived of their brains are practically in a continuous state of sleep, broken only by some excitation from without or arising within, as for example the feeling of hunger. When wanting food the brainless animals are restless, immediately becoming quiet when this is supplied.

The fact that in fatigue, sleep often supervenes in spite of the strenuous efforts of will, and in spite of many parts of the brain being still active, is also significant of the important share that the body takes in sleep.

Our brains often keep us awake, but are of comparatively little use in sending us to sleep. Belmondo, long since dead, said, "The whole organism sleeps, and the brain only sleeps because the organs of sense sleep."

The fact that deprivation of sleep produces death more rapidly than deprivation of food, is additional proof of the predominant need of sleep by the body.

In starvation there is little disorder of the general nutrition, so that the lower organs and tissues are gradually used up, the brain being the last to suffer. But in deprivation of sleep the general disorder of nutrition is so great that the brain suffers from the outset. These evidences of the large share which the body has in the production of sleep indicate that in treating insomnia attention to the condition of the body is at least of equal importance to that of the brain.

I shall not attempt to discuss the various chemical and toxin theories of the production of sleep, but merely allude (as bearing on the point that I propose to discuss) to the one fact in the brain state in sleep on which all observers are agreed, viz. the arterial anæmia. This, also, has been described as a cause of sleep, but the fact that, in infants, the fontanelle does not sink until after sleep is established disproves this theory. The arterial anæmia of the brain is, indeed, secondary to the general dilatation of the peripheral vessels (especially those of the skin) which precedes sleep. This has been ascribed to tire of the vaso-motor centre, but the facts already adduced would make it more probable that it is rather due to the need for rest in the peripheral vessels.

This dilatation of the peripheral vessels antecedent to sleep is evidently, from Hill's experiments on the circulation of the brain, one of the most important physiological facts in connection with sleep and sleeplessness.

The states of unconsciousness from narcotics and the disordered consciousness of the mesmeric state are often spoken of as sleep, and, as this gives rise to some confusion of ideas, I wish, in passing, to contrast the psychical condition of these states.

In sleep, as Mosso's experiments have shown, every peripheral stimulation is conveyed to the brain, immediately affecting its circulation. We know also that excitations of hearing, smell, taste, and common sensation, and even luminous stimuli, may cause reflex movement in sleep, proving that the sensory centres of the brain are still active, and these may occur without awaking the sleeper, or leaving trace in memory. The psychical condition in sleep, therefore, is one of unconsciousness without loss of sensibility.

In narcotic or other coma, when profound, the most active stimulation of the nervous periphery fails to produce evidence of the action of the cerebral centres. Memory is also in abeyance; the condition is one both of unconsciousness and insensibility.

In the mesmeric state (hypnosis and hypnotic sleep are so misleading that I prefer a non-committal term until a psychologically descriptive one is accepted) the sensory activity is in abnormal excess. Ideas suggested from without or arising in the patient's mind are projected outwards and result in sensory hallucinations. The patient, moreover, acts on these hallucinations, thus demonstrating in conduct the disorder of consciousness. The state has been, therefore, rightly described by Tuke and others as temporary insanity. Neither consciousness nor sensibility is lost, but both are disordered.

To recapitulate briefly: in sleep there is unconsciousness without insensibility; in narcotic coma there is unconsciousness with insensibility; and in the mesmeric state there is disorder both of consciousness and sensibility.

These three psychic states differ very widely, and to associate them together as forms of sleep appears to me to be very erroneous and misleading. In place of the popular term hypnosis, I should prefer to see mesmeric stupor employed,

and in place of narcotic sleep, narcotic stupor or narcosis. Of mesmeric stupor I have no more to say, but must beg your attention to a brief sketch of the differences in the physical conditions of sleep and narcotic stupor.

Sleep is found to be accompanied by activity of all the bodily functions (except that of consciousness).

Digestion and assimilation may proceed with unabated vigour.

Respiration, although shallow and slowed by four breaths per minute, has each inspiration increased in duration by a fifth, a form of respiration probably favourable to the absorption of oxygen, which is found to be increased.

The elimination of carbonic acid is decreased from 58 to 42 per cent. according to Pettenkofer and Voit, but this is related rather to the lessened development of carbonic acid in the body than to lessened functional activity of the lungs.

The circulation of the blood shows a lessened pulse rate and a lessened blood-pressure, the latter especially due to the dilatation of the peripheral vessels and the absence of the erect posture. There does not appear to be any depression of the cardiac or vaso-motor centre by which similar conditions are produced in narcosis.

The lymphatics are certainly more active, slight œdema often being absorbed during sleep, which may therefore be believed to be favourable to the removal of waste products from the tissues.

With regard to excretion, that of urea Vogel has found falls from 42 to 36 grammes, but if allowance is made for the fact that active exertion and the ingestion of food during the day largely affect this, the night excretion would appear to be relatively more active than that of the day.

The elimination of phosphates, although similarly diminished, if allowance is made for the diminished formation of them, due to the absence of mental action, does not point to any marked diminution of excretory activity.

The reparative nutritional activity occurring in sleep is evidenced on waking by the increased number of the red corpuscles and the greater oxygen carrying power of the blood, by the greater vigour of the circulation, with generally increased functional power, activity, and endurance of fatigue.

In the nervous system the reparation of the nerve-cells during sleep has been microscopically demonstrated.

In coma from compression of the brain we know, from recorded cases of depressed fracture, that a man may remain in a state of insensibility for long periods without any serious disorder of nutrition, and that on the relief of the pressure the brain at once resumes its function. It is only in the more extreme degrees of coma, when circulation and respiration are affected, that the toxic condition develops, which ends in the familiar "convulsions and death." Any marked degree of uncomplicated coma would not probably be as favourable for nutritional repair as the condition of sleep.

In narcosis, however, there can be little doubt of the extreme interference with nutrition. Narcotics, according to recent views, can be divided into two groups, and there is no real distinction in action (according to Marshall) between anæsthetics, hypnotics, and narcotics. This division of narcotics into two classes has been arrived at independently by Meyer and Overton, and is based on chemico-physical grounds. The common factor possessed by the majority of narcotics they found is a comparative insolubility in water, and a greater or less solubility in ethereal and fatty acids, and Baum and Meyer suppose that the narcotic action of a substance is a function of its solubility in fat compounds.

Overton describes the narcotics as falling into two groups, the indifferent and the basic, connected by intermediate members. The indifferent narcotics, such as chloral and sulphonal, pass over into the lecithin- and cholesterin-like constituents of the nerve-cell, and thus change the physical condition of this "brain lipoid." The basic narcotics, on the other hand, form combinations with the cell proteids; of these morphine is the type.

We may, therefore, in considering narcosis, probably be content with examining the action of these two types.

The action of opium (and its alkaloids) is so well known that it is scarcely necessary to repeat the summary of Wood, that "it checks all secretion," and that its chronic use results in emaciation and yellowness, dyspepsia, constipation, irritability, depression, and sleeplessness.

The awakening from opium stupor is certainly not accompanied by feelings of refreshment or evidences of a rested state of the nervous system, but rather of a jaded condition of nervous tremor, irritability, and easy over-tire.

Narcotics of the indifferent type, of which chloral, sulphonal, butyl-chloral, and trional are chemically homologous examples, slow and weaken respiration, lower the blood-pressure, and weaken the heart's action, weaken the vaso-motor control, and lower the bodily temperature, all these results being due to depression of the corresponding nerve centres. Their continued use results in anorexia, indigestion, constipation or diarrhœa, defective urinary secretion, albuminuria, and even anuria. In porphyrinuria, which occasionally results, Hoppe Seyler describes destruction of the red blood-discs, and Franz Muller (differing from Percy Smith) asserts that there is a great reduction of the hæmoglobin. Foster and Eason have recently shown that sulphonal markedly interferes with the elaboration of nitrogen into urea and diminishes the excretion of sulphur in the oxidised form. In death from sulphonal widespread fatty degeneration is found sometimes affecting the heart, but usually the liver and kidneys.

Both chloral and sulphonal under continued use produce conditions simulating general paralysis. The action of this series of drugs on the brain circulation is strikingly shown by Friedlander's experiments, who found that rabbits under the influence of isobutyl alcohol slept with the head down, waked with the head up.

The waking from stupor produced by the indifferent narcotics, although at first pleasant, the patient remaining for some hours under the influence of the drug, is by continued use followed by intense depression.

The contrast of the effects of sleep and narcosis on the nerve-cells is still more striking. Hodges' examination of the cells of birds and bees before and after sleep shows that fatigue produces very definite changes in the nerve-cells, that may be summed up as a state of rarefaction, which is removed by sleep. On the other hand, one of the most recent observers, Hamilton Wright, has shown that in narcotised animals the condition of the cells in the layer of the cerebrum, corresponding to the pyramidal layer in man, is similar to that found in fatigue, and that these changes are in direct relation to the duration of the narcosis. The cells rarefied in transient narcosis become skeleton cells after prolonged narcosis. Their margins are disintegrated, the nuclei become eccentric, swollen, and granular, the nucleoli enlarged and irregularly stained, the glia cells augmented in

number and turgid, while many leucocytes cluster about, and in not rare cases actually penetrate within the most profoundly affected cells. All the apical dendrons by the silver stain are seen to be moniliform. The tips and stems of the extensions of many of the pyramidal cells showed moniliform enlargement. All these changes being proportioned to the continuance of the narcosis, and similar to the changes recorded by Mott in suddenly induced anæmia of the brain.

These changes Hamilton Wright regards as pathological and due to direct action of the narcotic on the nerve-cells. Beyond this he found, in the brain generally, evidences of capillary anæmia and venous engorgement together with excess of leucocytes, in the pericapillary spaces, and swollen glia cells containing granular matter.

An important point to remark in these experiments is that the brunt of the narcotic action falls on the pyramidal cells of the brain, which are analogous to the cells which in man have been termed "psychic cells." It is well to remember, too, in regard to the use of narcotics, that in the animals experimented on these cells were normal, while in conditions of sleeplessness or disease they are probably very far from normal, and that the narcotic action is, therefore, likely to still further disorder their nutrition.

The few facts that I have advanced, a mere sample of very many more of similar import, almost conclusively indicate that the action of narcotics on the body and on the brain is not conducive to assimilation, that they are directly antagonistic to the elimination of waste products, and to nutritional repair, especially in the most important nerve structures of the brain.

The results, although pathologic, are not of very extreme degree, as evidenced by the long period that they can be borne in healthy individuals without very marked effects. On the other hand, in unhealthy conditions and defective organisation, just as in alcoholic abuse, the result of an inconsiderable amount of drugging is much more serious.

The great interference with nutrition in narcotism may not be so marked in the smaller dosage, where these drugs are used as mere adjuvants in the production of sleep. Their tendency is, however, in the same direction, as is abundantly proved by the necessity for increasing the dosage if their use is protracted. In these slight conditions of insomnia other means of producing

sleep, although more troublesome to the patient, and requiring more consideration from the physician, are equally or rather more certainly efficacious and are not attended with the disadvantages of narcotics. Hydrotherapeutic means, for example, often not only produce sleep, but improve nutrition by promoting elimination.

Insomnia being related to every bodily and mental ill that flesh is heir to, a full consideration of the causes and associated conditions would necessitate a review of every physical and mental disease. The results of these causes, however, may fortunately be summed up under a few headings. Defective nutrition of the brain-cells must be inevitably present in all cases, and with this is associated sooner or later a toxic condition of the blood, the supply of which may be either in excess or defect, or the anæmia and hyperæmia may alternate. Lastly, the brain may be irritated directly from painful environmental conditions or from the periphery as in pain, and indirectly, through the vaso-motor, cardiac, or respiratory centres. So that our considerations of treatment may be concentrated on these few conditions.

I have already discussed the effect of narcotics on the nutrition of the cerebral cells and nutrition generally, and will add nothing to what I have already advanced, except to point out that the induction of narcotic stupor, which the patient considers as sleep, often encourages the neglect of other means of cure, and the continuance of active exertion at a time when more or less complete rest is indicated; thus the malnutrition is greatly prolonged and accentuated.

The use of narcotics in toxic conditions, whether these are due to associated disease or the result of sleeplessness itself, is still more difficult to explain or justify. The existing condition of defective elimination must be still further increased by the necessity of eliminating the narcotic itself or the products of its decomposition.

Although narcotics may relieve conditions of anæmia and hyperæmia of the brain, it must be remembered that they do so by depressing the cardiac, vaso-motor, and respiratory centres, and can scarcely be held to be curative of the many various conditions on which the anæmia or hyperæmia is based. These vascular conditions, moreover, often alternate in the same case. Hence, where narcotics are fully used, it often becomes

necessary to follow up the sulphonal stupor, which has relieved the hyperæmic night state, by a dose of morphine in the morning to relieve the morning depression. It is difficult to understand how this action of the narcotics can be curative of the various conditions of the brain circulation.

Lastly, although narcotics may be used to relieve pain and irritation, they certainly are not curative of the causes on which they depend, and where the irritation is indirect, as for example, when the cardiac centre is irritated by arrested digestion in the stomach, the narcotic will almost certainly exaggerate the evil.

If, therefore, narcotics produce favourable effects, these would not appear to result from their direct action in restoring nutrition, but in an indirect way by saving one organ or tissue at the expense of another, just as a limb is ablated to save life, the skin blistered to relieve an internal viscus, and the unfortunate intestinal mucous membrane irritated by aperients to relieve various other organs. They must be given, indeed, on the principle of doing evil that good may ensue. This is undeniably a right principle, so long at least as the lower and less important organ is sacrificed to save the higher, but in this case it is the higher, nay, the very highest, that is made to bear the brunt. The acceptance of the principle is not so easy, and must necessarily be adopted with greater control and limitation, and the number of such cases in which it can be applied must indeed be limited. No one would deny that if sleep could be obtained by means which did not interfere with cerebral nutrition and repair, and which did not tend to exaggerate, but rather to relieve associated states of bodily disease, that such means would be preferable to the use of narcotics.

Here, therefore, we arrive at the question that I wish to raise, viz., "What are the conditions in which the use of narcotics is beneficial, and whether, even in these, treatment by other means would not be more advantageous?"

These questions are very much a matter of personal opinion, and I specially wish to elicit in the present discussion the opinion of this association, which has so many members with such wide experience in the treatment of sleeplessness in connection with mental disease.

The question of the results of treatment is always the same, is the *post hoc* a *propter hoc?* The patient has been given a

medicine and recovered. One man accepts this as a cure effected by the medicine ; another, of the doubting school, denies it, and says your patient recovered not by reason of but in spite of the drug. The rest, removal from worry, the diet, and other favourable conditions and not the drug effected the cure. If you had not given the drug your patient would have recovered more quickly, and, possibly, more quickly still if you had adopted other means of treatment. It is impossible to exactly repeat the conditions of any one case, and hence in no single case can a definite conclusion be reached. No large series of cases has as yet been treated on lines by which the results of narcotic or non-narcotic treatment can be gauged, and we are, therefore, obliged at present to rely on the general experience and observation of individuals.

My individual experience has led me gradually to discard the use of narcotics, altogether in narcotic dosage, and only at rare intervals in the hypnotic form, and then only in the form of bromide, or a small quantity of alcohol.

For many years in earlier life I tried narcotics again and again, selecting for their use cases which appeared to correspond to the cases in which I had seen their employment advocated, but I was not satisfied with the results.

The chloral epidemic which raged in the seventies first opened my eyes to the evils of narcotism in treating the insane, these being the arrest of improvement which I noted in patients when taking this drug, together with the cases of suicidal melancholia and the pseudo-general paralysis developed by its abuse. Then at Hanwell, where I found a large number of cases habitually taking sleeping draughts, I observed that the restlessness and noisiness at night greatly diminished after narcotics had been omitted and work and exercise substituted. There I had frequent opportunities of noting how rapidly cases improved after admission by rest and other means, who, prior to admission, had been taking narcotics.

My experience in this respect in consultation practice has been still more convincing. A very large number of cases are brought under my notice in which it appears to me that simple conditions of disease have been complicated by the use of narcotics, and I have constantly found where narcotics had been given until they failed even to produce any effect, the resort to means of treatment such as rest, elimination of

toxic matters by hydrotherapeutic measures in their endless variety, and by careful treatment of associated conditions of disease, has been satisfactorily successful.

I have therefore come to the conclusion, and this I have now carried out in practice for many years, that with very rare exceptions, so rare that in as many years I could probably count the doses on the fingers of my hand, narcotics can be avoided with advantage.

My position in regard to the use of narcotics is identical with that in regard to mechanical restraint. I will not debar myself from using them if I consider it necessary, but I practically do not use them because the necessity so rarely occurs.

It may seem to many here that in all this I am flogging a dead horse, but I expect there are some of our own number who still use narcotics extensively. The text-books of medicine, after a very brief caution against their use, generally give elaborate directions for their employment, and rarely suggest any alternative treatment. As a result a large number of general practitioners resort to their use as the sole and only means of treatment.

The members of the Psychological Association have to deal with insomnia on a larger scale, and in more severe forms, than any other body of medical men, and they treat their cases under more complete control. If they can make any definite pronouncement against the excessive use of narcotics, and bear testimony to the possibility of largely discarding them, they will influence the writers of text-books, and through them the general body of the profession, thereby saving the community from much evil which now occurs. It is to ascertain the state of opinion and practice in the speciality that I have undertaken to raise this discussion.

(1) *Nord. Chron.*, November, 1901.

Discussion.

At the General Meeting, London, May 21st, 1902.

Dr. Blandford said it was not his intention to enter into the physiological question which Dr. Rayner had touched upon with regard to sleep, but if we knew more about the vaso-motor system of the brain, we should know more about sleep. With regard to the subject in hand, namely, the use of narcotic medicines in mental disease, he had a good deal to say, but would not venture to unduly occupy the time of the Society. Dr. Rayner evidently entertained a very great prejudice

against sedatives and narcotics of all kinds, and he (Dr. Blandford) could not say that he agreed with him. He had been treating patients for forty years, and a great number had come to him not in an early stage of insanity, but in one of threatened insanity, in which insomnia was a very marked feature. He was as certain as he could be of anything that a great number of those patients had been saved from insanity, and been materially benefited, by the use of some medicine whose object was to give them sleep. It was possible to give a narcotic dose which would reduce the person to that state of insensibility which Dr. Rayner spoke of; but one could give a dose of the medicine which should have no narcotic effect at all, but should have a thoroughly therapeutic effect, and produce a sleep which should be indistinguishable from natural sleep, resulting in the greatest benefit to the patient. He had seen that happen very often, and had had patients coming back after a time saying they got well after taking the medicine ordered for them. Of course it was necessary to select the particular drug suitable to the case, and a careful judgment should be formed as to the dosage. He felt sure that in the practice of a great number of medical men—not in their own speciality, but in general practice—far too large doses of narcotics were habitually given, and they frequently produced unpleasant effects. Also, such medicines were often continued for too long a time. With regard to the selection of the medicine, he recollected the time when there was absolutely no medicine in the Pharmacopœia for producing sleep except morphia, which in many cases did not cause sleep, and perhaps such drugs as conium and hyoscyamus; now there were numerous drugs available. The one which Dr. Rayner had so much to say against, chloral, was perhaps now given very much less than formerly. One drug was not mentioned by Dr. Rayner at all, and that was the safest and most beneficial, namely, paraldehyde. What he had said referred to people in an early stage of insanity, or in a condition threatening insanity. He would now pass to patients in a very acute state of insanity. When first he had to treat such patients, there was nothing but morphia which could be given in cases of acute delirious mania. Often that did not procure sleep, and if it were pressed the patient was very liable to die of opium poisoning. He had seen more than one or two die in that way, especially after the practice of giving the drug by hypodermic injection came into vogue. On the other hand, in those days many cases of acute mania died from exhaustion and want of sleep because there was no drug which could be given to produce it. There was also the question of patients taking such drugs for a long time—patients who were not in danger of death from want of sleep, but who were in a somewhat prolonged state of mania or melancholia. In many such cases, if drugs were given to induce sleep night after night the disease seemed to be prolonged, and it was frequently better to let the patient get whatever sleep he or she could without the aid of a narcotic of any kind.

Dr. SAVAGE said he felt so much in accord with what Dr. Blandford had said that he scarcely knew what to add to those remarks. First, he agreed with him most distinctly when he said that the symptom of all others that probably he, or Dr. Blandford, was consulted most frequently about before the persons became insane was sleeplessness. A person came into one's consulting room whose chief complaint was inability to procure sleep; and if sleep could be induced most of the cases got better. Of course, the more simply the sleep could be produced the better. He agreed with Dr. Rayner in saying that narcosis was not that which was aimed at; what was required was rest under the most suitable conditions. The cause of the sleeplessness must first of all be cleared up. It was all very well to say that sleep was associated with some condition of anæmia of the brain. What was equally certain was that there were certain forms of anæmia of the brain which were associated with sleeplessness, and which were better treated by a nightcap of grog and a little food. In the case of many sleepless people, *e.g.* those whose systems were loaded with toxic agents already, if the skin and the bowels were brought into healthy action, sleep would likely be obtained. He had remarked before at meetings of the Association that it was often forgotten that, next to the brain, the largest amount of nervous tissue was centred in the skin, and that a very great deal of good was accomplished by appealing to the skin. Sleeplessness had to be met, and he put it down as a working axiom that when painful states were present, opiates and narcotics of that kind assisted sleep. There were many cases in which there was true melancholia, with mental pain and marked

sleeplessness; and where the mental pain was extreme he had seen the very best results follow the administration of large doses of narcotics. That they acted beneficially, and not to the injury of the individual, was shown by the fact that the very drugs, such as opium, which caused an upset in the digestion and produced constipation, had, by means of sleep, brought about an improved state of the digestive system, and a general improvement in the patient's condition. One could, of course, speak at great length on the possible dangers in the use of such drugs. He thought of an address given by Sir Samuel Wilks on a similar subject, in which he said that doctors seemed to have the idea that sleep was to be produced by insensibility; in fact, they were gradually inventing what might be called chemical prize-fighters. One drug was calculated to knock a man down and render him insensible for two hours; another would make him insensible for four or five hours. But the rendering a patient insensible was not the production of sleep, and that the induction of insensibility was not treating the patient properly was, he thought, the object Dr. Rayner had in bringing the subject forward. It was the old subject over again; the physician was not treating sleeplessness, but was endeavouring to treat sleepless patients—endeavouring to cure the condition which led to the sleeplessness. There was a new phase of the use of narcotics, which perhaps would be more appropriately dealt with in the discussion on Dr. Robert Jones' paper. Though he would not like to be looked upon as a supporter of the idea, one had seen practically the following. In the cases of persons who were absolutely sleepless and extremely destructive, he had seen them poisoned almost to death, certainly into temporary dementia, and when they had recovered from the drug—which might be bromide—they had been well; just as it had been found that drug-takers who had become habitual morphinomaniacs might be given an ounce of bromide per day for several days, until they became absolutely stupid, and they came slowly out of the stupor free from the desire for their narcotic, and practically cured. Thus, though it was a dangerous thing, and a practice which one would not support, it had been justified by results, and he was sure cases had been cured by giving them large doses of narcotics. But one would say the same of narcotics as of restraint. His character was taken away in years gone by because he declined to altogether bow to the worship of non-restraint. He had said in reference to that that the kindest thing was to restrain the patient to a limited extent. So, in like manner, he was persuaded there were certain patients who were greatly benefited by the judicious use of narcotics. A great deal was heard at one time about chemical restraint, and it was said that alienists passed from mechanical into chemical restraint, and that the use of narcotics was simply carrying out a form of laziness—that one made a desert of the mind and called it peace. He would conclude by saying he agreed with Dr. Rayner that too much stress must not be laid upon merely procuring sleep by narcotics, and that there were many other ways of getting it. But he (Dr. Savage) also agreed with Dr. Blandford that there were many cases in which the production of sleep by one hypnotic or narcotic was not only good for the patient, but that it could ward off attacks of insanity.

Dr. Fletcher Beach said he was of opinion, from what he had seen, more especially in nervous disease—for he had more experience with nervous than with insane cases—that one did good now and then by giving drugs, especially in cases of neurasthenia and "brain-fag." Many patients were brought to hospital with those troubles, and unless sleep could be produced by means of sulphonal or other like drug, the patient could not be properly treated. Dr. Rayner stated he had no statistics with regard to sulphonal in connection with nutrition. He (Dr. Beach) was not aware that there were any such statistics, but he had watched a good number of patients to whom he had given sulphonal; in fact, he rarely gave anything but sulphonal to his nerve cases. So far, he had been unable to find any evidences of emaciation, or of any kind of indigestion likely to lead to emaciation. Therefore he was of opinion that sulphonal did not produce emaciation, but rather, by inducing rest, maintained, to a great extent, the natural weight of the body. With regard to mental cases, he agreed there were patients to whom narcotics must be given, because if they were not given the patients would die. He was, however, of opinion that in many cases if all the bodily functions were attended to recovery would probably ensue more readily without any narcotic at all, or at all events with less than the usual doses. Hyoscine had not been mentioned that day. He

remembered seeing some time ago a case of hysterical mania to which he administered injections of hyoscine. He began with $\frac{1}{200}$ gr. and worked up to $\frac{1}{70}$ gr. In three weeks' time the patient was cured.

Dr. HYSLOP said that it was very important to know what normal sleep was; he meant from the clinical and not from the physiological or pathological points of view. Of late years certain observers, especially German and Russian investigators, had very carefully estimated the actual depths of sleep, constructing various charts, pointing out the initial depression into which the person rapidly sank, followed by almost complete oblivion. Then there was a period of slight recoil, which approached almost up to the activity of the senses. There might also be a secondary hypnogogic condition, followed by another depression. Then, gradually that depression healed up, and there ensued, for three or four hours, a period in which the senses became to some extent active. There were hypnogogic and dream states, and the investigators on the subject had been inquiring how the different stages might vary in different individuals. They had also considered the various peripheral and reflex conditions which might affect the mind after the initial depression, *i.e.* just about at that period when, after a heavy dinner, one awoke with a sense of nausea or diarrhœa. The person then gradually passed to the hypnogogic state, in which very slight peripheral stimulation was enough to set up a dream state, and that state was as bad as pure insomnia. Thus it was most important in all those conditions to differentiate the type of sleep. He had in his possession the proofs of a paper dealing with a great variety of types of sleep. Much had been said about the effects of fatigue upon the nerve-cell. He had always felt a little doubtful about those experiments by Hodge. The effect of an electric current upon the nerve-cell of an insect was comparable to the effect of a lightning stroke upon a man. Moreover, the amount of preparation which the cells underwent before being put under the microscope was sufficient to warrant a certain amount of conjecture that the results were not altogether satisfactory.

He was very glad indeed that Dr. Savage had spoken out on the question of restraint. If one thing was certain in psychology, it was that there were what Professor James called "the grosser emotions," which were simply due to a reflex excitation; and that the grosser emotions themselves were the presentations and perceptions of that reflex activity. Some people were physical cowards, so that when they saw the enemy they had a physical condition which led them to run away, and an emotion was suffered in consequence of that. Mentally they were willing to stay, but unfortunately the physical constitution was such that it resented it. Many of the grosser emotions resulted from the perception of a reflex condition. In the insane one had seen many cases of agitated melancholia and other types in which the mental agitation had been the result of excessive agitation in the physical condition. If the physical expression of an emotion were cut off the emotion itself was likewise cut off, and it was therefore physiologically sound to cut off a reflex act, because then it would be found that the excessive emotion tended to die down. It seemed that alienists might have struck too much in the wrong direction.

He said that in the treatment of insomnia the food question was always important. One patient could not be done anything with until orders were given that he should be fed regularly by the night attendant. It was very important, as had been said, to appeal to the skin, and at Bethlem the treatment by prolonged baths had been adopted. There was a system of recording sleep at Bethlem by means of charts, so that one could see at a glance how much sleep had been registered during the night. Their experience was that it was possible to diagnose the condition almost from the sleep chart alone, and that if a patient did not sleep more than one or two hours at a time, and that continued for more than a month, he would not get well. Such patients were usually found to be of a type of general paralysis with excitement, and sometimes with agitated melancholia. Thus the case was a very critical one as to the future at about the third week. At such a time every effort should be made, or else there was every likelihood that the patient would pass into a condition of incurability.

Dr. CLAYE SHAW said the discussion appeared to have taken an experiential form, but he had hoped Dr. Rayner's introduction would have given more scientific facts, if any existed, with regard to sleep and the action of so-called narcotics and hypnotics. But from what had been heard it appeared we knew nothing more about sleep than that it was a condition of unconsciousness; and that little but

what was experiential was known about the action of narcoties. Of course one would like to do away with narcotics altogether, and his experience had been that it was possible to do so to a large extent. Still, he agreed with Dr. Blandford that there were cases of commencing insanity—which possibly was not the condition Dr. Rayner intended alluding to, the paper having been more concerned with the treatment of insane states themselves—in which the general opinion was that they should be treated by means of some kind of sedative. It must be remembered that sleep was either a nervous or a vascular condition; that at times it might be the one, and at times the other. Whether it was more vascular than nervous usually was difficult to determine. It was known that there were vascular conditions which prevented sleep absolutely. So also there were nervous conditions, such as worry, which surely prevented sleep. The question which should be pertinently asked, therefore, was, "What is the cause of this person being awake? Is there something wrong with his vascular system, or with his nervous system?" Having determined what was at fault, the remedy should be selected accordingly. By a study of the action of anæsthetics and narcotics it would be seen that they seemed to act most on the tissue last elaborated and highest developed, namely, in the upper cerebral centres. No one who had experience of asylums would doubt that numbers of patients came into those institutions who had already been treated in hospitals by means of anæsthetics and narcotics. When the action of the drugs on the higher cells was not known it was safer to avoid giving them at all. He suggested to the members of the Association that it was possible or probable that in most cases of insanity the upper brain—that most sensitive to the action of narcotics—was out of action, and therefore was at rest. In sleep we were familiar with a state in which we could hear and see things, but were unable to prevent them or restrain them, because our power of inhibition had gone—there was a separation of ideation and restraint. There was also a difference between the perception and the ideation centres. In insanity a person might rave and have hallucinations or visions in a reflex way, but the upper part of his brain had lost its power—it was out of action. If that were the case, what could be the use of poisoning the man, poisoning that part of him which was known to be very susceptible? People in states of insanity would go without sleep for days, but he would not say such patients went without rest; he believed the upper parts of their brains were not functioning. That was shown by the fact that when they recovered their upper brain came into action, unless it had been severely acted upon by some narcotic or anæsthetic. Therefore, those physiological conditions were well worthy of attention and consideration, and in practice, seeing how susceptible the brain was to narcotics, one should be careful how one used them.

Dr. PERCY SMITH said that one of the great practical difficulties he had met with in seeing patients was that the relatives wanted assistance at once; and if the physician was not prepared to take steps to place the patient under proper care forthwith, he must deal with the condition as he found it. He was sure that Dr. Rayner would in such cases consider that some sedative would be absolutely necessary. He took it that Dr. Rayner did not mean there were no cases in which a hypnotic or narcotic should be given.

With regard to the points which had already been mentioned, Dr. Beach had spoken of sulphonal as never, in his experience, giving bad symptoms. Some years ago, when sulphonal was first introduced, it was given somewhat largely at Bethlem, and undoubtedly there were cases in which it produced anæmia and indigestion; in some cases hæmatoporphyrinuria resulted, and one patient died of that condition. Therefore there was no question that if sulphonal was still used, it should be administered with very considerable care; and in his opinion it should not be given to melancholic patients.

There were also certain questions with regard to patients in asylums. He did not think that patients always had the opportunity to sleep when they might. Certain maniacal patients did not get proper sleep at night, but they would, if allowed, have four or five hours during the day, and then they would do fairly well. One constantly saw patients who, after dinner, were inclined to sleep, but if they were at once hurried out into the exercising ground and walked about, they lost the opportunity of sleep. One had often had people like them put to bed for three or four hours, and they had slept in the day. It was true that at night they were restless and had nocturnal exacerbations, disturbing other people, but they

themselves had obtained a certain amount of sleep. There was a difficulty with regard to the dormitories. Patients in county asylums often kept others awake, and they must be treated in some way by a drug for the sake of peace and quietness for the others. Regarding prolonged baths, as mentioned by Dr. Hyslop, they had been used in Bethlem for many years. He had seen many patients of a maniacal type placed in a bath and kept there for some hours, and at the end of that time pass into quiet comfortable sleep, and sleep several hours without any drug.

Dr. Savage had dealt with the fact that patients were often seen in consultation who had been heavily drugged with morphia, which had been given them as the only hypnotic. The general practitioner had not perhaps realised that other drugs also produced sleep without the very bad or unpleasant after-effects of morphia; consequently dangerous doses of morphia were given, with ill effect. With regard to the regulation of the dosage of drugs, it was of course most important not to continue with a drug without giving the patient an opportunity of seeing whether he could sleep if it were not administered. It was the constant practice at Bethlem, and perhaps elsewhere also, to give drugs on alternate nights to patients who did not sleep well, and then, as the case improved, to give the medicine every third night.

Dr. ERNEST WHITE said probably all those present had had a considerable amount of experience in the matter under discussion. Twenty-five years ago there were any number of cases of chronic mania who were noisy all night, and created a perfect pandemonium in the institutions. That was the state of affairs when he first went to Stone. But, fortunately, for some years past, the quietude of the night was not disturbed by a sound, as several of those present could testify. How had the change been brought about? Largely by moral influence in the treatment of the insane. The people were brought into line, as in school. They had regular exercises daily, and periodic meals, and they amused themselves at stated hours. By this regular sequence of events the cases which at first had to be kept quiet by the administration of drugs now slept naturally without any drugs whatever. In the induction of sleep the moral side of the question ought to be taken into consideration, but that had not been touched upon in the present discussion. Feeding had been dealt with, and that was very important. With regard to narcotics, he strongly believed there were many forms of melancholia in which morphia was the sheet-anchor, and he had seen cases recover which he was certain would not have recovered, or had a chance of doing so, had it not been for the long-continued use of small doses of morphia with ether. In cases of acute mania, for many years past the general exhibition of bromide and chloral had been given up at his asylum; and instead, the patients were got out of bed and taken for an hour or two's exercise or a sun bath. Such people were found to gradually fall into line and sleep naturally, or with only very slight assistance from drugs. He was sure that opium was worse than useless in the treatment of most forms of mania.

Dr. BOLTON said he would like to comment very shortly on the remarks of Dr. Fletcher Beach and Dr. Percy Smith on the use of sulphonal. He (Dr. Bolton) had had considerable clinical and pathological experience of it. Pathologically, for one case of hæmatoporphyrinuria he had seen ten of hæmatoporphyrinæmia. He believed the prolonged use of sulphonal was most pernicious from the point of view of auto-intoxication. Moreover, the prolonged use of sulphonal frequently caused marked intestinal catarrh. He thought dysenteric infection frequently occurred in patients who had had prolonged treatment by sulphonal. From the clinical point of view he thought the judicious use of sulphonal was most valuable in cases of very early insanity. He had seen several cases of insanity similar to those which had been referred to by Dr. Savage and Dr. Blandford, and those patients had derived considerable benefit from small doses of sulphonal, not repeated more than three or four times. On the other hand, in cases of ordinary acute insanity, with extreme restlessness and sleeplessness, he was convinced, from what he was about to say, that the use of sulphonal, even in moderate doses, was injurious. He thought so because in all cases of insanity which developed dementia —for instance, general paralysis or senile insanity passing on to dementia—the most rapid way to hurry on that dementia was to give doses of sulphonal extending over some weeks.

Dr. WEATHERLY thought that each case should be judged on its own merits.

Though many cases required narcotics, many others did better without them. Some few years ago, when it was his lot to live for some weeks in a sanatorium, he was surprised to find that consumptive patients who had had a terrible record of sleepless nights were passing splendid nights in that sanatorium. He went to bed long after the consumptives retired, and was surprised to find perfect silence instead of a great deal of coughing. It occurred to him that this satisfactory sleep was largely due to the fact that the patients were constantly breathing the very best and freshest air, and were subjected to over-feeding. Taking that lesson to himself, he had found, during the last two or three years, that many of his early cases of melancholia, and even cases of acute mania, had been enormously benefited by keeping them out in the open air almost the whole day long, even in windy and stormy days, protecting them by some shelter, and having the bedrooms most amply ventilated at night. In his observation dormitory, in which his most restless patients slept, he had found, that since he had more thoroughly ventilated this room by specially arranged window flaps, far fewer sleeping draughts had been given, and the night record generally was a much better one.

Dr. W. JULIUS MICKLE said he had not intended to speak, but would briefly respond to the invitation of the Chairman. To him it seemed that the chief point in the question of producing sleep by means of narcotics was that the drugs should be given with brains. For a necessary preliminary to treatment was that the medical man should use his brains to make an accurate estimate of the particular patient. Each patient was a study in himself, and much trouble was entailed in the capacity to form that estimate, but it was a necessary preliminary to the successful treatment of insomnia among patients. When the medical man had arrived at what he considered a correct estimate he would find in many cases that the question of giving narcotics would not arise. If he came to the conclusion that narcotics were necessary he should proceed to give such doses as were needed—in some cases very small ones, in others medium, and in others heroic doses occasionally. A medical man would not be afraid of giving a heroic dose if it was based upon a proper judgment of the patient's condition, physical and mental.

The PRESIDENT said that sleeplessness had to be dealt with in three sets of conditions: (1) that prior to the actual onset of insanity, (2) acute insanity, and (3) chronic insanity. With regard to the condition before the onset of insanity—the neurotic, anæmic patient—he felt that in many of those cases a great deal of harm was done, either by the patient not getting a sedative at all, or by giving large doses where small ones would have done. In regard to the cases of acute insanity, as met with in asylums, in which there was a large amount of motor excitement, and exhaustion quickly supervening, it was absolutely necessary that sleep should be produced by a sedative. He feared, however, that in many cases the use of the sedative was continued too long. With regard to cases of chronic insanity, sedatives were often given too freely so that the other patients in the asylum might not be disturbed. If the suggestions of Dr. White were more adopted, and the diet, and exercise, and fresh air carefully regulated, the chronic subject could be treated satisfactorily with much less drugging than was usually resorted to.

Dr. RAYNER, in reply, said he might first refer to Dr. Mickle's remark as to the necessity for the medical attendant to make a careful study of each patient, when he would often conclude that no narcotic would be required. If he briefly summed up the views generally expressed that afternoon he thought it would be conceded they were much in agreement. Dr. Smith had remarked that it was the surrounding conditions which drove one sometimes to employ a narcotic, because there were no other means at hand to keep the patient quiet and satisfy his friends. But after all that was quite apart from the question of whether the narcotic was curing the patient. Regarding Dr. Savage's remark about relieving bodily pain, that was one of the conditions in which he, Dr. Rayner, thought a narcotic was always useful. And he meant to include direct irritation of the brain, not only from the body and the periphery, but from outside, *i. e.* if the patient had a trouble which he could not be got away from in any way. Those cases might be relieved by sedatives. Then, as Dr. Hyslop had pointed out, very often an imaginary trouble seemed so real that one must try and effect a stirring-up for a time to get rid of it. In all those cases one must at the same time try to get rid of the causes of the sleeplessness. He had argued that the narcotic did not get rid of the causes, and that for this purpose

other means of treatment must be resorted to. He was very pleased to hear the instance mentioned by Dr. Weatherly, where many patients who had suffered from conditions involving much sleeplessness, were enabled to sleep by the provision of very simple measures. He was also greatly interested in Dr. White's narration of how he cured chronic noisiness by general moral measures. One might go on, bit by bit, and get any number of illustrations as to the means by which the disorder of sleeplessness might be removed, not by simply treating the symptom of sleeplessness, but by treating the bodily condition, and relieving that on which the fault depended. With regard to the treatment of acute mania by narcotics, of which Dr. Blandford spoke, his (Dr. Rayner's) experience would certainly be that acute mania could be treated, as Dr. White had said, better without narcotics. He knew that opium had been regarded as very curative in cases of melancholia. He had tried it himself in his earlier days, again and again, but was not so impressed with the result as Dr. White was. He had found the Turkish bath and similar appeals to the skin were more successful than the giving of opium. The speakers seemed to be fairly in agreement with him as to the conditions in which narcotics should be given. In his opinion these conditions were very limited, and he would urge that every case and its circumstances should be carefully considered.

Notes on some Cases of Morphinomania. By ROBERT JONES, M.D.Lond., B.S., F.R.C.S.Eng.[1]

IT is a well-known fact that the practice of many physicians and some alienists includes the treatment of persons who have brought themselves to the verge of mental or moral ruin by an indulgence in the use of opium or morphia, the result too commonly of medical advice. This is probably the most common origin of the morphia habit, which was called Morphinomania by Charcot, and Morphinism by Levinstein. Other methods by which the habit becomes established are either through friends or persons in the same house imitating the habit of another, and from curiosity or experiment adopting it and succumbing to its sway. Others have tried it on the recommendation or suggestion of friends, and finding they could not do without it have become victims.

How extensive this habit may be is difficult to determine, as it is probable that only the repentant sinner visits the consulting room and seeks for help to overcome the thraldom. It is suspected, and not without reason, that a large class of men and women of all social grades, ages, and civil states has yielded to its sway.

Extension.—Drury,[2] in an interesting paper before the Academy of Medicine in Ireland, gives a full account of the

extended use of morphia and opium in individuals and in races, and he traces this from China westwards into Europe and America. I must refer the reader interested in these questions to his paper.

Sex and occupation.—It is stated that doctors (♂) and women are more often victims than others, and although my experience is limited to the class received into a county asylum, one was a medical man, one a journalist, one a pianoforte maker, and one a coachman, and four (50 per cent.) were women; two were journalists, one single and one married, but living apart from her husband, and two were nurses married. My patients, eight in number, were thus divided equally as to sex. Four (three males and one female) contracted the habit from and through the advice of their unsuspecting medical attendants.

Form taken.—Two out of four males practised the hypodermic use of morphia, a third took morphia by the mouth and subcutaneously, the fourth drank opium, and had continued the practice for four years before admission, taking then four ounces of laudanum as a dose (about five grains of morphia). This would have increased had his means allowed it, and it was the craving for more that caused him to be brought under treatment; for he could not sleep, he became nervous, irritable, a depression with suicidal feelings overpowered him, and he had no energy to work even after the utmost mental effort. Of the four females, one took morphia by the mouth for many years. She was a nurse at an asylum where she served for over twenty years, during most of the time taking morphia, and finally retired upon a pension. The habit was so secret that she was not suspected of it. After this she was admitted under my care. She improved, and was discharged recovered, but was subsequently readmitted, and died from the exhaustion of melancholia and senile phthisis. Another took morphia in the form of chlorodyne, a third took it subcutaneously and by the mouth; and in the fourth, owing to marked and unusual reserve, the method of administration could not be ascertained.

Quantity.—One male patient took 20 grs. of acetate of morphia daily, which was afterwards increased to 50 grs. subcutaneously; in another the quantity was not ascertained, but both arms and his abdomen were much scarred on admission from injection with the needle. A third stated he injected 4 grs. at a time, and this was repeated several times a day.

When received as a patient into Bethlem Hospital prior to his admission into Claybury, Dr. Stoddart informs me that while he was in the waiting room of the hospital before being received he swallowed a packet of morphia, and not knowing how much it contained, the stomach was washed out at once. Some clue as to the quantity was revealed by the fact that 30 grs. more were found upon him, and seventeen more papers of powder labelled 2 drms. The fourth male, as stated, habitually drank 4 oz. of laudanum for a dose. Of the four women, one took 4 to 6 grs. as a dose, two drank morphia, and another chlorodyne, but the quantity was not ascertained. Further particulars as to the varying quantities of opium and morphia taken by different individuals in historical and other records are given in Dr. Drury's paper already referred to.

Form of insanity.—The depressed form of insanity was the common accompaniment in these cases of morphia *habitués;* three males were melancholy, and one maniacal; two females were melancholy, one was suffering from delusional insanity, and one from mania.

Symptom complex.—The symptoms of morphia taking are easier detected than diagnosed, that is to say, it is a matter of suspicion and vigilance on the part of friends rather than a submission and seeking for assistance by the victim. There is a moral obliquity as to his conduct and veracity which is most barefaced, and when the craving is once established this acts as an overwhelming and dominating want, which at all and every cost must be gratified. Although morphia is eliminated by the kidneys, it is not readily, easily, nor certainly discovered in the urine, which adds to the difficulty of diagnosis. The diagnosis of the habit by means of the sphygmograph, *i.e.* plateau, is fully discussed in Jennings' paper.

During the administration of morphia and opium a pleasure is imparted to the user, which is like a stimulating vital force. This pleasure, which is genuine and is exciting, is followed by the most painful and characteristic symptoms, a restlessness and a longing which only another dose can appease. Following each dose there recurs a vital and intellectual exuberance which, compared to the gross and moral enjoyment of alcohol, is a divine luxury. This general excitement of morphia is difficult to clothe in words; De Quincey and others have attempted it, but it can best be imagined from the world of

dreams. It annihilates the *tædium vitæ*, brightens up the dormant faculties, and awakes any energy the frame is capable of.

This effect of morphia becomes a fascination, and the strongest zeal, fervour, or effort of the will fails to resist it; a passionate anticipation and yearning for this euphoria has become an all-powerful craving, and the victim realises that gradually and unknowingly he has become inextricably involved.

The only remedy is to increase the dose and shorten the interval, after which a renewed craving of longer duration succeeds a shorter one of excitation and stimulation, until the general condition becomes one of fatuous listlessness, ending in a general wasting emaciation and death. No social grade and no age is a bar to the insidiousness of this habit. As to the craving, the wretchedness, misery, poverty, and despair entailed in its gratification often lead to suicidal impulses, and this was the case in five (three males, 2 females) out of my eight cases. In his own words, one patient (Case 1), referring to this craving, stated he was ready to have his hand cut off, or would thrust it into a furnace if he could only have one injection of morphia to relieve him, as he was at the time suffering the "torments of hell." On admission he had two hypodermic needles extracted from under the skin of the right arm and the left leg. He was drawn, haggard, sallow, and thin; his teeth were bad—a very common feature in the morphia *habitué*. He was suffering severe distress, and was exceedingly restless and sleepless, and he could only speak with much effort. Upon his recovery, he wrote saying that after starting the use of the drug it would be useless for him to dilate upon the futility of attempting to break with it, as "the man to perform such a deed had yet to be born."

Another patient (Case 8), describing the effect upon herself, stated she revelled in sleep full of the most delightful dreams, compared to which "fairy-land" was the merest prose. After 6 grs. of morphia, which she would take in a little champagne, she saw things "exactly as I wanted to, and could do any amount of work." Finding morphia becoming a habit with her, she determined to make a stand against it, and for some time did so successfully.

The general character in morphia-takers changes completely, anxiety and distrust and depression are depicted in their pallid

and pasty faces. They are restless (the marked restlessness amounting to an imperious tendency to movement was well marked in Cases 1 and 2, who could hardly be kept in bed during the period of craving), shifty, irritable, and unsociable. There is impotence of will, fitfulness, deception, and lying, inability to keep engagements, loss of concentration and application to work, neglect, ruin of home and family, and as in all inebriates a general enfeebled mental capacity, for which the only suitable place is the lunatic asylum.

Prognosis.—This must depend upon the age, form of opium or extract, and quantity taken, as also of the prognosis in mental diseases generally—in so far as heredity, previous attacks, form, and duration of insanity are concerned. In asylums the prospect of recovery depends much upon those in charge of the patient's treatment—for if all forms of opium are withheld, and liberal nourishment is pushed, the prognosis is favourable. I have had no experience in the "home" treatment or the voluntary submission in their own homes of individuals habituated to the drug, but I can well surmise that the treatment of persons who in their own homes or other people's did not themselves desire or intend to assist in a cure would be absolutely futile, and even impossible. With power in the hands of a physician, and where he can know that his instructions are carried out, as in asylums, a cure is possible and probable. The length of residence in such cases will probably on an average be under four months. Exhaustion has to be guarded against, especially cardiac syncope and alvine flux, or gastro-enteric catarrh, as many morphinomaniacs are very susceptible to diarrhœa and vomiting, more especially during the seven days or so of critical abstinence. Sleeplessness and restlessness are unfavourable symptoms, so are syncopal attacks and collapse (especially when the drug is suddenly withdrawn).

In my eight cases, of the four males three recovered; one relapsed, but subsequently again recovered; and one, a medical man, died from gummata of the brain; four females recovered, but three relapsed, one of whom subsequently recovered, one died of melancholia with phthisis, and one is still in residence. The average residence of the recovered cases was about four months.

Treatment.—1. This resolves itself into (*a*) preventive and (*b*)

actual. As to the former, which relates to such legislative enactments as the Medicine Stamp Act and the Sale of Poisons Act, the intention is to make it more difficult for the rank and file to obtain access to drugs and special stimulants, thus also deterring the morphia *habitués* from gratifying too easily their morbid craving. Too much stress cannot be laid here upon the great importance of our duty as medical men in using sedative medicines for the relief of pain. A full apprehension of our serious responsibility cannot be too strongly impressed and urged upon us, as carelessness on our part has too often led to the most grievous results; for most of these sad cases can truly trace their downfall to the fascination exercised upon them by the use, under medical advice, of this subtle and dangerous remedy. I would almost go so far as to say that no medical man should ever use the hypodermic morphia syringe for any female patient suffering from neuralgia, sciatica, or hysteria, and no medical man should lightly put the means of indulgence before or within the reach of any patient.

2. Dr. Sharkey (*Nineteenth Century*, September, 1887) called attention to the great danger in respect to the morphia habit which occurred from the prescriptions of medical men, and he drew a terrible picture of the extension of hypodermic injections of morphia among certain classes of the community, who employed a "regular arsenal of injecting instruments,"—the syringe and bottles of women in the well-to-do classes addicted to the habit being jewelled to conceal their true significance.

Legal measures of control over the sale of morphia with the view of controlling druggists have occupied more of the attention of French physicians than of the medical profession on this side of the Channel, and druggists, when forbidden to sell morphia without entering the same in a book for the sale of poisons, or in prescriptions, too often set up for sale certain "specialities" of their own containing this drug.

The question has often arisen whether the morphia habit should be looked upon as a pleasure-giving vice, or as a disease over which the victim was powerless to act, and whether such an indulgence should be treated by punitive methods (*Lancet*, 1900, vol. ii, p. 1219), or sympathised with as an affliction caused by some tyranny beyond the control or the power

of the will. I am inclined to think that a considerable amount of emotion and pity is wasted over the victims of self-indulgence of all sorts in these days, and if the old doctrine of Calvin, viz. "the expulsive power of a new affection," were more freely introduced as a motive to action, the manhood of our race would doubtless considerably improve; as many of these are, I fear, of the class of Kipling's pleasure-loving and selfish "muddied oafs." No amount of therapeutics or legislation will make a man good, a drunkard sober, or a morphinomaniac abstemious, unless he is allowed some credit for such will-power as he has, or is assisted or compelled to use this for his own moral reclamation; and to speak of the morphia habit as a disease, and nothing more, is misguided benevolence and mawkish sentiment. Many of these cases are fit and suitable for long detention in inebriate homes. No doubt there are some in whom a long indulgence has developed and confirmed a habit which cannot be withstood, but this is by no means always the case; and where the craving has become a master-passion which is hated, and over which the power of the will is unable to offer resistance, and the mind has become diseased, these are cases which justify asylum care and control, and it is to these that I direct attention. Much is still wanting in the way of preventive measures to restrain the drug inebriate—whether his *penchant* be for morphia, chloroform, cocaine, or ether—from getting at his poison; and it would be hard only to punish the druggist for the lying, deceitful, and often forged statements of these self-indulgent persons who themselves escape unpunished.

The second point involves not only the consideration of the patient's surroundings, *i. e.* whether treatment should be voluntary, either in his own home, or in a "general home" where similar cases reside, or whether compulsory treatment by detention in special institutions be the most favourable to effect relief; but also the special treatment necessary for the acute suffering involved through a compulsory abstention from morphia. Judging from experience in one of my patients (Case 1) who had voluntarily retired into an inebriate institution on three occasions, relapsing after each discharge, I am not in favour of treating several of such cases together in a home not under special control, *i. e.* not under the direct care of a medical attendant, for I believe that to

associate such cases together is bad, as they talk of their ailments, plot and practise deception, and utter vigorous falsehoods in support of their cunning. I am of opinion that recovery is impossible in general homes into which some morphia cases enter through the importunity of friends, unless they themselves and not their friends alone are willing to assist in their own cure. Even when the morphia-taker is most willing and anxious to be cured, but where he still directs treatment, the cure fails. Coleridge hired men to prevent his getting opium, and dismissed them for doing their duty. It is for such reasons as these that I believe no treatment in one's own home can afford permanent relief. I consider that the best and most successful treatment of these advanced and long-continued cases is that which can be carried out only by compulsory detention in special institutions or asylums, for such can prevent all introduction of morphia, and they are bright, cheerful, comfortable, and have special local or Government inspection. Special hospitals for this class exist in Germany (Berlin), and also in America (Brooklyn). In such as these, with attentive, kind, sympathetic, but firm and tactful dealing, the terrible battle of demorphinisation—as Charcot termed it—can be fought out; and a serious ordeal it proves, as only those who have witnessed can know. In the treatment of all the eight cases recorded in this paper a complete and abrupt withdrawal of morphia was effected—after the teaching of Obersteiner and Levinstein. This method, to which the terms sudden and brusque have been applied, has a train of symptoms —"Abstinenz-Symptome"—in its course which may give rise to much anxiety to the physician, as well as acute suffering and even torture to the victim. Ball has recorded death as the result of this brusque and complete withdrawal, and it is recommended not to employ the method in cases of heart failure, heart disease, general debility, or in pregnant women. It is rare for this stage to be endured with silent fortitude, a restless and most abject despair is more common. In two male patients (Cases 1 and 2) the abrupt withdrawal caused acute sleeplessness with restless delirium and suicidal threatenings. Case 1 was ready to endure any torture in return for a morphia injection. As an alternative sedative 20 grs. of chloral and 30 grs. of bromide of potassium were administered. Case 2 had serious vomiting with diarrhœa, which threatened to prove

fatal. These symptoms were much relieved by the administration of Pot. Bicarb. in 20-gr. doses, accompanied with Tinct. Hyoscyam. ℥xv, and later, Tinct. Nucis Vom. ℥v and Spt. Ammon. Aromat. ℥xv. It is stated that during the period of morphia injection the alkaloid, as it is secreted by the gastric and intestinal glands, acts as a sedative, paralysing the glands and diminishing their secretion, and that the glands oversecrete when the morphia is withdrawn, giving rise to vomiting and diarrhœa. It is also stated that the acid of the gastric glands is secreted more freely than the peptic material, and that alkaline remedies (chemical demorphinisation) tend rapidly to improve the gastro-intestinal irritation. Case 2 was certainly much relieved by the potash salt. Case 3, who drank the tincture of opium, and who had commenced to take it for the relief of neuralgia, was successfully treated with quinine grs. iij and the tincture of gelsemium ℥xv in combination. The cardiac failure and collapse (which Jennings states is indicated by a plateau in the sphygmographic tracing shown here from his work), and which occurred in Case 8, was much relieved by Ammon. Bromid. gr. xxx and Tinct. Strophanthi ℥x. A special toxic derivative of morphine called by Marmé oxydimorphine, and which a further injection of morphine relieves and neutralises, has been stated to be the cause of this collapse. In all my cases an abundance of an easily assimilable fluid dietary was frequently given—milk, concentrated beef tea, tropon, leguminose, plasmon, with small and occasional doses of whisky or brandy, and the bed treatment kept up for some time. The proportion of recoveries was 75 per cent. males, and 50 per cent. females, but the number of my cases is too small to build thereon any theory based upon treatment.

I have no experience of the treatment of cardiac syncope from the morphia habit by special alkaloids such as sparteine, digitalin, or nitro-glycerine tabloids, containing nitrite of amyl and capsicum, as advocated by Jennings, who further recommends the use of heroin—an opiate derivative—and meconarceine, or valerianate of ammonia (used by Coleridge), and the alkaline bicarbonates—the latter used in the process of what has already been called "chemical demorphinisation." Napelline has been recommended by Pichon and Rodet, but the experience of Mattison, of Brooklyn, does not support this. To procure sleep the latter recommends the bromides, codeia, and cannabis

indica. Clifford Allbutt recommends the use of caffeine in the treatment of cardiac collapse. Of the use of atropine and strychnine subcutaneously together with the inhalation of oxygen, as has been recommended for the treatment of an overdose of morphia (*Lancet*, 1898, vol. ii, pp. 545, 1219, 1392, 1900, vol. ii, p. 1727), I have personally no experience as remedies for the treatment of morphinomania.

I am fully aware of the recommendations of Erlenmeyer, who introduced the "rapid" method of treatment, diminishing the doses in from six to twelve days according to the amount habitually taken by the patient, and so effecting a reduction of the drug with less of the constitutional disturbances than occur with the "sudden" method. For this reason Clifford Allbutt, who was formerly an advocate of the sudden or brusque method, now gives his support to the more tapering. Erlenmeyer himself, with experience of both, states that the sudden method is preferred by patients who have tried the two, and he compares his own to biting bit by bit a dog's tail. Apart from lengthening the period of distress, any method which sanctions in practice by the medical attendant the use of the hypodermic syringe tends in my opinion to condone the offence, if not to encourage the evil. It is, however, an advantage in cases of serious bodily disease to avoid shock and this method, recognising the advantage of sleep, directs that the larger injection should be administered towards evening.

A third method—the gradual or slow suppression carried out by Braithwaite, and recommended with modifications by Jennings, who has contributed valuable work to this study—has been advocated. It extends the cure for many weeks; the injections in progressively diminished doses are administered often, with other sedatives if necessary in substitution. To demonstrate this method a bottleful of morphia injection is prepared, and after the first syringeful is used the bottle is filled with water. Injections are continued indefinitely, and water repeatedly replaces what has been taken out until only an infinitesimal dose of morphia remains, which can, it is stated, be discontinued without discomfort.

Jennings' method (*Lancet*, April, 1901) is to practise the gradual but voluntary suppression of morphia under constant surveillance, but without restraint, and with tact and encouragement towards the patient; he has claimed much success from

his treatment. He divides the period of reduction into three stages. (1) From the commencement of reduction until 2 grs. daily are administered subcutaneously. This quantity he considers to be the minimum vital requirement whatever dose of morphia has previously been taken. (2) From the time 2 grs. are administered subcutaneously (the greater part of this being towards night to favour sleep); further quantities of morphia are given by the mouth or rectum, progressive reduction of the subcutaneous injection still proceeding, and (3) the final progressive diminution ending in complete withdrawal. He claims for the change in administration—morphia by the mouth or rectum instead of subcutaneously—a curative effect in regard to the craving; but he directs a rational attention to sleep, to procure which galvanism to the head is used, interest and occupation are encouraged, and the hot-air bath as a tonic, a sedative, and an eliminating agent is specially recommended. Personally I am of opinion that there is only the choice between the sudden and brusque method of Levinstein and the gradual or tapering method—also called the rapid method —of Erlenmeyer; and considering the terrible bondage involved in the morphia habit, and the overwhelming sway it holds over those under its thraldom, I am of opinion that victory should be snatched with the suddenness of the zealous reformer, and it is for these reasons that I consider the resolute and absolute withdrawal as entirely the best. In this I am supported by an authority which will commend itself heartily to this Association. Dr. Savage, whose experience is extensive and sound from a great number of morphinomaniacs, states that after the patients are placed in a reliable home, such as the house of a medical man—where, he states, there can be no possible access to the drug by bribery or other opportunity—for a day or two they are allowed the drug in the customary dose, but it is suddenly and absolutely knocked off at once. If there is very serious delirious excitement Dr. Savage has used chloroform, whilst waiting for 40—60 grains of sulphonal to take effect, and he has also tried MacLeod's method of large doses (one drachm hourly up to one ounce for three days) of bromide of potassium, relying as a great sheet-anchor upon the plentiful and generous administration of concentrated foods. It must not be forgotten that the "Abstinenz-Symptome" mean risk,

and caution is required not only from the inherent danger of this stage, but also from the suicidal promptings common to many of these sufferers, who are creatures of impulse, and dislike ordering their lives with method and regularity. As to relapses, I am of opinion that these are less likely to occur when the withdrawal has been bold and sudden. The patient is less likely to feel the break of a habit by the abrupt method than by the discomfort of decreasing doses of the drug, as during the whole period of decrease there would be inducements to repeat the morphia. It is better, if this be possible, that he should not obtain for the accustomed one the substitution of another stimulus. He is better without the (1) narcotic (2) or stimulant, alternative sedatives, as the surrogates of morphia have in some cases induced the practice and use of a new narcotic. If, however, the restlessness together with insomnia continue, bromide and chloral may be given as the least harmful. It is not easy to ascertain whether relapses are due to the cravings only or to the irresistible impulse—an overwhelming physical yearning—which prompts the best intentioned to succumb to its fascination. I here present sphygmographic tracings (Figs. 1, 2, 3) of the pulse of a morphia *habitué* taken by Jennings, and tracings (Figs. 4, 5) taken

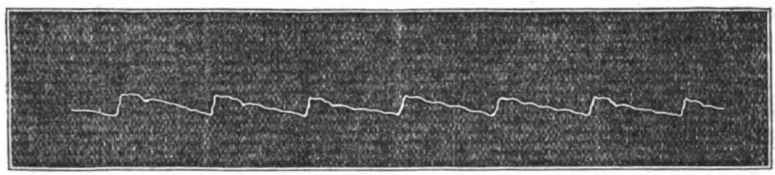


FIG. 1.—Pulse of morphia *habitué* in a state of abstinence. (After Jennings.)

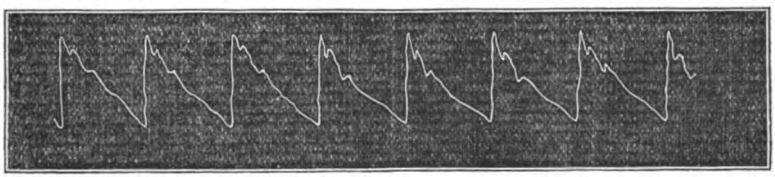


FIG. 2.—Pulse restored by morphia. (After Jennings.)

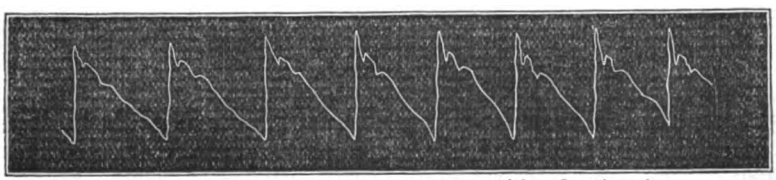


FIG. 3.—Pulse restored by sparteine. (After Jennings.)

by myself in a case where a craving for alcohol existed.

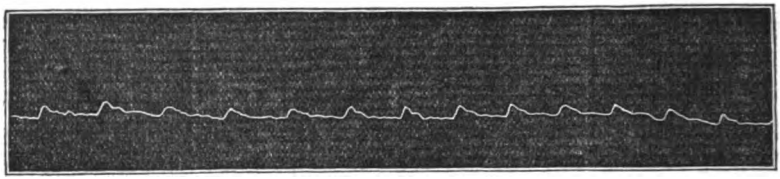


FIG. 4.—May P—. Alcoholic neuritis, May 19th, 1902, 3.15 p.m.

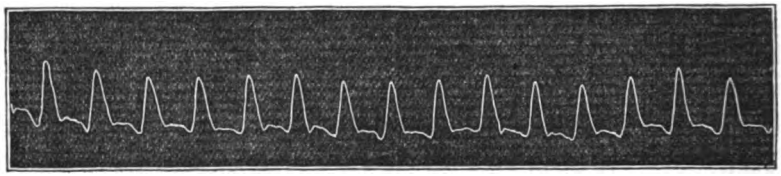


FIG. 5.—May P—. Alcoholic neuritis, May 19th, 1902, 3.30 p.m., fifteen minutes after half an ounce of brandy.

These tracings afford an interesting comparison. Our one great aim should be to re-educate the dormant will, supply abundant and generous nourishment, diminish discomfort, avoid fatigue, and counteract habits of solitude by a well-occupied and full home life, free from any stimulating temptation. This treatment should be extended for a period beyond that during which I have kept my patients under surveillance, and at least a year of tutelage is urged as an after-cure whenever practicable. The cases upon which my experience is based are the following:

CASE 1.—H. H—, æt. 39, height 5 ft. 10 in., weight 8 st. 2 lbs., married, a journalist, was admitted suffering from acute depression with suicidal tendency. He was restless and fidgety, and had no self-control. He was irritable, and showed frequent ebullitions of temper. He was sallow, wretched, and emaciated on admission, and muscularly much impaired. His pulse, 88, was easily compressible, eyes blue, pupils reacted to both light and accommodation, he was — 8 myopic, but the fundus was normal. His knee-jerks were absent, teeth very defective, urine 1015, acid, no albumen.

His previous history was that at twenty-five years of age he edited a paper. He drank to excess, and took morphia for three years before admission. The habit commenced after his mother's death, which is stated to have occurred through morphia, taken upon medical advice. The same doctor who communicated the habit to his mother communicated it also to him. He found great relief to attacks of asthma from

morphia. His conduct became erratic and uncontrollable, he suffered from insomnia, neglected his business, and left his wife at home. He had, on three occasions, desired to be rid of the habit, and voluntarily entered a "retreat," but each time he relapsed. Before admission he was in the habit of taking twenty grains of morphia daily, and on his admission two hypodermic needles were extracted from under the skin in right arm and the left leg. He craved intensely for morphia, and stated he was ready to have his hand cut off, or would thrust it into a furnace, if only he could receive one injection of morphia. His father was intemperate from alcohol, and afterwards became insane; his mother was phthisical.

Two weeks after admission he began to improve mentally and physically. In two months he was brighter, eager for outdoor occupation, and went out on the farm. Three months after admission he was temporarily laid up with a slight attack of asthma, but he was quite cheerful, and had no wish for morphia. After four months he was discharged recovered.

Two and a half years later he was readmitted in a dirty, neglected, miserable state; he was often excited and noisy, refusing all food, which had to be given to him forcibly; he was exceedingly restless, sleepless, and in severe distress. He had lived apart from his wife again before readmission, and he had threatened suicide. He was drawn, haggard, thin, and sallow. He could only answer questions after some time, and by using a strong effort. He craved for morphia, to relieve "the torments of hell" which he suffered. His body presented numerous small pigmented scars, from the use of the syringe; his forearms and thighs were also in the same state. He stated he had injected fifty grains of morphia daily under his skin. Soon after admission he suffered severely from diarrhœa and vomiting. Chloral and bromides were given for sleeplessness, and he was fed freely. No morphia was allowed.

Three weeks after admission he began to improve, and in six weeks he was useful about the ward. He had occasional but slight attacks of asthma, which yielded to ordinary treatment. In three months his improvement was maintained, he had gained much weight (9 st. 8 lbs.), and in four months he was discharged recovered.

After his recovery he wrote that he was deeply grateful for the extreme kindness and considerate attention he had received. Referring to his past use of the drug, he wrote that it was unnecessary for him to enlarge upon the futility of his efforts to break with it, as the man to perform such a deed was yet to be born.

Case 2.—E. C. B—, æt. 43, married, a coachman, was admitted suffering from hypochondriacal delusions in regard to his health. He was suicidal. He thought he was being mercurially poisoned, and had hallucinations of taste and smell, and was "fast dying." The bodily condition on admission was greatly impaired. He was a brown-haired, blue-eyed man, with unequal pupils, right larger than left, the sight of right eye impaired, and there was no reaction to light. His teeth were decayed. His pulse was 80 and regular. He looked ill and dyspeptic, his appetite was bad, he complained of "heartburn," and his bowels

were irregular. The skin of both arms and abdomen was much scarred from hypodermic injection of morphia, which was first given to him by his doctor for the relief of pain, and he had practised this for twelve months before admission; he had been very sleepless and ill most of this time. His family had a history of "fits" and paralysis, and he had a sister who was alcoholic. For some time after admission he suffered great discomfort and distress, owing to very severe attacks of gastro-enteritis, which threatened at one time to prove serious. He complained much of various aches and pains, but no morphia was allowed to him. Bicarbonate of potassium grs. xx, with tincture of hyoscyamus ℥xij, gave him much relief, and this was followed by tincture of nux vomica ℥v, and Spt. Ammon. Co. ℥xv.

He remained very melancholy for three months, with much depression when the gastric attacks occurred; after this time he began to mend gradually for four months, then he was sent out on a month's trial, and afterwards discharged recovered.

CASE 3.—A. E—, æt. 43, married, a pianoforte maker, height 5 ft. 6 in., weight 8 st. 7 lbs. Admitted suffering from depression with suicidal tendencies, had aural and visual hallucinations, which confused and irritated him; was self-neglectful in habits. He felt he had no energy nor desire to work, and with the utmost mental effort he could not work; he felt overpowered by depression, and two months before admission lost his occupation and the means to buy the drug, in consequence of which he lost heart, became very depressed, and wandered about half dead. He could not sleep, became very nervous, irritable, and suffered from a most intense sinking and craving sensation. His pulse was 120, and the heart-sounds were accentuated. Pupils were equal, and both reacted to light and accommodation. His tongue was furred, his bowels constipated, and his teeth were bad, many being missing. Urine 1020, acid, no albumen. Four years before admission he commenced taking chlorodyne for toothache; this he found too expensive, and he changed to laudanum, in small doses at first, until these increased to 4 oz.

He had a sister insane, and confined in an asylum for seven years. All opium was disallowed, but he was freely nourished; quinine grs. iij and tincture of gelseminum were given for the neuralgia, and in two to three weeks after admission mental improvement began; in one month he stated he felt a new man, and was very grateful for his cure. In two months his improvement continued, he was sent out on trial, and after three months' residence was discharged recovered.

CASE 4.—J. H. R—, æt. 33, single, a medical man, height 5 ft. 9½ in., weight 10 st. 7 lbs., was admitted in a most violent, impulsive, inattentive, and incoherent condition. It took five men to take him to his ward. He dashed to break windows, and had to be kept in a padded room. He was not an epileptic, and never had fits. His certificate stated he had visual illusions, he had glimpses of the "happy land." He was noisy, excited, and destructive, voices urged him to fight, etc. He had dark brown hair, hazel-brown eyes, his reflexes were increased, and he was of fair muscular development. His pulse was

96, tension normal, his tongue furred and unsteady, and his bowels constipated.

His previous history, from his mother, recorded that he had slept badly and had taken morphia to relieve headache. He had been until recently, and for some period, a patient in Bethlem Hospital, and his illness had been coming on for thirteen months. Dr. Stoddart kindly forwarded me the history that, whilst in the reception room, waiting for admission, he swallowed a packet of morphia, and not knowing how much was contained in it, the stomach was at once washed out. Thirty grains more were found upon him, and seventeen more packets of powder, each labelled "Two drachms." The patient said he used only to take four grains at a time, and probably his statement was absolutely and deliberately untrue. Whilst at Bethlem his morphia was suddenly and completely discontinued, but alternative sedatives, such as chloral, sulphonal, and hyoscine, were administered, the last, however, having to be discontinued, as it excited him.

Three months after admission he had a seizure, but there was no localised paralysis. He rapidly became demented, could not understand anything, and became exceedingly feeble. After six weeks he had another seizure and died. Post-mortem examination revealed syphilitic gummata in the brain.

Case 5.—Esther H—, æt. 56, married, a nurse, was admitted with grey hair, hazel eyes, pupils irregular but equal, reacting to both light and accommodation. Her knee reflexes were somewhat increased; her grip was fair, but she was poorly nourished. Mentally she was melancholy and suicidal on admission, explicitly desirous of ending her life, and to "sleep it away." She was self-accusing, and imagined she had committed a great crime. She had the idea she would be kept, for her wickedness, to end her life in the asylum, and she was always reading the Bible.

Her previous history records she was a nurse in a public asylum for the insane, where she served twenty years, and obtained a pension. She is stated to have slept badly, and to have drunk morphia for it for many years. She was allowed chloral and bromide as night sedatives, but no morphia, for which she generally sighed and begged and craved.

Two weeks after admission she began to improve, and in three months was brighter and able to help in the ward. After seven months she was discharged recovered.

Eight months afterwards she had relapsed, was acutely depressed, self-accusing, and actively suicidal. There was, however, no history of morphia taking in connection with this mental relapse. She remained a patient in the asylum for six years, having become chronically insane, and she died of pneumonia with senile phthisis, aged sixty-three. There was marked brain atrophy upon post-mortem examination.

Case 6.—Mary E. K—, æt. 47, married, stated she used to be a nurse; admitted in a restless, incoherent, suspicious mental condition, having delusions that the police had organised a conspiracy against her, and also having sexual delusions. On admission she presented many of the symptoms of the climacteric. She had had irregular floodings for

the past six years, she was subject to bad headaches, and talked freely of persons with improper intentions being in league with the police against her. She was suspicious, had aural hallucinations, and believed people accused her of immorality. She had equal pupils, both reacting normally, but the knee-jerks were absent: her teeth were bad. She was intemperate, but not a heavy drinker. She had taken morphia, which began in chlorodyne.

In two weeks she began to improve, in four weeks she was brighter, intelligent, and useful, taking an interest in her surroundings, and in two months she was discharged recovered.

Three months later she was readmitted with a furred, tremulous tongue. She was much excited and persecuted. She was very deficient in self-control, being alternately sullen and passionate. She threatened violence if contradicted or thwarted, and she talked ramblingly and excitedly of vengeance, property, and money. It could not be ascertained that she had again taken morphia, but she had yielded to alcoholic intemperance. In two weeks she was more stable, in four weeks she had lost all her delusions, and was sent out on trial, and discharged recovered two months after readmission.

CASE 7.—Margaret McF—, æt. 30, single, a journalist, of American nationality, with black hair, dark brown eyes, height 5 ft. 6½ in., weight 9 st. 10 lbs., and of rather prepossessing appearance and striking manner, was brought into the asylum, having been found wandering by the police. She was wretchedly clad in a *quasi*-respectable way, and was evidently in want.

She was suffering from egotistical plots, suspicious of mysterious persecution by the police, talking and writing freely, but communicating no information about herself, her previous history, or habits in her voluminous correspondence. Her mental condition was that of delusional insanity. She admitted taking morphia for sleeplessness, but in what quantity, or how, she refused to state. She was constantly muttering to herself, and would readily speak about conspiracies, but little real facts could be elicited, any questions, leading or indirect, being met with reserve and parry.

She was under care for nine months with but little change. She was then transferred to another London asylum, from whence she was shortly discharged recovered.

CASE 8.—Agnes R—, æt. 43, married, described as a journalist, also a lady dentist. She was admitted in a depressed, confused, exceedingly nervous, sensitive, and fidgety condition, with suicidal tendencies. She was very restless and egotistical, talking "fast and big." She complained much of lumbar pain and occipital headache, for which she had taken morphia. Her pulse was 84, soft and regular. Here eyes were grey, her pupils irregular, the right reacting less freely to light than the left.

She had been advised in the first instance to try opium cigarettes, but the result was unsatisfactory, nausea and headache resulting. She subsequently took morphia in the form of draughts, and found that it relieved her insomnia. The quantity was afterwards increased to 4 grs. for a dose,

after which she states she enjoyed sleep full of delightful dreams, compared to which fairy-land was the merest prose. She increased the dose to 6 grs., and often took this in champagne, the result being, to use her own words (in a letter written after mental convalescence), that she saw things exactly as she wanted to.

She had had a previous attack of insanity, and was treated in a private asylum.

No morphia or opium was allowed, but she had Ammon. Bromid. in half-drachm doses, together with Tinct. Strophanthi ℿx for cardiac failure, for which she had complained, and which greatly relieved her.

In three weeks she had greatly improved, and in three months she was sent out on trial, being discharged recovered after four months' residence.

Nearly seven years after her discharge she was readmitted again in a melancholy mental condition. She had some exaltation, was emotional and restless, at times excited, and had delusions of electricity. She had an idea she could write plays for production by the leading actors, and spent much of her time plotting and writing these. On her readmission there was some suspicion of general paresis; her pupils were equal, but they reacted slowly and sluggishly to light. After one year she was sent out on trial, but was dull and depressed, and had to return. After two years she remains in the asylum in much the same state.

(1) Prepared for the General Meeting of the Medico-Psychological Association held in London, May 21st, 1902.—(2) H. C. Drury, *Dublin Journal of Medical Science*, May, 1899.—(3) *Medical Temperance Review*, October, 1900, stated that from 6 to 10 per cent. of all medical men suffered from opium and allied drug habits. It is hoped, however, that this is an exaggerated view of the vice.

The Evolution of Delusions in some Cases of Melancholia.

By LIONEL WEATHERLY, M.D.

Do not expect anything new from this paper. Do not imagine that I am going to bring forward any startling theory concerning the origin of delusion, or make any attempt to unravel the mysteries of the cerebral pathology of any one class of delusion.

I am simply about to give you a short history of some of my experiences of the delusions of many melancholiacs, and draw from this experience the ever-needed lesson of the necessity for early treatment if a quick recovery is to be hoped for in these cases.

We must all feel a deep and a sympathetic interest in all melancholiacs, and, I take it, such interest must be greatly enhanced by the fact that we are dealing with a form of mental disease which, rightly treated, should show the highest recovery rate.

In this short paper, however, I want to draw attention only to those melancholiacs who have delusions which can be traced back to something real in their immediate past history, though that reality has become exaggerated, contorted, and developed with a definite delusion.

Often such reality is so slight and so vague, that without most careful examination the origin of the delusion cannot be traced, and, I believe, is frequently overlooked.

We must not forget that in almost all these cases of melancholia with delusion we have one important factor, viz. a predisposition to mental trouble.

The slightest worry or anxiety will start in one person morbid ideas, which, if not quickly set right by healthy reasoning and strong will-power, soon develop into delusion; while another may have his life clouded by sorrow and be beset with constant anxieties and misfortunes, and yet be not affected in this way. May be such a one has not only no predisposition, but possesses such a resolute and determined will, that he is able to battle against any inclination to morbid tendencies.

My own experience of now more than twenty-seven years of numbers of cases of melancholia leads me to believe that delusions in this form of mental unsoundness are almost all of gradual development, and that, if care is taken, they can most of them be traced back to their origin.

Once accept this, how vitally important is it that these cases should be recognised in their earliest stages, and by appropriate treatment the evolution of these delusions be checked at its very commencement!

Let me now shortly give the outlines of two cases bearing upon my belief.

I could enumerate many more, but I think these will suffice to fully explain my contention.

A. B—, æt. 50, a chief inspector of one of our best known banks, with branches all over the kingdom.

Family history.—Neurotic.

Gradually got out of health; became sleepless; thought change

would do good, so took country duty and started on a tour of inspection. Found work very trying, but still kept on. On arrival at a small town in west of England, feeling worse, sent for wife, as he said he felt too ill to continue work, and did not like to be alone. She at once came down. Found him highly nervous; blaming himself for not having done his work properly, and declaring that the bank directors would make him resign, and he would lose all chance of a pension.

Gradually got worse, and began to imagine that through his inefficiency grave mistakes had been overlooked.

I was called to see him late one evening. I found him in a terribly anxious condition, declaring that he had done some crime and feared the consequences. He was sleepless, very restless, and utterly unable to occupy himself.

I advised his being placed with a family who had had similar cases under my care, which was carried out within twenty-four hours. I engaged a capable attendant, and mapped out a definite plan of treatment. He, however, gradually got worse, and now I found his delusions were of a graver nature. He declared he had absolutely falsified accounts, that the detectives were after him, and his only chance was to fly the country. Soon he believed the crime he had committed was one punishable by death, and the scaffold was ever before him.

In the meantime his general health had been attended to; he had been kept out in the open air as much as possible, with plenty of long walks, and, though a difficult matter, he had been fed up with every kind of easily assimilated nourishment.

He gradually became quieter and more capable of reasoning, and after some few months of treatment was almost mentally convalescent, with the one exception, that he could not be made to believe that the bank would reinstate him in his position. Unfortunately, I could only obtain evasive letters from the board on this point, and I found his condition was *in statu quo*.

After a consultation with Dr. Maudsley, I decided to try an experiment. I wrote to the bank saying that my patient was now well, that I felt work would be the best thing for him, and stated that he would present himself on the following Monday morning at ten o'clock.

With his son he went to town on the Saturday, and an anxious time the poor boy had of it; but his father, on finding his office, his desk, etc., all ready for him, brightened up, started his work, and never again relapsed.

Here we have an instance of the gradual development of a delusion, started by the fact that ill-health undoubtedly prevented him from satisfactorily doing his work as formerly. This gradually told upon him to such an extent that he soon became satisfied that his inability would lose him his berth, and so gradually from this evolved his delusion of criminal conduct and consequent future punishment.

The clearing up of the final mental doubt was also a most interesting feature in this case.

C. D—, a retired Indian judge, came under my care some nine years ago.

Æt. 62, bachelor, living in London. A member of two clubs, but always a retiring, shy, and diffident man, with few hobbies.

Family mental history.—Not good.

He got out of health. Just at this time there had been a well-known scandal in London, and he had conversed about this to his valet, an old and trusted servant.

This scandal was the subject of conversation at the clubs. He began to shun the society of his few friends. They, noticing this, kept, perhaps, rather aloof from him. He construed this into a desire on their part to break their friendship, and he worried very much as to the possible cause of this.

Gradually he began to imagine that his valet had been implicating him in the scandal, and had told the servants of some of the club members, and that was the reason of their behaviour towards him.

He became more restless, more sleepless, and at last, as his valet told me, suddenly and secretly disappeared from his rooms in London. He arrived at Bath, where he had relatives living, who quickly recognised that he was of unsound mind, and he was placed under my care.

I found him in a state of acute delusional melancholia, pacing up and down the room, listening for every footstep, and beseeching me not to let the detectives arrest him.

When questioned as to what crime he had committed, all he could say was, "You know—everybody knows; it's awful. What will happen?"

After a few days I got from him the fact that he believed definitely he had been mixed up in this horrid scandal, that all his friends knew it and had cut him, and that his valet had turned against him and given information to the police. That he had been for days followed by detectives, until his life was a perfect misery, and he had had the greatest difficulty to prevent himself committing suicide.

For some weeks he continued in this state, always making me give him a promise before he left the house that the attendant would not allow him to be arrested, and that he would return safely to me.

After a time, seeing nothing happened, he began to gain confidence, and seemed to be rapidly improving. As he was fond of hunting, and had his own horses, I had them down, and his daily rides seemed to still further improve him. One day when I was out riding with him, he suddenly started off as hard as he could go across country. Luckily I was on the best horse, and being, too, the lightest weight, I soon had him pounded. He was in a most agitated state of mind, and declared that a gentleman who had passed us on the road was a detective who had followed him from London.

I tried to assure him of his mistake, and luckily, on our homeward journey, we met the said gentleman, whom I knew. I introduced my patient to him, and he soon became much happier in his mind, and on arriving home said he could not understand how such a foolish idea had come into his head.

In a few weeks he was convalescent, and after staying as a voluntary boarder for a short time he was discharged "recovered."

He kept quite well till last year, when I had a message from his nephew to say that his uncle had broken down again, and was coming to Bath to be under my care.

On arrival I found him much in the same condition of restless melancholia, but with rather different delusions.

He declared he was about to be expelled from his London and provincial clubs; that he was a pauper, as orders, he knew, had been given to the Indian Government Office to stop his pension.

I discovered these delusions had originated as follows:—He had again broken down in health and become sleepless, and while in this state had forgotten to put a friend down at his provincial club for election as a member. When the date for election came, he discovered his omission, and was most distressed. He went back to his sister's home, and would not leave the house, as he felt certain he had been guilty of most infamous conduct, and that all his friends knew it.

He would not write to his friend to apologise for his forgetfulness, neither would he give the name and address to his sister or his nephew, so that they might write.

Gradually he became more depressed, restless, and unmanageable, until his condition had developed as I have described.

In a few weeks he was convalescent, and after again remaining for a short time as a voluntary boarder, was discharged "recovered."

Although these short outlines do not adequately convey the very gradual development of the delusions in each case, they are sufficient to point out what I mean; and though you may all recognise in my brief description similarities in numbers of cases which have come under your care, I maintain that in text-books, and articles on this form of mental disorder, the gradual evolution of delusion has not been sufficiently emphasised.

These delusions have not had their origin in the imagination only, but they have been evolved from some definite reality. A tendency to brood upon these realities gets more and more rooted. They take full possession, as it were, of the mind, they overmaster the will, pervert the reason, and gradually develop into definite delusion.

But, even then, we often see in some of these cases periods in which the patient's mind seems to be visited by a gleam of common sense, and for a moment half realises the absurdity of its beliefs.

To treat such cases, no half-measures are of value. Tinkering with such mental states in the early stages only lands your patient in a condition of definite delusional melancholia, and I

am most emphatic in my opinion that the following are the only right lines upon which successful treatment can be followed out:

1. Cut your patient adrift from his associations, and place him in an absolutely new environment.

2. Build up his physical health. To do this no system answers so well with melancholiacs as what we now call the "open-air treatment of consumption," in which fresh air by day and by night, good wholesome food in abundance, and carefully regulated exercise form the main features.

3. Occupy his mind by diversified walks and amusement, never fatiguing him, and yet never allowing him to have time to think of his miseries.

4. Gain his confidence. Never deceive him, and never allow those in charge to do so.

5. Never allow your attendants or nurses to attempt to get their patients to do what they wish by false promises, or by agreement with them in their insane ideas.

Some years ago I was inclined to believe that these melancholiacs could best be treated in private families, but I have, from experience of numbers of cases, come to the conclusion that many of them get quicker well in an institution.

The discipline, so much needed, is general rather than individual, and, consequently, far less irritating.

The mere fact of being sent to an institution pulls them up, as it were, and makes them realise that there must be something the matter with them.

As the melancholiac is usually intensely selfish, and, by reason of his unhappy complaint, he seems unable to think of anyone but himself, and loves to attract attention to his woes and gain sympathy, so life in an institution does him good, by the mere fact that he finds himself surrounded by persons who are, for the most part, so wrapped up in themselves, that, as Dr. Clouston points out, "they do not seem to care a brass farthing whether he is miserable or not," and this has a very desirable effect upon his condition.

Lastly, I have found that such cases have often had a feeling of security in an institution which has been lacking in a private house.

I must apologise for having taken up your valuable time by a recital of such well-known facts, and yet you will, I am sure,

agree with me, that anything which emphasises the necessity of early and definite treatment in these cases cannot be too often repeated, for it is only by these means that we can hope to increase our recovery rate, and in many cases prevent what at first is only a form of simple depression developing into that much more serious state of delusional melancholia.

Discussion

At the South-Western Divisional Meeting at Cotford, April 22nd, 1902.

Dr. Aveline, who presided, thanked Dr. Weatherly for his excellent paper, and for the very lucid manner in which he had described his cases. He said that they all knew the difficulty there existed in tracing the origin of delusions in cases of melancholia, and the reason was that the cases were not brought to them at a sufficiently early stage. It was very important on that account that these cases should have the advantage of early treatment. He pointed out that the state of the bodily health had a great deal to do with producing the feeling of depression. He had no doubt that a great many of the members present had had cases such as Dr. Weatherly had described, and he hoped they would indicate the results of their experience.

Dr. Davis said that with regard to the melancholiacs they received in asylums, they had no opportunity of treating them as suggested by Dr. Weatherly, but he found by experience that the majority of cases were run down physically, and that as soon as their nutrition was improved they made marked progress mentally.

Dr. Hungerford said that they could not insist too strongly upon the open-air treatment. In his experience he had noticed that where a continuous system of exercise had been indulged in the cases had shown marked improvement, but where it had been stopped there had been a retrograde movement.

Dr. Macdonald said he had lately had under his care an interesting case of melancholia, in which the evolution of delusions was the most interesting feature of the illness. He said he would not restrict the open-air treatment to cases of melancholia. Every case of mental disease should be treated, when physically able, in the open air. This is not a new method, and where the patients live in the fields by day there is no need for a special nursing army by night.

Pupillary Symptoms in the Insane, and their Import.

By T. P. Cowen, M.D.Lond., Assistant Medical Officer, County Asylum, Lancaster.

Derangements of the motor functions of the iris are commonly met with in the insane. They are as common in general paralysis as they are uncommon in all the other forms of insanity together. Their mechanism and import is not well understood, and it is in order to elucidate certain points that I venture to put the following observations before you, and to ask you to comment on them.

Motor derangements of the iris are shown by—

1. Size of the pupils.
2. Inequality.
3. Marginal contour.
4. Mobility.
5. Reflex adjustments:
   (*a*) Direct light stimulation.
   (*b*) Consensual stimulation.
   (*c*) Cutaneous or sympathetic stimulation.
6. Irido-motor states associated with accommodation and convergence.

May I remind you of certain points in connection with the reflex and other adjustments of the pupil?

The optic nerve is the afferent nerve for the right reflex, the third nerve the efferent, and the centre for the reflex is situated in the grey matter beneath the aqueduct of Sylvius, near the anterior limit of the third nucleus.

The centre for the skin reflex dilatation is supposed by Salkowski to be situated in the medulla, but on the other hand Gowers locates it beneath the corpora quadrigemina to outer side of centre for light reflex.

The path of the afferent impulse varies greatly, and may be along any cutaneous nerve, spinal or cervical, or by some of the nerves of special sense. The efferent impulses reach the eye generally by way of the cervical and upper dorsal spinal cord (the cilio-spinal centre), the first two dorsal nerves, the cervical sympathetic, the cavernus plexus branches of fifth nerve, and the ciliary ganglion. This is, however, not the only path, as the reaction is retained after complete division of the cervical sympathetic. It has, I think, been demonstrated that there are cortical centres for contraction and dilatation of the pupil also.

It has long been asserted that a special centre exists for the three associated movements—accommodation, convergence, and contraction of the pupil; and the old four experiments of Hensen and Völcker's in dogs confirm this.

Again, there is some association of pupillary and respiratory centres, as the pupils dilate with each inspiration and expiration.

Inequality of the pupils is said to be by no means uncommon in the insane; Knecht gives 20 per cent. of all cases

as showing this symptom, but apart from general paralysis any abnormal pupillary symptoms are, in my opinion, decidedly rare.

In cases of insanity we have two classes of pupillary abnormalities: (*a*) inconstant variations; (*b*) persistent or wholly progressive impairment. The former are alone met with in cases other than general paralysis and senile dementia, whereas both classes of symptoms are present in the latter organic diseases.

In acute mania with great excitement one notices, but infrequently, that peculiar condition known as "hippus," in which there is a constant variation in the size of the pupil. This condition is ascribed to the multitude of sensory impressions to which the reflex centres are subjected. Occasionally, also, a wide pupil is seen, but which, nevertheless, preserves its normal reactions. Later in the disease, when exhaustion tends to reign supreme, small pupils with a sluggish reaction to light may at times be seen.

With these exceptions, in the great majority of cases of acute mania the pupils are quite normal in size, shape, and reactions.

In acute melancholia there is usually nothing abnormal, but in a few with marked toxæmic symptoms the pupils tend to become small, and to react sluggishly to light. In the insanity of adolescence one often finds a tendency for the pupils to become wide, but yet to retain their normal reactions.

In epilepsy and insanity the pupils are often wide but active, yet in the majority of cases, apart from the occurrence of fits, the pupils are normal in every way. In the chronic cases of simple insanity there are no pupillary affections. The pupils in ordinary secondary dements are quite normal as a general rule, but I have often noticed that as middle age is reached there is a sluggish reaction to light with a rather small pupil in many cases.

In senile dementia one occasionally finds unequal pupils, but usually the only symptom is a small pupil with distinctly sluggish reaction to light,—apart, of course, from any gross defect of the eye.

General Paralysis of the Insane.

The intrinsic muscles of the eyes are affected at some stage of the disease in almost all cases. The first eye sym-

ptom is usually a slight inequality of the pupils, with a sluggishness on the part of the larger pupil to contract to a subdued light, accompanied by an absence of the usual dilatation following cutaneous stimulation, while all the other reactions are perfectly normal. Later the larger pupil will be found more sluggish or fixed, and eventually both become fixed and immobile to light. This is accompanied by an impairment of consensual activity. Last of all, the power of contraction associated with acts of accommodation and efforts of convergence may be impaired, and this may be unilateral or bilateral.

Mydriasis is a feature of the late stages of general paralysis, but earlier it may be associated with amaurosis. In other cases small pupils may be present quite early, and may persist unchanged during the whole course of the disease (this I have found in 13 per cent. of cases, but only one fifth of these were ataxic or tabetic general paralytic).

Symptoms in Detail.

1. *Size.*—The pupil is more often dilated, which dilatation may be unilateral or in both. This condition is found in about half the cases. Thus, in 253 consecutive cases of general paralysis in males, 128 showed dilatation in one or both pupils. This dilatation is usually moderate in degree, varying from 3 to 4 mm. in diameter. Bechterew explains this dilatation as an inhibition of the usual light reflex.

2. *Inequality.*—Bevan Lewis described an early inequality not associated with impairment of pupillary reflexes, and probably due to cortical lesion, and a late inequality associated with absence of reaction to light and other stimulations, and probably due to advancing spinal and bulbar disease.

B. Lewis, in his book, says that out of 44 cases of general paralysis the right pupil was the larger in 16, the left pupil in 11, and pupils of equal size in 17. In 253 cases I found the right pupil larger in 54, the left pupil larger in 53, and equal in 146.

B. Lewis says that "oculo-motor disturbances are greater on the side of the more deeply implicated hemisphere. The increase in size of the small pupil indicates a deeper implication of the nuclei of one half of the pons, as well as of the

cerebral hemisphere of the same side. Where unilateral convulsions or palsy occur the dilated pupil is on the side of the discharging or paralysing lesion." This one has often seen, but I cannot agree with him that a dilated pupil in late general paralysis has a localising value, as there is no excess of morbid affection to be seen in the corresponding hemisphere in these cases.

3. *Contour.*—One or both pupils may be irregular in contour; they may be oval above, below, or in both situations, pyriform or irregular in other ways.

4. *Mobility.*—An early indication of commencing iridoplegia is given by focal illumination, for, as shown by B. Lewis, 13·6 per cent., though active to light, show to focal illumination a most limited range of movement, followed at once by a wide dilatation. This tendency to dilate during stimulation by light is the earliest augury of coming paralysis. I have seen this even more often than the above figures show, and it is often difficult to make sure that there is even a slight initial contraction, as the pupil dilates up so quickly. One sees, also, in a few cases a constant oscillation of the pupil resembling that seen in birds, but this is usually seen in very excited, although not otherwise very acute general paralytics.

5. *Light reflex.*—(*a*) Bevan Lewis says that in 36 per cent. both pupils were perfectly immobile; 18 per cent. show fixity or sluggish reaction in one or other; 11 per cent. show sluggish reaction; 18 per cent. reacted normally.

I found in my cases, which were rather advanced ones, that in 33 per cent. both pupils were fixed; in 38 per cent. one or other was fixed or sluggish; 23 per cent. showed sluggish reaction in both; 3 per cent. were normal; 2 per cent. showed a constant oscillation.

(*b*) Consensual reflex is lost (in 43 per cent.—Lewis) when light reflex is absent in both pupils. Reflex dilatation fails very early, even before failure of light reflex. Usual order of events is—(1) loss of reflex dilatation; (2) sluggish reaction to light and tendency to dilate; (3) gradually extending paralytic mydriasis with impairment of consensual activity.

(*c*) Dilatation of the pupil from cutaneous stimulation is lost early.

6. Associated movements of contraction of the pupil during act of accommodation and efforts of convergence are only

affected very late in the disease. It may be unilateral or bilateral.

These affections of the pupil are not confined to true progressive general paralysis, but one sees quite as definite and marked symptoms in the cases of alcoholic, syphilitic, and saturnine pseudo-general paralysis. These latter cases, however, nearly always improve, and with the improvement the abnormal pupillary symptoms disappear and leave not a trace behind. Yet again, in true general paralysis, remissions occur, and in these remissions most of the pupillary symptoms disappear, to return with the onset of fresh activity of the disease.

There is one exception to this, that of a myotic pupil. I have seen a fair number of remissions in general paralytics with pin-point pupils—absent knee-jerks,—but have never seen improvement in the pupillary symptoms.

Again, one often sees a patient with unequal pupils one day present equal ones the next, and with often varying degrees of dilatation.

The improvement in the pupillary symptoms in the above toxic conditions, which cannot be distinguished from true general paralysis clinically, has a parallel in the improvement of symptoms to the remission of true general paralysis. This accentuates the proposition that these latter cases have a toxic origin also, and that the symptoms increase or diminish with the flow and ebb, as it were, of toxicity.

Will you permit me to digress? Can we in any way bring about a remission of symptoms in general paralysis? For several years I have been experimenting with various antiseptics in the acute insanities and in general paralysis, under the idea of their toxic origin, in order to try to combat this toxicity.

Chinosol given in two-grain total daily dose has, in many cases, brought about a remission of symptoms, and especially so in general paralysis. This has occurred, I venture to think, too often to be a mere coincidence. There was a marked improvement in the pupillary symptoms of general paralysis, so much so that they had almost normal reactions. How it acts I cannot say, except it be by an inhibitory action on the intestinal micro-organisms.

As we shall show later, the nervous system in general

paralysis shows evidences of a primary toxic condition pathologically, so that if any absorption of fresh toxins can be prevented, even for a time, the damaged but not destroyed nervous tissues get a chance to recover.

Given, then, these facts of observation, it is apparent that the diagnostic and prognostic significance of pupillary derangements by themselves is very doubtful. It can only be in conjunction with other symptoms, with a due regard to the progress of the case, that a just opinion can be formed.

In the acute insanities the pupillary symptoms are so infrequent and variable that one can only look upon them as evidence of toxicity, which in itself varies so much in degree. As it is impossible by pupillary symptoms to distinguish the pseudo- from the true general paralysis, it is rather by the progress of the case and rate of improvement that one can make a true diagnosis and prognosis. Again, in general paralysis itself the affections of the pupil are not at all constant, and are so variable from day to day that it is often difficult to make sure of the case.

There is one exception, as I have shown above—the myotic pupil, which is much more constant, and is of the highest importance clinically, but this is comparatively rarely seen. But there is no doubt that any persistent symptom, especially persistent inequality, is not a good sign, and especially the occurrence of extreme mydriasis. Mickle says that extreme myosis followed by marked mydriasis is of bad omen.

In *senile cases marked symptoms* are unfavourable. The retinal reflexes are not abolished by lesions above the mesencephalon, so that one must look for lesions in the lower tracts.

Dr. Orr and the writer found that in the optic and third nerves, in cases of general paralysis, there was a patchy degeneration like that described by Vassale in experimental poisons. Slight changes were found also in the nuclei of origin. Similar changes are found, however, elsewhere in the nervous system, and not only in general paralysis.

Impairment of the light and other reflexes seems fully accounted for by these toxic changes, seen in all parts of the reflex arcs. The variations in the symptoms vary with the rise or fall of toxicity.

The mydriasis early in the disease may well be due to affection of the cortical centres, but is more likely due to irrita-

tion of the nerves, which inhibit the sphincter action of the iris; but late mydriasis is probably from paralysis of the sphincter from profound degeneration.

The loss of direct reflex dilatation has been ascribed to a paralysis of the cervical sympathetic, or of its centre in the cord. This condition, the so-called "spinal pupil," a moderately contracted one retaining its light reflex, is seen in some early general paralytics. The Argyll-Robertson pupil, seen in tabetic general paralytics *par excellence*, is said to be due to a special affection of Meynert's fibres.

Apart from doubtful hypotheses, it seems to me that a sufficient general explanation is that the toxic agent, apparently capriciously, picks out here and there certain cells and fibres. This is probably owing to their less resistent power. The more delicate and more specialised functions are naturally the first to become affected. The amount of affection of the internal muscles of the eye seems to be a very delicate index of the degree of toxicity.

DISCUSSION AT THE NORTHERN AND MIDLAND DIVISIONAL MEETING AT SHAFTESBURY HOUSE, APRIL 16TH, 1902.

Dr. HITCHCOCK said he was personally very much obliged to Dr. Cowen for giving them a paper on that subject. It was one that had puzzled him very much in his clinical observations. They had very little information on these symptoms in the ordinary text-books, which took slight account of them. Any one who observed a large number of patients must have noticed the varying conditions of the pupils, which might be of grave importance and much pathological significance. It was all-important to study the conditions giving rise to the symptoms, and then one could recognise whether there was a grave condition or something that was immaterial. He had been particularly interested in watching one of his own attendants who had been with him for seven or eight years; he was of perfectly steady and quiet habits, he led a temperate life, and there was nothing whatever wrong with his mental state. He was one of the most suitable and easy-going attendants that he had. The changes in his case were of no significance. They were persistent. The pupils contracted to light. Under the stimulus of strong light the one never became so small as the other.

In one patient he noticed when he was suffering from acute excitement that his pupils contracted to pin-points. When that was the case it meant that the man was in a condition of suppressed excitement, and likely to make an impulsive attack if he had the least provocation. What gave rise to the extraordinary contraction of the pupils under excitement in some cases and not in others was a matter he knew nothing about. In another case he remembered with grief a visit of a distinguished friend. He was going round the asylum, and his attention was drawn to a case with marked inequality of pupils. His friend told him it was a matter of no importance whatever. He was rather struck with that observation, which was so contrary to his own belief, but he then noticed that his friend's pupils were somewhat unequal. Within two years his friend's death proved that this condition in his case had had a definite significance.

Dr. BLAIR said one of his cases was that of a man who was suffering from melancholia. His pupils, instead of contracting to pin-points, became widely dilated. The conditions to which Dr. Hitchcock referred would in a normal individual have produced dilatation of the pupils. He agreed with Dr. Hitchcock in

his appreciation of Dr. Cowen's paper. One thought that abnormalities of pupils would be very much commoner in the insane than in the sane. He thought that the blunted sensibility of the insane simply prevented those pupillary phenomena which one saw in others. This condition was very much more common amongst sane nervous people. He was reminded of a patient of his own by what Dr. Cowen said about pupillary symptoms in cases of general paralysis. This patient had unequal pupils, but the disease had not progressed in any way.

The CHAIRMAN said it seemed a very important thing that they should come to some decision about abnormalities in the insane, and not jump to hasty conclusions in diagnosing cases. He frequently received cases of alcoholic insanity which had been sent into the asylum as suffering from general paralysis. Total abstinence, fresh air, etc., caused the symptoms to disappear, and the pupils became quite normal. A neurasthenic patient might get an inequality of the pupil. What was the pathology of such cases they could hardly say.

Dr. PIERCE said the paper was a valuable one, and that he was sorry Dr. Cowen had left out a good deal of it. He was rather surprised to learn that so little importance was attached to the condition known as the Argyll-Robertson pupil. He looked upon it as of considerable importance, not as a direct diagnosis of general paralysis, but as a sign of tertiary syphilis. He thought this view would be justified more in the future than it was at present. He remembered a patient who suffered from melancholia in whom there was complete remission of his mental symptoms though the pupils remained unequal and did not react properly to light. He was not, therefore, surprised at the patient relapsing very soon with maniacal symptoms typical of general paralysis. He considered the inequality of pupils of less importance in diagnosis than the failure of the pupils to react to light.

Dr. COWEN, replying to the discussion, said he apologised for not reading the whole of the paper, but he did not wish to bore the members with a mass of figures. With reference to Dr. Hitchcock's remarks, he said he had generally found in cases of acute mania with great excitement that the pupils were dilated. He looked upon contraction of the pupils in these cases as an evidence of great toxicity. When remissions occurred in general paralysis, although most of the pupillary symptoms disappeared, still the pupils did not show quite normal reactions, but were not far removed from the normal.

He agreed with Dr. Blair that at times inequality of the pupils persisted in the remissions of general paralysis, but with almost normal reactions otherwise.

In reply to Dr. Pierce, he said that he had not meant to convey the impression that the Argyll-Robertson pupil had little diagnostic value, as he considered that the true Argyll-Robertson pupil was of very great import as a symptom. He referred to the much greater number of cases which showed apparently the Argyll-Robertson pupil one day, and a dilated, fairly reacting pupil the next. In tabetic general paralytics, which formed only 2·8 per cent. of his cases, the myotic Argyll-Robertson pupil was present unchanged throughout the whole course of the disease.

Dr. Cowen thanked the Chairman and members for their reception of his paper.

The Prophylaxis and Treatment of Asylum Dysentery.

By N. H. MACMILLAN, M.B.Edin., Asst. Med. Off., London County Asylum, Claybury.

DYSENTERY and diarrhœal affections in English asylums have, for some time past, been attracting considerable attention.

Their well-known prevalence has been considered of sufficient importance to warrant a passing reference in some of the larger books on general medicine. Dr. Manson, in his text-book on Tropical Diseases, refers to it as "that very fatal type of

disease which is the scourge and disgrace of more than one of our English asylums."

About three years ago, the Asylums Committee of the London County Council, becoming alarmed at the spread of the disease in their asylums, appointed Drs. Mott and Durham to make a special investigation into its causation. As a result of their study of the disease they handed in a very exhaustive report, in which they state that in their opinion dysentery is a highly infectious disease which can be greatly lessened, if not entirely eradicated, by the adoption of suitable hygienic precautions.

The subject has also been taken up by the Commissioners in Lunacy, who, as a consequence of this report, have recently issued the order that a register of dysenteric and diarrhœal cases be kept in all asylums, similar to the one drawn up by Dr. Mott, and already in use in the London County Asylums. They also suggest that at all post-mortem examinations the intestinal tract should be carefully examined, in order to determine the presence or absence of dysenteric lesions.

This is by no means an unnecessary suggestion in view of the fact that the post-mortem examinations in asylums are not usually carried out by skilled pathologists.

As Claybury is one of the asylums which has suffered from a severe epidemic of dysentery, it was suggested to me by Dr. Jones that it might interest you to hear a few details of the incidence of the disease and of the measures we are taking to free the institution from it.

A perusal of the case-books and post-mortem reports shows that dysentery made its appearance in Claybury very shortly after the opening of the institution.

The asylum was opened for the reception of patients on May 16th, 1893. On May 30th, only fourteen days later, a female patient was admitted suffering from melancholia. On June 27th she was stated to be suffering from severe diarrhœa, and on July 6th to have died from the exhaustion of diarrhœa. No post-mortem was made.

In the autumn of the same year two female patients were admitted. One of them came directly from a workhouse, and the other was a transfer from an asylum in the neighbourhood. Both these patients died within a few weeks, and both showed well-marked signs of dysentery on post-mortem examination.

On turning to the male records, I find that on June 24th, about six weeks after the opening of the asylum, a patient was admitted with diarrhœa, who, in his previous history, had suffered from chronic diarrhœa for four years. He died five days after admission from pneumonia, but unfortunately no post-mortem was made.

In the following spring the male post-mortem reports show that two patients died from obvious dysentery.

Dysentery thus made its appearance very early in Claybury, and by similar importations the disease obtained a footing in the asylum. During the period of six months—October, 1898, to March, 1899, it assumed such an acutely epidemic form that nearly a third of all the patients dying during that term showed dysenteric lesions of a more or less marked character. About that time more vigorous prophylactic measures were introduced, and these shortly afterwards began to have their effect on the disease.

As to the actual causation of the disease, various opinions are held by different authorities. One eminent alienist has stated that "ulcerative colitis" is primarily due to nerve degeneration, and is a frequent termination in chronic dementia and in general paralysis of the insane.

The preponderance of opinion, however, inclines to its being of an infectious nature. Several observers have shown that the disease is not confined to any age, and this is the experience of all who have noted its spread in Claybury, where it has attacked patients of all ages, of both sexes, and at all periods of residence.

That general paralytics are not specially liable to the disease is shown by the fact that at Claybury Hall, a quarter of a mile distant from the main asylum, and where a large proportion of the patients are suffering from general paralysis, dysentery is non-existent.

In a hundred consecutive deaths from dysentery I find that the patients suffered from the following mental disorders:

Melancholia	28
Mania	25
Dementia	34
General Paralysis	9
Epilepsy	3
Imbecility	1

The fact, too, that it has been communicated to several of the nurses and attendants, also supports the contention that it is of an infectious nature.

The opinion of Drs. Mott and Durham and of many other authorities, including Dr. Manson, is that the disease does not essentially differ from ordinary dysentery.

Numerous bacteria and protozoa have been described in connection with this disease.

Durham, while working at Claybury, found a minute micrococcus which he separated from the blood, bile, kidney, and spleen in seven cases of asylum dysentery, but as his investigations have not been completed, one can say little about its connection with the disease.

More recently, however, a bacillus, resembling the *bacillus typhosus*, which exhibits pathogenic properties and agglutinates when added to the blood-serum of persons suffering from dysentery, has been described by Shiga during an epidemic of the disease in Japan. This bacillus has been examined by several bacteriologists in other epidemics, notably by Flexner, who found that it reacted to the blood-serum of several cases of the dysentery occurring in the insane wards of the Philadelphia Hospital. The blood-serum of these cases did not cause agglutination of recent cultures of the *bacillus typhosus*.

It is impossible, at present, to definitely state more concerning asylum dysentery than that it is one of the infectious diseases whose specific organism has not yet been satisfactorily isolated.

Predisposing causes.—The circumstances which predispose to the spread of dysentery are those which act by lowering the general resistance of the patients.

The predisposition of lunatics to dysentery, as to phthisis, may be associated with their mental condition and their degraded habits.

Among other causes may be mentioned over-crowding, with all its attendant evils; also constipation, indigestion, and catarrhal troubles.

Certain drugs, too, such as croton oil, and sulphonal if long continued, may, by setting up intestinal irritation, predispose to the disease.

Prophylaxis.

The great aim we have before us in Claybury, in our endeavours to combat this disease, is not merely the treatment of individual cases. Our object is two-fold. In the first place we are attempting, and with marked success, to limit the spread of the disease. In the second, we hope to succeed in decreasing the number of cases in the asylum, until it may be looked upon as a sporadic rather than, as in the case at present, an endemic disease.

Many methods suggested in this paper are at present in use in the asylum, and experience enables us to continually add to those at our disposal. It is hardly necessary to mention that the introduction of an elaborate system of prophylaxis into a large asylum can only be done gradually, as it is impossible to at once insure the carrying out of a large number of hygienic rules by relatively inexperienced nurses and attendants.

Whenever it is suspected that a patient may be suffering from dysentery the fact is at once reported, and the case placed in a side room, pending the arrival of the medical officer in charge of the section, and the suspicious stool is preserved for his inspection. If dysentery is diagnosed the patient is immediately transferred to the isolation hospital. All clothing, edding, and other materials which have been in contact with the patient are disinfected.

It is highly desirable, too, that patients sleeping near the case, or who have been in contact with it, should be looked upon as suspects, and kept under strict observation for at least a week, and it should be the custom to obtain at least one report of the condition of their stools with reference to the presence of loose motions or mucus.

The isolation hospital, to which patients are transferred, should, in my opinion, be regarded as an emergency ward only, and the beds contained in it should not be included in the list of beds available for ordinary patients; in other words, every patient occupying a bed in the isolation hospital should have his or her corresponding bed kept vacant in the main asylum.

This method has been carried out with success in at least one large provincial asylum, from which, by systematic prophylaxis, the disease has been practically stamped out. The isolation hospital should possess a separate staff of nurses

and attendants, none of whom are allowed to do duty in the main asylum, excepting in such wards as are largely or entirely occupied by recovered cases of dysentery.

A striking feature of the type of the disease at present prevalent in Claybury is the frequency with which relapses occur. On the female side of the asylum I find the relapses have, during the past two and a half years, occurred in about 20 per cent. of the cases under treatment. Several of the patients have suffered from three, and one from as many as five relapses during this period.

It is consequently not surprising to find in the post-mortem records that many of the patients, who have apparently recovered from an attack of dysentery, and have later on died from some other cause, showed chronic dysenteric lesions of long duration. Not infrequently, also, very chronic dysenteric lesions have been found in cases who have died from what appeared to be an acute attack of dysentery of some days' duration only. It is probable that the majority of such cases must have suffered occasionally from irregular action of the bowels, associated with the presence of a certain amount of mucus.

I am consequently strongly of the opinion that a weekly examination of the stools of apparently cured cases of dysentery should be carried out. These facts also show that it is obviously undesirable for apparently cured cases to be permitted to return, haphazard, to any ward which may happen to possess a vacant bed, and, from a general administrational point of view, be suitable for their reception. Such cases ought, in my opinion, to be detained in the isolation hospital for a considerable period of time after all symptoms of the disease have disappeared.

When ultimately it is necessary to transfer them in order to create vacancies for recent cases of the disease, such patients should be sent, at any rate for a time, to wards which are suitable for their reception, and which do not contain recent or curable cases of insanity.

In these wards should be aggregated all those patients who are relatively recently convalescent from an attack of dysentery, and all those cases who have suffered from one or more relapses.

It is particularly important that all relapsing cases should be

for a time, or even permanently, under special observation. I think it desirable that they should be placed on a ticket similar to that in use in the case of suicidal or epileptic patients, in order that the attention of the nurses and attendants may be focussed on them. Weekly examinations of the stools of such patients ought to be made, and the results should be recorded on the backs of the tickets and initialled by the medical officers.

Any stool which is not entirely normal should be reported to and inspected by the medical officer in charge of the section. The bowels of such patients should be kept open by mild laxatives only. As will be stated later on, I personally prefer small doses of liquid extract of cascara taken in combination with Sod. Bicarb. and Spt. Ammon. Aromat., shortly before meals.

The importance of attention to the bowels during an epidemic of the disease has long been recognised. Many years ago Virchow stated that it was noticed during an epidemic of dysentery at the Charité Hospital, Berlin, that those wards were rarely affected in which syphilis was treated not by the administration of mercury, but by a course of medication in which laxatives were prominent.

It is consequently highly desirable, not only as a general principle, but especially when any exacerbation of the disease under consideration should occur, that the bowels of all patients should be kept thoroughly open.

It would be better to err on the side of laxity than on that of constipation.

During the summer and autumn, when diarrhœa due to dietetic irregularities is not uncommon, special attention should be paid to all patients suffering from gastro-intestinal irritation.

Considerable difficulty is, in my experience, likely to occur on the female side during the carrying out of this system, owing to the frequency with which women suffer from habitual constipation; but I find it possible to satisfactorily carry it out when the nurses and attendants sufficiently appreciate its importance, and work loyally under their medical officer. I make a practice of treating cases of gastro-intestinal irritation by mild aperients, followed by tonics rather than by astringents, and I have obtained excellent results by this method.

I may, perhaps, here refer to the general hygiene of public

institutions in which dysentery is endemic. For example, the water-supply, ventilation, drainage, and especially the question of over-crowding should all be attended to.

The medical superintendent has wisely given instructions that the following rules, suggested in the Dysentery Report, should be posted up in all the ward storerooms:

Directions.—All able patients should be made to wash their hands before each meal.

All patients who might assist in laying out meals should be seen to cleanse their hands satisfactorily before being allowed to handle edibles, etc.

All patients who may be called on to assist in ward duties (especially cleansing and changing of other patients) should be seen to cleanse their hands in a sufficient manner.

Systematic disinfection of all things used by or which have come into contact with patients affected even with slight diarrhœa only should be carefully and promptly carried out.

Contaminated, or possibly contaminated objects should be placed in covered receptacles in convenient situations; they should only be moved from the ward in these receptacles, wherein they should remain until disinfection is carried out. The receptacle should itself be subjected to disinfection before it is returned to the ward.

The disease being contagious, the patient should, therefore, be isolated at once, and the clothing, linen, bed-linen, mattresses, used by any colitis case should be scientifically disinfected.

All recovered cases on returning to their wards should be kept under daily supervision and on a carefully regulated diet.

It is, of course, difficult to insure the keeping of such rules as the above, owing to the tendency of nurses and attendants to allow laxity to be gradually introduced, unless the medical officer is constantly on the watch.

It is probable that many of the local recrudescences which are continually occurring in different blocks are due largely to laxity on the part of nurses and attendants.

As regards the source of many of the chronic cases of the disease which serve as foci of infection, it is probable that these are largely introduced from without, owing to the fact

that a large number of the patients are admitted after a longer or shorter period of residence in workhouses and other institutions where the disease is prevalent.

That cases are certainly introduced from without is proved by an examination of the post-mortem records, which show that long-standing dysenteric lesions occasionally exist in patients who have died within a few months of admission to the asylum.

It is also highly desirable that all such patients on admission should for some weeks be looked upon as suspects, and that a weekly examination of their stools should be made. If irregular diarrhœa should exist, or if a small quantity of mucus should occasionally be observed in the stools, such patients must at once be transferred to the isolation hospital or to appropriate wards.

If the bacillus of Shiga and Flexner should, in the future, be found to give a reasonably constant agglutination with the serum of patients suffering from dysentery, we should have in our hands a valuable method for the diagnosis of such imported cases.

TREATMENT.

The general line of treatment adopted in Claybury in cases of dysentery is similar to that in common use in the case of typhoid fever, *i. e.* expectant and symptomatic.

In our experience the numerous specifics which have been recommended by different physicians have failed to produce any marked effect on the disease.

Expectant.—In uncomplicated cases our treatment is expectant only. The patient is kept at rest in bed, all unnecessary movement, such as rising to use the night-commode, or to have the bedding changed, is avoided, and the patient is generally made as comfortable as possible.

Little or no food is given during the first day or two, and this consists entirely of milk, which is given frequently and in small quantities.

Not uncommonly in these mild cases the patient, on the second or third day, begins to feel hungry and complains of the reduced diet. The addition of a little arrowroot frequently appeases them. This may occasionally be made more palatable by the addition of a little cochineal and lemon water. Usually

these mild cases rapidly convalesce, but it is well to keep even the mildest cases in bed for at least a fortnight. I consider that by this means the liability to relapse is largely averted.

Symptomatic.—If the case be more severe it is generally desirable to commence the treatment by the administration of ʒss to ʒiss of castor oil, to which, if necessary, a few drops of laudanum are added. As an alternative—for in some cases patients object to castor oil—magnesium sulphate in one moderate or in several smaller doses is exhibited. These drugs frequently ease the patient from pain and flatulence by removing irritating matters from the intestinal tract.

When the tongue is much coated, in which case milk is badly borne, I generally substitute beef-tea containing such additional proteid as "tropon."

If the mouth and tongue be dry, the patient should be kept strictly on milk, and starchy food, owing to the frequency with which fermentation results from its use, should be avoided. When the diarrhœa ceases and appetite begins to return, custard, eggs, and boiled white fish may be given. If, as frequently happens when the diet is improved, diarrhœa should reappear, and mucus and blood be found in the stools, pure milk diet ought again to be returned to.

Prostration and even collapse are frequent in asylum dysentery. In severe cases they occur early, and immediate stimulation is then, in my opinion, desirable. If, on the other hand, prostration occurs later in the disease, the question of stimulation depends on the general condition of the patient, and this symptom can often be combated by tonics of a more general type.

It is, however, my opinion that in the treatment of asylum dysentery it is a common error to give too little stimulant at the commencement of the attack, and too much in the later stages, when either the patient will die whatever treatment be adopted, or will do better under tonics or more generous diet.

Dryness of the tongue and failure of the heart not infrequently follow a sudden fall of the temperature, and indicate the urgent need of stimulation. Brandy mixed with milk is, as a rule, less likely to cause sickness than whisky, and it is usually more agreeable to the patient.

For excessive diarrhœa, especially when this continues after

blood has disappeared from the stools, a mixture containing subnitrate of bismuth and opium is of great value. When diarrhœa is excessive, patients frequently complain of intense thirst. This is, as a rule, best relieved by sucking ice or sipping cold or warm water. Personally I prefer ice to cold water, as patients not infrequently drink too much of the latter, and are consequently apt to suffer afterwards from painful contractions of the colon. Ice is also useful when a patient suffers from sickness.

Asylum patients, as a rule, do not complain much of pain, and in this they contrast markedly with sane patients suffering from dysentery. If pain be present, it is readily relieved by the application of hot turpentine stupes to the abdomen.

If it takes the form of tenesmus, it, as a rule, readily yields to small enemata of starch and opium.

During the treatment of asylum dysentery it is necessary to be always on the watch for the supervention of pneumonia, which is a frequent and very severe complication.

The treatment of this complication differs only from that of ordinary pneumonia in the need of early and greater stimulation.

Cystitis is by no means an infrequent complication, but it does not, as a rule, give rise to urgent symptoms. It should, however, be suspected in cases who suffer from frequency of micturition or griping pains in the lower part of the abdomen.

It is best relieved by injecting a dilute solution of chinosol into the bladder, the injection being retained by water pressure for a few minutes.

It is necessary to add a word or two concerning the administration of large enemata. From a theoretical standpoint such treatment is excellent, and certainly, in many cases, the patient is much relieved by a large enema of warm boracic solution slowly administered by means of a rectal tube. My experience of enemata does not justify me, however, in recommending it as a routine method of treatment.

During convalescence.—As I stated before, I believe it is desirable to keep convalescent patients in bed for a longer period than many clinicians consider necessary.

This can do no harm and is to be recommended.

After the patients have been allowed to get up, they are, as soon as possible, brought out to the fresh air if the weather

permits. It is essential, of course, that they should be warmly clad, and as soon as possible gentle exercise should be allowed.

It is necessary to warn the nurses against allowing such patients to sit down on the grass or even on the dry ground, as the slightest chill is prone to induce relapse.

The diet requires careful regulating, and all indigestible and irritating substances should be avoided. The bowels should be carefully regulated, and this is best carried out by the use of mild laxatives. As I have already stated, I personally much prefer a soda—ammonia—cascara mixture given shortly before meals, and this may, with advantage, be flavoured with peppermint.

If the dose be carefully regulated by an intelligent nurse or attendant, healthy motions are induced without either discomfort or intestinal irritation.

Discussion

At the Spring Meeting of the South-Eastern Division at Brookwood Asylum, April 30th, 1902.

The Chairman said: We have all listened with interest and pleasure to Dr. Macmillan, and our best thanks are due to him for the very able paper he has read to us. As we have an authority here on this subject in the person of Dr. Mott, I am sure that the members would like to hear him discuss this important contribution.

Dr. Mott said: The paper just read reminded me of the parable of the sower. At one time I thought that the seed I was sowing was going to fall entirely on stony ground, and that it would bear no fruit at all—not, however, from the quarter where most of my work was done; there they were most anxious to stamp out the disease, so that my remarks do not apply to Claybury Asylum. Sir William Jenner, in a lecture I once heard him give on enteric fever, remarked, "The first duty of a medical man is to prevent disease; failing that, to cure disease; failing that, to prolong life and relieve suffering." Dr. Macmillan, in his paper on "Dysentery in Asylums," has followed this important dictum of Jenner. With regard to the infectivity and prevention of this disease (which I regard as dysentery of the same nature as was long ago so prevalent in England), when I was appointed pathologist at Claybury, I was struck with the number of people who died from what was called colitis. In the wards of the asylum I saw many people suffering with the disease, and I was so impressed by the ward incidence and the probable infectious nature of the disease that I asked the late Professor Kanthack to come down and investigate it with me. This he did in the summer of 1897. He took away some material with the determination of trying to investigate the specific cause of the disease, but, unfortunately, he then went to Cambridge and I contracted typhoid fever in the laboratory; the work was therefore suspended for nearly a year. Later I met Dr. Durham, who had been for some years working at meat poisoning due to the *bacillus enteritidis*. He told me that he had been asked by a superintendent to investigate an epidemic of an acute and fatal bowel complaint which had occurred in an asylum. He was unable to associate it with meat poisoning. After hearing the symptoms which he had noted, I came to the conclusion that it was the same disease as the dysentery which was then prevalent at Claybury, and I invited him to come down to the laboratory for the purpose of endeavouring to find a specific organism. He succeeded in finding minute cocci

in the blood, spleen, and bile of fatal cases, but inasmuch as he was unable to reproduce the disease in animals, this organism does not fulfil the requirements necessary for stating that it is the cause of dysentery. Whether Flexner's *bacillus dysenteriæ*, which accords with that of Shiga, can be looked upon as the specific organism I am unable to say; so far experiments made by Dr. Washbourn and myself on agglutination in cases which have recently occurred at Claybury do not support this view. Colonel Bruce, at a recent discussion of my paper at the Epidemiological Society, stated that he had isolated many kinds of colon bacillus from the cases of dysentery which he had had under his charge at Ladysmith, but he was unable to find a specific organism. Moreover, he did not consider the *amœba coli*, which Dr. Durham and I were never able to find, as the cause of dysentery even tropical, but he looked upon it rather as an epiphenomenon. Although, therefore, the true nature of dysentery as regards a specific organism is not yet known, yet the facts which I have been able to collect have proved that it is communicable and infective the same as enteric fever. Many of the most infectious diseases we know of have not yet had a specific organism proved as a cause. The recognition of this disease as communicable and infectious is one of great importance, for it shows that too much care cannot be taken in isolating cases of dysentery, in transferring patients from one ward to another; also in recognising atypical cases and taking precautions with regard to them. We brought forward some striking examples of ward incidence in our report. One at Colney Hatch was very convincing, because it showed nine people in adjacent beds attacked by the disease. Recently at Hanwell an outbreak occurred in Ward 20. Investigation of this outbreak showed that first one attendant suffered with a mild attack, which doubtless he had acquired from an atypical case. A few more then occurred, and then a young attendant who had only been six months in the service suffered with a very severe attack of the disease; after this quite a number of the patients in this ward suffered with dysentery (altogether 35·5 per cent. of the inmates of this ward, whereas the total percentage of dysentery cases for the whole asylum was only 1·4), many of the cases being severe and fatal. It is presumed that a person who can acquire can confer, and I have no doubt in my own mind that dysentery in this ward was carried from patient to patient. It was of interest, as showing the similar nature of this dysentery in asylums to dysentery met with abroad, to have the unbiassed opinion of this attendant, who prior to his entry of the service had been a soldier in India, where he had served as an orderly in the hospital, and had nursed many cases of dysentery. When I asked him whether he recognised any difference between the dysentery he had seen in India and the dysentery of which he had had practical experience in England, he replied, none, except that the asylum dysentery was more severe. We were able to collect a number of instances of attendants, workers on the farm, and other *sane* individuals who were affected with the disease; even doctors and the higher officials (such as the matron at Hanwell) have suffered with severe attacks of dysentery. Moreover, an instructive case of its communicability has recently been afforded. A laundrymaid at Hanwell in April of last year suffered with an attack of dysentery during a slight epidemic of the disease; she was isolated, and recovered. At the end of November she suffered with a recurrence, and another laundrymaid who slept in the same two-bedded room was off duty a week with a mild attack of the disease. I cannot therefore agree with those who believe that it is a disease peculiar to lunatics, although they, from their habits and on account of their being crowded together in large institutions, are more liable to become infected. I do not find that the disease affects one class of lunatics more than another, although the old, infirm, demented, and bedridden are subjected to more chances of infection, and are more liable to suffer with a severe form of the disease on account of their low vitality. A few observations I have made do not support the views put forward by Dr. Claye-Shaw that the disease is due to degeneration of the nerves supplying the bowel. The recommendations which we gave in our report would, I am sure, if carried out, prevent dysentery ever assuming a serious epidemic form. Sporadic cases in these large institutions will always be liable to crop up, and too much care cannot be exercised in making transferences from ward to ward, or from one asylum to another; and especially should care be taken, in opening a new asylum, not to introduce cases of chronic dysentery, which, owing to its liability to intermission of symptoms and then recurrence, may so easily be overlooked, but

yet act as a focus in the production of an epidemic. The matter of sewage farms and the disposal of sewage, especially when there is an epidemic in the asylum, is of very great epidemiological importance, as was long ago pointed out by Dr. Clouston. My experience would lead me to believe that cases arise not so much from exhalations as from contamination of vegetables, which are eaten uncooked, and by pollution of the hands of workers on the farm, who on returning from their labours do not wash. In fact, the matter of washing of hands by patients before sitting down to their meals is a very important one in the prevention of the spread of this disease.

Dr. Robert Jones.—The opening remarks of Dr. Macmillan—minatory as regards myself—have turned out to be a much-appreciated compliment, for we have all accepted his paper as being a full and up-to-date account of this disease, with which we at Claybury, and possibly others in this room, have had too much experience. Since this disease was so fully investigated by Drs. Mott and Durham, who have done a public service by bringing forward their report, there has been no contribution to the clinical and therapeutic aspects of this disease more practical and more full of excellent suggestions than Dr. Macmillan's paper to-day, and I gladly accept any responsibility that I have undertaken in asking Dr. Macmillan to bring forward his experience before this division of the Association.

Whatever views have been favoured and advanced by other recent writers as to the neurotic or nervous origin of this disease, there is possibly no one in this room who does not accept the theory, founded upon an extensive and convincing record, that colitis or dysentery is an infectious disease. Unfortunately, so long ago as the first year of opening of the Claybury Asylum, and in July, 1893, when only 291 patients (147 males and 144 females) were in residence, I reported diarrhœa of an unusual type, and began to suspect that the water tanks may have had something to do with it. The water was examined by the chemist to the London County Council, but no definite cause was discovered. Several cases occurred during the winter, and I feared that the system of ventilation, which was then unsatisfactory and not under proper control, was at fault. In the following spring an epidemic, more or less, made its appearance, and was marked by great headache, and in some cases by extreme collapse and vomiting. The symptoms in one fatal case resembled those of acute metallic poisoning, and my previous experience had met with nothing similar to this. I sent the vomit to the Council's chemist, as also milk, water, bread, some tins, etc. No less than 129 patients and some of the staff suffered from this; one nurse, who developed pneumonia, succumbed to the exhaustion. Careful analysis of the food, drink, etc., failed to give us any information. The epidemic, however, abated, but cases kept cropping up frequently from time to time. In the autumn of this year, the second year of opening, another outbreak occurred, and I suspected the subways, which afterwards were carefully concreted in leaking spots, and channelled for water to run out. In December of this year I met with several fulminating cases of diarrhœa, death occurring in twelve hours after the onset in one case. The following year I had again to report an outbreak, and the Medical Officer of Health for London, Mr. Shirley Murphy, was summoned. The inspection made through the infirmaries, the subways, and the whole place generally, by the Medical Officer of Health and myself, revealed no definite cause, and the Medical Officer was shown various pathological conditions of inflamed and ulcerated intestines in fatal cases. The symptoms accompanying these were marked collapse, a bloody and slimy alvine flux, and severe vomiting, with a temperature of about 104°. During 1895, as is recorded in my published annual report for that year, no less than 280 cases of diarrhœa occurred, and in a number of those who got well this was followed by an epidemic of general acute eczema. I began to suspect the infectiousness of this disease, and in the third year of the opening of the asylum, 1896, we commenced to isolate cases in the isolation hospital. In May of this year I became uneasy again, and Dr. Shirley Murphy was summoned to our assistance, and inspected the day-rooms, dormitories, subways, and stores. The symptoms of the disease in July were reported by me to have been a high temperature, 105°, often sickness, great collapse, a dry tongue, and slime and blood in the stools. Dr. Hamer, Mr. Shirley Murphy's assistant, was summoned to our assistance in the autumn, and he visited and saw cases of diarrhœa under treatment. In my published annual report of this year I stated that thirteen males and nine females had

died from diarrhœa caused by colitis. In the following year and in the autumn of 1897 we had several cases of typhoid, and the serious attention of the asylums' engineer and myself was directed to the general sanitary condition of this new asylum. We examined closely the subways, the water tanks in the roofs, the outlets and inlets of the ventilating system, and the drain-pipes before these issued into the sewers, and after they had received the soil from the upright soil pipes. We found that liquid sludge had deposited in the glazed earthenware drains at the foot of the main soil pipes, but there was no block, and this was perfectly ventilated. No smell could thus issue into the w.c. annexe where typhoid cases occurred, unless syphonage had taken place. This system, however, was entirely removed. Later on one of the Medical Officers of Health for London again visited and investigated the recent cases of typhoid. He also went into the water-supply, drainage, and system of subways with myself. In the annual report for this year, published 1897, it was reported that twenty-one deaths (seventeen males, four females) were caused by diarrhœa, which was confined mostly to patients, and the incidence was believed to be more particularly during spring and autumn. In cases that proved fatal there was much collapse, acute pain, hæmorrhage, and an almost constant alvine flux. Post-mortem examination revealed the most acute colitis, and cultures of the *bacillus coli communis* were obtained after death even from the blood of the brain.

In the following year, 1898, eighteen deaths (seven males, eleven females) occurred, but it is possible, as I have stated elsewhere, that post-mortem examination may reveal the disease where during life it was not suspected, or where the patient died from some other more evident disease, and in this way there may be a higher record in the post-mortem notes than in the annual statistical tables.

In 1899 thirty-five deaths occurred (fourteen males, twenty-one females). The whole of the glazed earthenware pipes round annexes were relaid and trapped, and further, a commencement was made to relay the whole of the drainage system on a bed of concrete covered again with six inches more concrete, no section being passed as satisfactory until it had answered the hydrostatic pressure test and been seen by myself and a representative of the asylums' engineer. In 1900 there were further thirty-five deaths, but the incidence became now more marked on the female side, only seven males, but twenty-eight females dying from the disease. In 1901 the drains were finished completely; a reduction of 100 was made in the number of patients, which became 2400 instead of 2500—the asylum was built for 2050 patients,—and very strict isolation of all cases of diarrhœa was carried out. In consequence of these variations the deaths were reduced to twenty-five (nine males, sixteen females), and this year, up to April, 1902, there have been no male deaths, but twelve females.

So far as I have been able to ascertain from the medical journals, case-books, and other records, the dysentery since the opening of the asylum has been as follows:

	Males.	Females.
1893 ...	10 ...	22
1894 ...	44 ...	106
1895 ...	17 ...	52
1896 ...	33 ...	76
1897 ...	10 ...	29
1898 ...	19 ...	74
1899 ...	80 ...	104
1900 ...	58 ...	142
1901 ...	81 ...	153
1902 Up to April ...	28 ...	48

Such is the history of the progress of this disease in one asylum only, and it will be evident to every one in this room how personally I welcome Dr. Mott's very great assistance.

As to its origin, Dr. Mott has already referred to its introduction from other asylums or workhouses; and once admit the infectivity, it is not difficult to account for its spread when a typical case has been admitted. Although this disease is probably not caused by overcrowding, it is favoured and aggravated by such a condition.

As to treatment, I agree that it is in the main preventive, but my experience of actual cases has been in accordance with Dr. Macmillan's account, and I agree as to the futility of rectal injections. I have tried large rectal injections of boracic, and if my late colleague, Dr. Spicer, had been here to-day as he expected, you would have heard more of the detail in this regard. I have used from one to six pints, and I do not think you can disinfect the bowel. I have used salol, resorcin, iodine, carbolic acid, and chinosol as internal antiseptics. Purgatives in the early stages are certainly useful, and if the disease be due to a special micro-organism this must be in the bowel, and obtain access through the abraded mucous membrane, possibly from a stercoral ulcer caused through constipation, and we all know how much women among the insane suffer from this. Rest in bed from the beginning, with farinaceous food as dietary, is the most suitable, as Dr. Macmillan has already stated. The ticket which Dr. Macmillan suggests; and to keep the infected person under suitable supervision I consider to be a most excellent and important suggestion; but I would venture to add a further one, and that is that the superficial area should be marked in clear plain numbers upon a panel of the door of every dormitory in the asylum, so that the number of patients allowed upon the scale of the Lunacy Commissioners' rules may be easily seen, and overcrowding remedied where this can possibly be done.

As to something which has been said in regard to working with sewage, I should like to make it quite clear that the sewage of Claybury goes into the local sanitary system, but it has the possibility of being intercepted in one place and turned on a part of the land. This, however, has only been done on about four or five occasions in the history of the asylum during nine years, and then only in a summer drought. The sewage of Claybury Hall, where the private patients are fed on a more liberal scale, and where the total number of beds has not exceeded sixty, is dealt with upon the Dibdin bacteriological method, the effluent flowing into a local course.

I cannot help thinking that the majority of cases of colitis occur among the more demented; at any rate, it occurs among non-workers rather than the workers in the asylum, which points to the more feeble and helpless; but no single class is free, and I have known quite young acute mental cases ill with it, but the habits of these are difficult to control. It is absolutely impossible to get the insane to be chemically and bacteriologically pure, and the suggestions of Dr. Mott, and in the paper read to us, are most valuable and necessary.

As to the disease, it certainly has of late years become more recognised. In 1897 the Lunacy Commissioners reported a death-rate of 2½ per cent. Five years later their statistics record a death-rate of 6 per cent. Taking the deaths that have occurred in Claybury, there appears to be an increase, although only a slight one, during March and April, also during August and September. This has certainly been so the last two years since a more accurate record has been kept of all cases of diarrhœa. Of the cases of diarrhœa and dysentery which prove fatal, the proportion has been variously estimated, from one fourth downwards, and I have estimated that 168 cases (63 males, 105 females) have died from the disease in Claybury since its opening in nine years, and in a population under treatment of nearly 8000 persons. For the reasons I have previously stated, this may not be in accordance with the number as ascertained upon post-mortem examination.

As to relapses, these are not uncommon after longer than a year's recovery, and once a dysenteric probably always a dysenteric; at any rate, more or less certainly, it may be so for three years. As to the age of the patient, I am inclined to believe that the older are more liable; the greatest number of patients are attacked between 50 and 59 years. In my statistics the senile cases appear to be the more numerous, as many as thirty or forty being between 70 and 79.

Dr. BOLTON.—The average age at death has been 57 years.

Dr. JONES.—This goes to confirm what I say, for if the paralytic dements are considered, they being of the earlier decades tend to lower the average ages. Mr. President and gentlemen, our thanks are due in a high and special degree to Dr. Macmillan for his very full, suggestive, and critical paper from actual experience, and whether we agree with his theory of infectivity or not, I venture to think that in this room there are no dissentients. He has contributed, summarised, and classified a most interesting addition to our knowledge of a disease that apparently presents some diversified phenomena, and a disease which has certainly been the subject of much recent scientific inquiry.

Dr. BOLTON.—I should like to draw your attention to the fact that one third to one half of the total deaths are due to general paralysis, whereas only about 11 per cent. of any series of deaths from dysentery are general paralytics, therefore dysentery is not more common in general paralytics than in other varieties of mental disease. With reference to the question of the infectivity of the disease, some six or seven years ago I myself suffered from it at Rainhill. At Claybury the post-mortem porter has suffered from dysentery; the present chief nurse at the isolation hospital and also the past chief nurse have suffered from it, and several of the attendants. This alone is quite sufficient to show that the disease is infectious. I quite endorse what Dr. Macmillan has said. The suggestions he has made have been largely carried out at Rainhill, and were instrumental in stamping out the disease in that asylum. The treatment he has suggested is that which I have myself used in this disease with successful results.

Dr. WHITE.—This is no new disease. When I was an assistant medical officer in 1872 we had several cases. I made post-mortem examinations on the cases and carefully investigated them. During my career I have seen several cases of an endemic type at the City of London Asylum. These cases were treated in our hospital with the other hospital cases, and the disease did not become epidemic. We had during the autumn of last year a certain amount of acute diarrhœa, but it was caused, in my opinion, by the patients eating a large amount of stone fruit. I think there is no doubt this disease is sporadic. It is brought on sometimes by defective sanitary conditions, defective ventilation, defective sewage disposal, etc., and very often from defective drainage and overcrowding.

Dr. MOTT, in answer to questions put by Drs. Hyslop and Taylor, said that chronic cases of dysentery might occur without diarrhœa; generally at the post-mortem it would be found that the bowel was blocked with scybalous masses. He wished particularly to emphasise the fact that acute cases might die before the characteristic stools had had time to occur. Patients like epileptics and general paralytics often ushered in the onset of the disease with continued fits, and naturally, if a post-mortem had not been made, would have been said to have died in "status epilepticus." Again, Dr. Mott referred to cases occasionally dying in a few days, and at the post-mortem the large and the lower part of the small bowel might be found filled with blood and slime, and yet no ulceration to account for it, only the acute inflammatory congestion.

In answer to questions put by Dr. Boycott, Dr. MOTT said that he considered the sporadic cases of so-called ulcerative colitis which one occasionally finds in hospital and private practice were really sporadic cases of dysentery. With regard to Dr. Boycott's question about care in sterilising enema apparatus, this had been called attention to by the French physicians as a cause of the spread of dysentery, and he had some time ago pointed this out to the medical officers and attendants at the asylums, although it was not specifically stated in the recommendations of the report.

The Psychiatric Wards in the Copenhagen Hospital.

By Professor KNUD PONTOPPIDON.

The Commune Hospital was built in 1863 for the reception of poor patients of all classes from the city of Copenhagen. It was therefore necessary to provide a ward for the treatment of the insane. For this special purpose a pavilion was erected simultaneously with the main building, within the grounds of the hospital. It was arranged on the corridor plan, with single rooms only. The pavilion cost between £3000 and £4000.

It was forty-two yards long, and had twenty-two single rooms, on two flats, besides a special room in the basement for the reception of patients suffering from delirium tremens. It was by no means intended to provide the city with a regular fully-equipped hospital for the continuous treatment and nursing of the insane. The pavilion was designed to serve as a reception-house, and those patients who did not show signs of improvement within a short time were removed to one of the country asylums. Besides ordinary insane persons, the pavilion was also to receive patients whose condition necessitated isolation, *e. g.* suicidal cases, epileptics, and severe cases of alcoholic poisoning. Later on, when the physician in charge was appointed Physician of the Court of Justice, all criminals suspected of insanity were sent to the pavilion for observation.

In view of the continual increase in the number of patients, the usefulness of the pavilion was soon proved, and the rapid growth of the population of Copenhagen rendered it necessary to enlarge the building in the years 1886–8. A symmetrical wing was added to each end of the pavilion, thereby giving it a length of sixty-four yards. Each wing had its entrance by stone stairs leading up to both stories of the building. The rebuilding cost between £5000 and £6000, furnishings included, and gave room for fifty-four patients in all, which is still the present capacity of the building, Copenhagen having a total population of 235,000. It is situated in the west corner of the Commune Hospital grounds, facing south-east like the main buildings of the hospital, and it is surrounded by a garden, which is isolated by a fence, and divided for the two sexes. The fifty-four beds are arranged in the different rooms in the following manner: —Twenty rooms have one bed each, three rooms two beds, four rooms four, and two have each six beds. Besides these rooms, the building contains a common sitting-room, lecture-room, bath-rooms, apartments for the attendants, kitchen, etc. The windows in the rooms all face the south-east. The doors open into a corridor three yards wide, running through the whole length of the building. The system of heating and ventilation is about to be improved.

In rebuilding the pavilion the original small elevated windows have been enlarged, and lowered to breast height.

Inside, they are provided with shutters which can be securely closed without darkening the room, as part of the shutters are fitted with wire gratings. Both shutters and doors are fitted with a special kind of safety lock. The male patients are on the ground-floor, the female on the first floor, and the troublesome patients are all kept in one end of each floor, separated by a wall from the others. For the further protection of the quiet patients a third section has been introduced, separating the two ends, for those patients whose condition ranges between the two extremes.

In spite of this enlargement, and although the average duration of treatment (calculated in decennial periods) has not been prolonged beyond twenty-three days for each, the capacity of the pavilion has again proved insufficient, so that at present further additions are under consideration.

In providing common rooms the principle of isolation adopted in the original building was abandoned. Since the enlargement in 1888 the use of seclusion by means of locked doors, formerly adopted as the appropriate treatment for troublesome patients, has gradually been abandoned, while the open-door system has been carried out completely.

This change has been coincident with the introduction of an absolute non-restraint treatment, while medical restraint—quieting the patient by narcotics—is also very seldom used. It has rather been tried to quiet patients by means more harmless and humane; as, for instance, rest in bed, hydropathic packs, and prolonged hot baths. Only as an immediate resource during a paroxysm of violence, and consequent danger to the other patients or to the attendants, narcotics have occasionally been used. It has also been necessary in special cases, such as patients suffering from surgical lesions, to take precautions so as to prevent them from getting out of bed. In these cases a broad belt or strap has been used, fastened to the bed, thereby preventing the patient from rising, while the limbs are left free.

A very important step, adding greatly to the progress in treatment in a modern direction, was taken when a reform of the nursing system took place in the year 1888. In earlier years the nursing had been managed by women who not only lacked training in this kind of work, but also education and refinement. In the pavilion, as in the main hospital, these

women were replaced by trained and educated nurses of higher social rank. The change was carried through easily and quietly, and the success was so complete that the section for men has also been served by female nurses, day and night, ever since that time. Only in the unruly part of the men's division male attendants are kept for assistance, especially in cases of delirium tremens. But it is often seen that violent patients become excited and want to fight the male attendants, while a kind and firm nurse can easily quiet them. It was feared that obscene tendencies in the male patients would make it impossible to have female nurses. But this fear proved groundless, the said tendency, as is well known, being found more frequently among female than among male insane patients. Everything considered, this reform has been a great blessing and an immense advance, both in respect of the medical nursing and the general condition of the patients concerned.

The pavilion has been of high importance as a place of training in clinical psychiatry for medical students and doctors. During the last twenty years the chief physician, who is also Professor in Clinical Psychiatry at the University, has given regular lectures on clinical material available, and for years these have been compulsory, so that students cannot pass the final medical examination without having attended one term of these lectures. Besides, the assistant house physicians of the Commune Hospital are in turn obliged to serve for a certain time in the pavilion.

It is of great importance in this training to have a continuously changing set of patients, as doctors later on in the course of practice will usually meet with similar acute cases. It must also be considered very profitable for study because the pavilion receives criminals suspected of insanity, thereby offering the student an opportunity to appreciate the mental condition and responsibility of such individuals.

It has been of great advantage for the hospital to have an insane pavilion to which can be sent all cases of psychoses occurring during treatment for other diseases; because such patients, when the psychoses are cured, can return to their former ward and treatment. This applies especially to alcoholic patients. On the other hand, it has often been seen that patients in the insane ward call for treatment in other wards,—as, for instance, in the surgical or in the neurological, the latter

being nearly connected with the psychiatric pavilion, and under the care of the same physician.

The pavilion seems, in fact, to have been a benefit, because asylums still inspire a great many people with horror and fear, while patients and relatives, as well as doctors, seldom hesitate to make use of the insane ward of the Commune Hospital, in the hope that the patient will soon recover, knowing that he will here at once be placed under rational treatment, which so often greatly improves the prognosis.

The adding of the pavilion as an integral part of a hospital for general somatic diseases has influenced public opinion in modern and scientific direction, and done away with much of the mysticism which too often, in the public mind, clings to mental disorders. The usefulness and saving of time for students and doctors in having the pavilion within the grounds of the hospital will be apparent to all.

On the whole, this system may be said to have secured these several evident advantages to the public of Copenhagen, without any apparent disadvantages to the hospital as a whole, during the thirty-nine years of its existence.

No doubt a small institution annexed to a general hospital cannot command the same accommodation as a large asylum designed for the treatment of the insane in every direction. And, of course, the clinical material does not represent the whole complex of insanity, so that cases have to be followed out to their termination in the asylums of the country. On the other hand, many forms of insanity, constantly changing or evanescent, are brought under notice in a way that is otherwise impossible, and, as has been said, of the highest value to the medical profession and the public generally.

Clinical Notes and Cases.

Calcification of the Pericardium. By FRANCIS O. SIMPSON, L.R.C.P.Lond., M.R.C.S.Eng., Senior Assistant Medical Officer, Rainhill Asylum.(1)

ADVANCED calcification of the pericardium is a condition that is rarely met with in autopsies conducted upon the insane,

and some points in the following case seem to render it worthy of being recorded.

The patient was a male æt. 61, by occupation a gardener, and the mental condition was of twelve months' duration. He was admitted to Rainhill Asylum on May 13th, 1898, suffering from acute melancholia, and the cause of his attack was business troubles. His habits were said to have been temperate, but he was subject to attacks of vomiting in the morning, beyond which there was nothing special in the history.

He cut his throat before coming to Rainhill, and upon reception was profoundly depressed and actively suicidal. He was the subject of auditory hallucinations, and thought he could hear people telling him to prepare for burial, as it was his last day; he also imagined that he had been brought to the asylum to be shot. There was a recent self-inflicted wound of the throat which healed rapidly, and, his mental condition likewise improving, he was fit to be allowed to work in the garden by July 17th, 1898.

Exactly a week later (July 24th) he relapsed suddenly, and again attempted suicide by driving an iron spike into his forehead. He held the point of the spike against the skin and hit the blunt end against a wall with his cranium. Only superficial wounds were inflicted, and they were practically all healed by July 31st.

From this time until September 13th, 1899, he remained in much the same depressed and unhappy state, retaining all his delusions of persecution and auditory hallucinations. During the latter months of this period he was noticed to be deteriorating physically, and upon examination was found to be suffering from advanced cardiac hypertrophy and dilatation with a mitral regurgitant bruit, the sounds being faint and distant at the apex and inaudible elsewhere. He was also noticed to have an enlarged lymphatic gland in the left groin, which in some respects simulated a small hernia of the omentum.

During the last two days of his life he had a return of the vomiting noted prior to his admission, and the question of rupture was then raised, but fortunately was enabled to be negatived. The idea of an exploratory operation under an anæsthetic was discussed, but was thought to be contra-indicated on account of the heart trouble. He died on September 26th, 1899, from heart failure.

Post-mortem.—An autopsy was performed forty hours after death, the weather being cool and wet. An enlarged lymphatic gland was present in the left inguinal region, the increase being apparently due to simple adenitis. The costal cartilages were everywhere ossified. The left pleura was universally adherent to the chest wall and considerably thickened. Both lungs were congested posteriorly; the right weighed 15 and the left 16 oz. The pericardial sac was entirely obliterated and the membrane enormously thickened. The heart weighed 19½ oz. with its adherent pericardium, and it was impossible to open it in the ordinary way from the presence of thick and very calcareous plates which had been formed in the pericardium. By means of a large pair of bone forceps an entry was at length effected, when the myocardium was found to be every-

where in a state of advanced fatty degeneration, and the organ much hypertrophied with all its cavities dilated. The right side contained much *ante-* and *post-mortem* clot, and the whole of the valves were markedly incompetent. Those of the pulmonary artery and aorta were greatly thickened and calcified, the tricuspid and mitral thickened and very rough. The mitral orifice admitted five fingers with ease, and the tricuspid four fingers. The aorta was in an advanced condition of atheroma. The liver weighed 40 oz. and was rather congested, and the spleen appeared fairly normal, scaling 3½ oz. The right kidney was 5½ and the left 6 oz. in weight; they seemed fairly healthy. The brain weighed 1500 grms., and there were some adhesions between the dura and pia-arachnoid over the right motor area. The cerebral substance was soft and œdematous, but with the exception of cystic degeneration of the choroid plexuses, and some granulations of the ependyma in the left lateral ventricle, there was nothing worthy of note.

All the text-books agree as to the infrequency of calcification of the pericardium, and in connection with the present case the following points seem deserving of special note, viz.:

1. The extensive affection of the organ, which had occurred, as far as could be ascertained, without any serious illness being noted by his relatives, or his occupation as a gardener being interrupted. The condition was of very old standing, and it could not have originated during his sixteen months' residence in the asylum.

2. The presence of vomiting during the last stage in association with a tumour of the left groin, in some respects simulating an omental hernia.

3. The great difficulty amongst insane patients suffering from cardiac disease in selecting suitable cases for operation, the physical signs being often much obscured and their histories faulty and unreliable. In this case the administration of an anæsthetic would almost certainly have proved fatal.

(1) Read at the Northern and Midland Divisional Meeting at Shaftesbury House, April 16th, 1902.

Hæmatoma of the Cerebral Dura Mater (Pachymeningitis Interna Hæmorrhagica) associated with Hæmorrhage from the Colon.

By STEPHEN G. LONGWORTH, L.R.C.P.Irel., Senior Assistant Medical Officer of the Suffolk County Asylum.

AN unmarried female, æt. 56, was admitted into the Suffolk County Asylum on February 24th, 1902. Owing to

circumstances at the time no very complete examination into the mental condition was made, but the case appeared to be one of dementia of quite an ordinary type, characterised by dulness, stupidity, inability to sustain a connected conversation, although able to give replies to simple questions, loss of memory, tendency to wander aimlessly about, and negligence in habits. Nothing of any particular note could be ascertained in the previous history of the case, which was evidently of some months' duration, although the mental condition did not necessitate removal to an asylum until a week or so before admission.

On admission she was physically rather feeble, and presented considerably more than usual pigmentation of the skin generally, more especially in the exposed situations. There was no evidence of any gross organic disease beyond possibly some degeneration of the myocardium as suggested by the cardiac sounds, but no murmurs were present. The pulse averaged about 98, was regular, and the arteries were not unduly sclerosed for her years; the blood-pressure equalled 98 mm. Hg. (Hill and Barnard). The tongue was inclined to be dry and somewhat coated, the appetite was poor, and the bowels confined. Her temperature was subnormal. The urine was of high sp. gr., and free from albumen and sugar.

March 7th (ten days after admission).—Appetite is now much better, and bowels are acting fairly regularly, but she is confined to bed, owing to extreme negligence in habits. The temperature continues subnormal.

12th.—She has not been nearly so well for the past three days, and has gradually lapsed into a dazed, drowsy state. She lies in bed in whatever position she is placed. All passive movements of the limbs are at first resisted, but when the initial resistance is overcome (such as straightening a flexed forearm) no further resistance is offered. Nourishment is taken fairly well when placed in her mouth, but she makes no effort to feed herself. The knee-jerks and reactions of the pupils are doubtful. The heart-sounds are weaker, and pulse shows signs of failing. The temperature since yesterday has risen to 100° F., and there is present an erythematous cutaneous inflammation involving the right foot. This morning she passed a motion, otherwise normal, containing a considerable quantity of dark red blood-clots.

13th.—Is much more drowsy, and cardiac weakness increasing, but she continues to take a fair amount of nourishment. A similar motion to that of yesterday was passed this morning, containing about quarter of a pint of clots. The morning temperature was 100° F., and the evening 98·6° F.; the pulse was 108, and the blood-pressure 100 mm. Hg. Towards midnight the pulse failed entirely at the wrist, and another motion, consisting almost entirely of blood-clots, was passed.

14th.—Patient died at 1.15 a.m.

Autopsy (*eleven hours after death*).—*Cranium.*—External surface

of the dura mater was normal; on removal, a thin, irregular shreddy layer of blood-clot was found between it and the arachnoid, and slightly adherent to both. It commenced over both occipital lobes, and extended downwards over the entire surface of the cerebellum; the whole of the base of the brain was also involved in a similar condition. There was more than usual fulness of the cortical veins, and the brain as a whole was unusually firm. No further macroscopic changes of any note were evident. The basal vessels appeared to be fairly normal.

Thorax.—Lungs showed considerable emphysema; heart presented a white opacity in pericardium covering anterior surface; no hypertrophy or dilatation, and very slight atheroma of the aorta.

Abdomen.—Liver presented signs of old extensive perihepatitis. Kidneys showed slight fibro-fatty changes. Large intestine: on opening up from the rectum to the cæcum it was found to contain a quantity of scybala mixed with blood-clots, which were more or less adherent to the mucous membrane. The blood ceased abruptly at the level of the hepatic flexure of the colon, where for an area of about three square inches the mucous membrane presented a purplish discoloration due to engorgement of the veins and extravasation of blood into the coats of the bowel, but there was no apparent breach of the surface. This was evidently the site from which the hæmorrhage took place. There was no ulceration in any part of the intestinal tract, nor were there any hæmorrhoids.

This case appears to be worthy of record, owing to the associated hæmorrhagic conditions. Although I have been unable to find any reference to cases presenting similar features, I believe one was recorded some few years back in which there was an associatied vesical hæmorrhage. Points to which attention might be drawn in the above case are the low blood-pressure, the fairly healthy condition of the kidneys, and the absence of any marked arterio-sclerosis. The hepatic condition found *post mortem* may be suggestive of alcohol as a factor in the causation, but this was denied in the previous history of the case.

Occasional Notes.

Insanity and Toxæmia.

The Scottish Division entered upon an important discussion at their spring meeting. It has been evident for some time

that the trend of opinion in the advanced school of pathology has been towards a theory of toxic causation of insanity. Indeed, it is inevitable that the extension of such a theory, pushed to its furthest limits, should permeate all departments of medicine and find enthusiastic supporters in our own specialty. Toxic causes, established in such diseases as diphtheria and tuberculosis, have eluded observation in cancerous affections, although the search has been skilful and prolonged. A poisoning of the system, which we now call toxæmia, has been recognised in the domain of psychiatry for many years. Schroeder van der Kolk was so assured of his opinion that he based his treatment of insanity upon the theory of a common causation in the overloaded, disordered condition of the great intestine; and, even at the dawn of medical science, the toxic effects of black bile were denominated melancholia, and described at interminable length. At any rate, these theoretical ideas were useful in drawing attention to the physical basis of mind, and in offering indications for the treatment of its disorders. Of late years, however, there has been a remarkable advance in the strictly scientific knowledge of the physiology and pathology of living organisms. The science of biology has been rapidly evolved, and it is a real struggle to keep pace with the more important conclusions formulated by the great army of workers. In our own particular sphere of interest, we could not but expect the moment when the toxæmic stalking-horse should be advanced to occupy territory hitherto held strongly by the old guard of a less materialistic psychology. Therefore the battle-field at Glasgow could occasion no surprise—it was as inevitable as the great Boer war. Not that the Old Guard were inactive in defending the positions in which they have been so long entrenched, or that they have entirely lost their scalps in the fray. It would rather seem as if they were ready to establish a zone of neutral territory—ground common to both, which may yet be extended by diligent sapping and mining on the part of the aggressors. So the day ended.

We have no doubt that the report of the discussion, as printed on page 434, will be carefully read and considered.

Dr. Clouston, desirous of arriving at adequate results, left no point of moment unmarked—except that perhaps, in the arena so familiar to every true-born Scot, he devoted none

of his gladiatorial skill to the abiding question of *free-will*. He will not have it that mind is a mere secretion of brain; but is he not responsible for the story of the man who found salvation after the administration of a brisk purgative? The fact remains that we are in constant touch with the unknowable, and that we may safely content ourselves with invincible ignorance of the unsolvable.

Is there so great a practical difference between Dr. Clouston and Dr. Ford Robertson as mere words would indicate? Myxœdema was, quite recently, an incurable disease. By extension of knowledge, it is now a commonplace of medicine to treat it to recovery. We may unite in hoping that further research will afford us similar results in the management of other forms of mental disorder. There is no difference between the parties in reference to this practical side of the discussion. So far as we understand the difference, it refers to a question of territory—how far can the toxic theory be pushed? Dr. Ford Robertson gives it a wide application in saying that he would claim that all forms of insanity occurring in normally developed personalities are toxic in origin, the toxæmia being generally established before the mental cataclysm occurred, the nutrition of the cell having been altered by a breakdown in the first line of defence in the organism—in the gastro-intestinal tract and the bone marrow especially. That, of course, brings insanity into a line with tuberculosis—there is no hereditary consumption, only an hereditary weakness of defence against the tubercle bacillus. We can thus think more precisely. If these toxins can be demonstrated, more especially if the antitoxins can be beneficially applied, Dr. Ford Robertson's theory will be established; and it seems to us that it is, if not a more hopeful attitude, at least a more satisfactory method of approaching the subject. But much remains to be proved; has anyone accumulated a sufficient body of evidence to show that the first line of defence has broken down before mental disorder is apparent? Dr. Bruce indicates several observations on that point, and we hope that trustworthy records will be exhumed from case-books in order to establish the facts one way or another. All this does not induce us to repudiate the empirical treatment at present generally adopted. Our whole efforts are directed towards physical and mental hygiene. No one could suppose that

Dr. Ford Robertson in dealing with a case of simple melancholia would advise the continuance of mental worry and overstrain, or an environment of morbid psychical influences. We would place no great stress on Dr. Clouston's reference to the characteristics of periods of age—just as little as on the religious manifestations of the insane. They are naturally tinged by the colour of the surroundings, just as they come up to date with delusions regarding the Röntgen rays.

It would appear to us that the weakness of Dr. Ford Robertson's position lies in his absolute denial of any causative force in manifestations of functional activity, and that the strength of Dr. Clouston's position lies in the opposing idea. The latter finds his chain of evidence in primary morbid weakness, a stimulus, a nutritional disturbance, and then, after all, a toxin. The toxins of fatigue have been already recognised, and the various forms of trades' paralysis have been described over and over again. Will Dr. Ford Robertson object to our assigning a blacksmith's paralysis to his daily occupation as *a* cause in the complex of causes? It would be an imperfect description of the case which would omit such a relevant fact, as it would be impracticable in treatment to ignore it. We know that, in such a case, nutritional changes precede the disease; and on that analogy Dr. Clouston might maintain his position. In the affairs of daily life, however, we have not to determine whether the egg or the hen occurred first, and until the toxæmists accumulate more evidence we do well to withhold a final deliverance.

The Cathcart Case.

After a period of more than ten years justice and mercy have met in this case, some features of which are very interesting and may one day form the basis of a paper on medico-legal relationships.

The early history of Mrs. Cathcart's illness was dealt with at considerable length in the *Journal of Mental Science* for October, 1891.

Many of our readers doubtless recollect that in the July of

that year a very prolonged inquiry into her state of mind was held before a Master in Lunacy, and that the jury decided that she was of sound mind and fit to manage herself and her affairs. The finding of the jury evoked much comment at the time, and a contributor to one of the medical journals expressed the view that was then prevalent when he stated: "If it is the fact that she is now sane, all we can say is that the case affords the most striking and conclusive evidence of the benefits of asylum treatment ever publicly demonstrated, for that up to a few months ago she was insane was put beyond all question by her letters and actions, as was acknowledged by the eminent specialist who was called on her behalf."

Unhappily Mrs. Cathcart's conduct, when she was discharged from care, followed only too closely the course that was predicted by those medical men who had carefully studied her case. During the ensuing years—in fact, up till the date of her imprisonment in May, 1901—she was almost incessantly before the law courts. She changed her legal advisers a dozen times, and in many cases declined till compelled to pay their reasonable fees.

Saturated with suspicion, she trusted no one for long, and became the prey of designing and unscrupulous men. She employed detectives to watch her agents, and then instructed a second set of detectives to watch the former ones. Some of the solicitors into whose hands she fell were of the lowest class, and this was brought out in the recent inquisition when the judge commented on the number of those who had been employed by Mrs. Cathcart and had been struck off the Rolls.

In May, 1901, she had to appear before Mr. Justice Farwell; she then refused to produce certain documents in her possession, and was committed for contempt of court.

She was sent to Holloway Prison, where she spent a year. Nothing would persuade her to purge her contempt. The Treasury eventually decided to apply for an inquiry into her mental state. Mrs. Cathcart, with characteristic conduct, at first declined to have legal advisers, and then, having obtained counsel, at the last moment declined to continue them in her employment or to be responsible for their fees. She was visited by Drs. Maudsley and Savage on behalf of the Treasury, and she had the opportunity of consulting specialists of her own selection, but declined at first to see any.

The inquisition was held before Mr. Justice Grantham instead of a Master in Lunacy.

Mrs. Cathcart is a typical example of the disorder in which cunning and suspicion are equally blended, associated with organised delusions and with hallucinations. She is deaf, and has very clearly marked hallucinations of hearing. A prominent feature in her case is that she sees hidden meanings in every movement and action of those about her. When examined by the medical men who visited her in prison, she at one time imitated their actions, and at another resented their supposed interference. Even during the inquiry she imitated the actions of some of the witnesses, and before leaving the court she resented her own lawyer touching her, which he did when calling her attention to some fact.

The whole case was fairly laid before the jury, who unanimously decided that Mrs. Cathcart was of unsound mind, and unfit to manage herself and her affairs.

An attempt was made by her counsel to ensure that an order for the custody of her property only would be made, while she would be allowed to have her liberty; but it was pointed out that such a course would be certain to fail, as she was so readily influenced by designing people.

The evidence of the prison medical officer (Dr. Scott) was convincing, but that given by the female warders probably influenced the jury more than did the evidence of the experts. The evidence given by the medical men who were called on behalf of Mrs. Cathcart told rather against her than in her favour.

Now, fortunately, this lady will be, for the remainder of her life, protected from scoundrels, and more or less at peace with herself and the world. The end is satisfactory, but the mode of reaching it could not be more unsatisfactory from a legal point of view; whilst from the social aspect, the neglect of the individual and the welfare of society by their special and most eminent guardians is appalling to contemplate.

This unfortunate lady, for nine long years, was permitted week by week to demonstrate her insanity before many of our judges. The suffering inflicted on her relatives and friends was glaringly obvious, the squandering of money only too palpable, whilst the waste of public funds and the delay of justice to others by her occupying the time of the judges was notorious. The

absurd proceedings thus gravely dealt with constituted a contempt of court of a far more serious character than that for which the unfortunate lady was at last committed to prison. Finally, this lady, suffering from insanity and utterly irresponsible, was imprisoned for an obviously insane act, and for a whole year lay untreated in prison before her insanity was brought to a test.

A magistrate, if informed that an insane person exists in his district, is enjoined by the law to take steps for ensuring proper treatment.

Is it not even more clearly the duty of judges, if not moved by pity or feelings of humanity, at least to protect their courts from being occupied by insane persons, who furnish amusing paragraphs to the evening papers, or supply pitiful prey for legal scavenger sharks? If such a duty on the part of our judges becomes recognised as a result of this case, this unhappy lady and her friends will not have suffered in vain; but that such will be the result is, we fear, utopian.

Justice and mercy have met at last; but all this suffering and scandal might have been avoided ten years ago by a union between common sense and law.

The Bangour Asylum.

Dr. Clouston, in a letter to the 'Scotsman' (May 5th), strenuously urges on the Edinburgh Parish Council the desirability of making a receiving hospital near the town, as a part of their scheme for providing for the treatment of the insane.

He advises that the incipient insane should be treated in the Royal Infirmary (as recently proposed), the acute insane in this hospital, and the prolonged and chronic cases at Bangour.

The hospital, he suggests, should not be built on the palatial system, but on one that would not involve a cost of more than £200 per bed, and should be named in such a manner that the patients should not consider they had been in an asylum.

These suggestions, if carried out thoroughly in conjunction with hospital out-patient departments, would constitute a very considerable advance in the systematic treatment of mental

disease, and would yield to Edinburgh the honour of being the pioneer in this country of the reception hospital system, which has worked so satisfactorily in Australia and in Copenhagen. An account of the latter from the pen of Dr. Pontoppidon appears in this number. The London County Council nearly adopted this system, but has unfortunately relapsed to improved workhouse infirmary wards, officered by infirmary superintendents.

The prediction may be safely hazarded that if this system is established Edinburgh will not be rewarded by honour only, but will soon show statistically that benefit has resulted to both population and purse.

Incidentally, too, it would tend to reduce the outlay on architectural display to which insane benevolence has so largely tended of late, and Bangour might still be built at something approaching the cost of Alt Scherbitz.

In Scotland, as in England, it seems difficult to persuade the benevolent builders of asylums and their architects that insanity is not treated by palaces, but by physicians; not by bricks, but by brains.

The Association of Asylum Workers.

The annual meeting of this association, held on May 22nd, under the presidency of Sir James Crichton-Browne, gave ample evidence of the great progress this association is making, and of the useful work performed by it.

The increase of membership from 2868 in 1900 to 4116 in 1901 is indicative of the rapid spread of its influence, while a striking proof of its usefulness was given in the distribution of medals for long and meritorious service.

Gold medals were given to Mr. W. Hope, inspector of Colney Hatch Asylum (thirty-six and a half years' service), and to Miss M. Riches, head nurse at Heigham Hall, Norwich (thirty-five and a half years' service). Two silver and twenty-eight bronze medals were also awarded. The importance of the encouragement to faithful service thus given is too obvious to need comment.

The President gave an interesting, instructive, and stimu-

lating address in his usual admirable and effective manner, adding greatly to the success of the meeting.

Lunacy Legislation.

The Session of Parliament has so far advanced without the introduction of a Lunacy Bill, that no expectation of such an event can now be indulged. Bills, unlike other offspring, are sometimes the better for a protracted gestation, and the Lunacy Bill, when the Lord Chancellor is at length brought to the woolsack, ought to be of exceptional merit.

The Lord Chancellor, in considering the pension clauses, should give full attention to the strong argument reiterated by Sir J. Crichton-Browne in his address to the asylum workers, of the increased efficiency of asylum staffs resulting from retaining trained attendants by the inducement of pensions.

Another argument in favour of liberal pensions to asylum superintendents has not been so generally recognised, and that is the fact that owing to the law against the establishment of private asylums, retired superintendents are prevented in a large measure from using their professional experience. Many pensioned asylum superintendents would be able, and would be specially qualified, to treat a few patients with advantage both to themselves and the community. In the existing state of the law they are subjected to disability in this respect, being permitted to take only one patient.

This disability is not only a great injustice to the retired asylum physician, but is a great wrong to the public, which is thus debarred from obtaining the services of men of the very largest experience of insanity. Whenever lunacy law makers recover from their serious attack of prejudice against alienist medicine, one of the first reforms will be, not only to license "houses," but also to license "physicians" with special experience, to treat the insane. Asylum medical officers would then retire much earlier, and consequently need smaller pensions.

The existing injustice, so long as it continues, constitutes a most important claim on the part of the asylum medical officers to liberal pensions.

Physical Culture in America.

A bill has been recently introduced into the Senate of the United States providing for the creation of a department of physical culture, whose head is to be "a member of the Cabinet." Each State, moreover, is to have "a Commissioner of Physical Culture" at a salary of £800, whose duties will comprise the preparation of plans for playgrounds, gymnasia, parks, public baths, and other facilities for physical culture, and who will have general charge of all such matters within the State limits.

If the war just concluded has inculcated any great truth, it certainly is that of the vast national importance of physical health and development. It has demonstrated that national wealth or intellectual culture are useless in war unless associated with physical vigour, and there can be little doubt that what is true of the struggle of war is equally true of the competition of peace. Nothing probably is or can be of greater importance to the nation than this question of physical development, brought home to us as it has been by the enormous number of rejections of recruits in some districts during the war.

The member of our Legislature, however, who would venture to introduce such a proposal as the above would run the risk of being spoken of as the member for Bedlam. The bill, if it becomes law, should have an important influence on the mental health of the population of the United States, and demonstrate again the truth contained in "*mens sana in corpore sano.*"

Epidemic Irrationality: an American City of Unreason.

"Leaves of Healing," which the *Lancet* describes as "a very curious sheet," gives information of the foundation of "Zion City," already possessing a population of several thousands (medical men being excluded), a mayor with corporation, subordinated to a Theocratic committee, itself dominated by the Rev. J. A. Dowie. "Theocracy" must now, therefore, be added to the list of the forms of government.

All disease in the new city is to be treated by prayer, the

recorded results of which are reported to be wonderful. The alienists of the United States, however, do not seem to be alive to their opportunities, or the inhabitants of their asylums would ere this have been sent to the new city for cure. Perhaps this has already been done to some extent.

We would also suggest that the sanitary authorities might, with advantage, send a few cases of smallpox to be treated by the Zionists.

Irrational associations have long ceased to attract much attention beyond a feeling of compassion or amusement. This community, however, is so large, and is the outcome of such an extensive outburst of irrationality, that it really calls for grave consideration, and raises the question whether there is not something seriously wrong in the modern systems of education: for it can scarcely be believed that all these afflicted persons are really examples of degeneracy.

The sufferers, in a large majority of instances, are of the so-called "educated class;" that is, a class who have been much taught and have read a great deal. Many of them remember a large amount of what they have been taught and of their reading, and are consequently spoken of as "highly cultured," "intellectual," etc. It is a question indeed whether the condition is not one in which the memory has been highly developed, whilst the judgment has been utterly neglected and consequently deteriorated.

Zion City must afford unlimited opportunity for the study of this form of brain stunting, and we hope that the American Congress will appoint a scientific commission to investigate the causes and nature of the epidemic.

Part II.—Reviews.

A Text-book of Insanity. By CHARLES MERCIER, M.B., M.R.C.P. London: Swan Sonnenschein & Co., Ltd., 1902. Pp. 222, sm. 8vo. Price 6*s.* net.

DR. MERCIER is indefatigable. Hardly has his *magnum opus* been discussed in these pages, when, lo! a little text-book appears. This time, however, it is milk for babes, not the hard tack of a few months ago. He has been moved to publish a text-book of such dimensions

and of such a nature as he considers suitable for medical students who have to assimilate vast masses of material during their brief curriculum. By the omission of illustrative cases and the rigorous avoidance of discursiveness, directness of statement is attained—and the student must skip nothing from cover to cover. The personal note dominant in a book designed on this plan reveals the teacher grounding his pupils in the institutes of insanity, and reviewing its various forms and varieties discussed as types. No doubt Dr. Mercier, in the more important clinical instruction to which formal lectures are but introductory, softens his dogmatic tone, and more fully indicates the difficulties which await the young practitioner in dealing with individual patients. In the first instance, it is evident that Dr. Mercier's introduction to the study of mental diseases will be highly appreciated by the overburdened student, because he will find in this book a lucid account of the subject, leading him to a due understanding of problems which he cannot evade in professional life.

In planning a text-book on insanity the main difficulty is to arrange the mass of knowledge regarding mental disorders on a logical method. Dr. Mercier, continuing his established practice, divides his subject into three parts. The first deals with conduct, mind, certifiability, and the causes of insanity. Thus the student finds the way cleared for the second part, which describes the forms and varieties of insanity, before passing to the third part, which is concerned with the legal relations of insanity.

We need not refer at length to the contents of the first division of the book, which are a *résumé* of Dr. Mercier's opinions already familiar to our readers, and should be followed out by those desirous of further specialising, in his other works—especially *Sanity and Insanity*, and his article on "Vice, Crime, and Insanity" in Clifford Allbutt's *System of Medicine*.

The chief interest of the present text-book lies in the second part, and we therefore briefly indicate Dr. Mercier's position. By a form of insanity he means a certain aggregate of symptoms that a case of insanity presents at one time; by a variety he means a specific course that a case may run from beginning to end, usually combined with an assignable cause. He rightly insists that every case of insanity is a form of weak-mindedness, and shows that the same form of insanity may be exhibited by different varieties, thus treating the forms of insanity as symptoms, and the varieties as diseases. In this way general paralysis is regarded as a variety, while exaltation and depression, either of which may be characteristic of that variety, are described as forms of insanity. Dr. Mercier classifies the forms of insanity as follows: (*a*) weak-mindedness, (*b*) stupor, (*c*) depression, (*d*) excitement, (*e*) exaltation, (*f*) suspicion, (*g*) systematised delusion, (*h*) obsession and impulsiveness, (*k*) moral perversion; and the varieties of insanity as follows: (1) idiocy and imbecility, (2) dementia, (3) stupor, (4) acute delirious mania, (5) acute insanity, (6) fixed delusion, (7) paranoia, (8) *folie circulaire*, (9) insanity of reproduction, (10) insanity of times of life, (11) insanity of alcohol, (12) general paralysis, (13) insanity of epilepsy, (14) insanity of bodily disease. This method is convenient for the purposes of clinical teaching, and is, perhaps, as good a pro-

visional scheme as can be devised, pending the results of pathological researches, for which, indeed, a teacher cannot wait. The student is thus led on from the elementary study of mind and conduct, through the symptomatic characteristics, to the groups which have been differentiated for practical purposes. No doubt, if Dr. Mercier had been writing a more elaborate treatise he would have modified some of his statements at the risk of discursiveness and uncertainty. For instance, in speaking of recurrent insanity, he says that recovery becomes less and less complete until a definite state of dementia takes its place in the cycle. Our experience is that the slight degree of dementia in fully established cases of *folie circulaire* is astonishing, after the severity and number of maniacal attacks. Again, in referring to general paralysis associated with syphilis, he says antisyphilitic remedies have never proved useful; whereas successful cases have been recorded from time to time, and should encourage further trials on the same line. No doubt, consideration of such points would have rendered the text-book more unwieldy than desirable, so we must be content with the limitations within which Dr. Mercier has confined his work.

The publishers have done their part in turning out the book in a handy readable form. We note a mistake here and there which should be corrected in future editions, *e. g.* "æsophagial" for "œsophageal;" and surely "melancholiacs" is to be preferred to "melancholics."

Encyclopædia Medica, under the general editorship of CHALMERS WATSON, M.B., M.R.C.P.E. Large 8vo, illustrated; vols. i to iii. Edinburgh: William Green and Sons, 1899 *et seq.* Price 20*s.* net each volume.

The first three volumes of this notable work are now before us, and we heartily congratulate Dr. Chalmers Watson upon the assured success of his great undertaking. It was projected to furnish medical men with a work which, differing from all existing ones, would be a medical and surgical library in itself—complete, concise, authoritative, and easily referred to. The cost is moderate, considering the great array of names of authors and the space which has been placed at their disposal. We believe that the editor has hit a happy medium in all the difficulties of allocating space to the well-known physicians and surgeons whom he has induced to support him in the production of an encyclopædia which is thoroughly practical and up-to-date. There is, of course, an inevitable tendency to repetition and to lack of unity in presentation of so many facts and opinions; but, on the other hand, the monographs are generally the work of specialists on the various subjects, and what may be contradictory is not much in evidence nor relative to points of great importance. The advantage of such a work as this, accessible as it is to every one who is interested in the details of his professional life, and eager to learn the latest pronouncements of science in reference to his daily difficulties, lies in the admirable arrangement of its parts and the full information it affords. The *Encyclopædia Medica* is not an affair of snippets, nor is it discursive and wearisome in consultation. Nothing

can be more vexatious than to take from the shelf a book of reference which fails in the matter of relevant details, or which deters a reader by the multiplicity of outworn opinions written round the subject on hand. In order to attain symmetry of treatment in the presentation of knowledge, Dr. Chalmers Watson has arranged for a synopsis, or index, at the beginning of each important subject. By this method he has attained something of French precision and form, which one seeks for in vain in certain other works of this kind—especially in those of German origin. There is also a brief, useful appendix to each article, giving the literature which may further be consulted. Thus the reader is led on to the study of what may be interesting to him or vital to his purposes.

We do not profess to have read the whole of these bulky volumes, but we have perused with careful attention those articles which are more nearly related to the work of psychiatrists, and we find them satisfactory in form and intention. Taking the first of these, *Acromegaly*, by Professor Dreschfield, we have in it a succinct account of all that is known on the subject, down to the year of publication. Or turning to the last, on *Food*, which is to be read with others on *Diet* and *Invalid Feeding*, we have a *résumé* of practical importance—with a description of the characteristics of good meat, and the characteristics of unsoundness; a brief summary in regard to milk and milk products; and lastly, a chapter on the effects of eating impure food.

The *Brain* is approached from the point of view of Physiology, by Dr. A. Bruce; the Vessels, by Dr. James Taylor; Tumours, by Dr. Risien Russell; Atrophy, by Dr. R. A. Fleming; and Surgery, by Mr. Cotterrill. But in addition to these main articles such special diseases as *Aphasia*, by Dr. Byrom Bramwell, and *Epilepsy* (including *Epileptic Colonies*), by Dr. Aldren Turner, are very fully considered in all their bearings. We note, too, that the *Cerebellum* is separately treated by Dr. Risien Russell, who begins with an account of the relative experimental physiology, and then passes on to describe the effects of hæmorrhage, softening, tumours, atrophy, and ataxy, with the diagnosis, prognosis, and treatment appropriate to each. *Equilibrium* is separately dealt with, so that the whole of the relative physiology and pathology is appropriately summed up. These studies have required adequate illustrations, and the publishers have not withheld these in the endeavour to make the text readily understood. A very important article on *Blood*, by Dr. T. H. Milroy, also commands our attention.

Coming to Mental diseases, we find that the editor has been fortunate in securing the services of authors well entitled to be considered representative. Dr. Clouston treats of *Adolescent Insanity*, *Alcoholism* has been the work of Dr. G. Wilson, *Climacteric Insanity* is described by Dr. Urquhart, and *Cretinism* by Dr. John Thomson.

The articles on *Civil Incapacity* and *Criminal Responsibility* are rather meagre from the medical point of view. They could have been improved had the advocate-author written them in collaboration with a medical expert. In this connection, however, we would draw special attention to the article on *Aphasia* by Dr. Byrom Bramwell, where the difficulties in regard to civil capacity are fully and most judiciously considered.

We need not continue these brief notes of this important work; our aim has been to indicate the results of our study of it; and our hope is that it will find a place in asylum libraries as most useful for reference in regard to many subjects of interest, designed to bring asylum physicians into touch with allied departments of medicine and surgery.

Recherches Cliniques et Thérapeutiques sur l'Épilepsie, l'Hystérie, et l'Idiotie [Clinical and Therapeutical Researches on Epilepsy, Hysteria, and Idiocy]. By Dr. BOURNEVILLE, with the collaboration of MM. Crouzon, Dionis du Sejour, Izard, Laurens, Paul Boncour, Philippe, and Oberthur. Paris: aux Bureaux du *Progrès Médical*, and Felix Alcan. Large 8vo, pp. 236 (with 11 plates and 19 illustrations in text). Price 6 f.

In this annual volume Dr. Bourneville and his coadjutors record their experience, not only in the routine work of the departments for imbecile and epileptic children at the Bicêtre and Fondation Vallée, but in several lines of research arising therefrom. The usual institution statistics appear in the opening section, showing that there were at the beginning of 1900 at the Bicêtre 449 male patients, and at the Fondation Vallée 199 female patients of the class named above. Sixteen deaths were recorded at the Bicêtre, and eight at the Fondation Vallée during the year. The discharges and transfers were respectively eighty-six and forty. Some interesting details of classification and of individual improvement noted in some of the younger cases are also given in this section.

A chapter is next devoted to the advocacy of the establishment of special classes for backward children, in connection with the Communal Schools of Paris, and a *résumé* of what has been done in this direction in Italy, Holland, and Berlin (following a communication printed in a former report as to special instruction in England, Belgium, Prussia, and Switzerland) is given in the form of a memorandum to the Commission of Supervision of the Asylums for the Department of the Seine. In spite of Bourneville's persevering advocacy, no steps have yet been taken by the school authorities for the formation of special classes in Paris, though he points out that in view of the increasing demand for institution treatment for defective children, much in excess of the 1068 beds available, it is desirable to adopt all feasible means for the amelioration of such as are fit to remain in their own homes. A scheme of domiciliary aid with medical supervision for cases of slight mental defect, for mild epileptics, and for adolescents discharged from Bicêtre to their own homes—a species of outdoor relief which need not cost more than a franc or franc and a half a day—is spoken of with approval, though Bourneville would evidently prefer a colony plan if practicable.

In the second portion of the *Recherches* we find clinical, therapeutical, and pathological observations all well worked out, and some of considerable interest. One is of family spastic infantile diplegia existing in two brothers, with an account of the autopsy of one which disclosed atrophy

of the cerebellum as well as of the pons and peduncles. The thyroid treatment of a case of "myxœdematous idiocy" is related in minute detail in another essay. Marked improvement in a case of profound idiocy after four years' treatment, medico-pedagogical and hydrotherapeutical, is chronicled in another section. The statistics of the influence of consanguineous marriages in the production of epilepsy, hysteria, idiocy, and imbecility are discussed, Dr. Bourneville's conclusion being that consanguinity of parents (shown in 3·23 per cent. of his cases) is, *per se*, an insignificant factor apart from morbid heredity. An interesting and important collection of microcephalic cases, illustrated by photographs of living patients who were shown at the International Medical Congress in Paris, forms the subject of another chapter, in which it is shown that even in this class considerable amelioration may be effected by persevering educational efforts. MM. Philippe and Oberthur contribute some particulars of histological examinations in hydrocephalic idiocy, in idiocy following meningo-encephalitis, in cases with atrophic sclerosis of the frontal lobes, in epileptic and hemiplegic idiocy consecutive to parental alcoholism, and in idiocy with cerebral atrophy, pachymeningitis, and cyst of dura mater. The lesions observed have evidently been carefully studied and recorded. Minuteness of detail indeed characterises in a special manner these *Recherches*, which, illustrated as they are by a number of large photographs and drawings of brains, worthily continue the series of annual volumes for which the Children's Section of Bicêtre has so long been renowned. G. E. SHUTTLEWORTH.

The Treatment of Neurasthenia. By A. PROUST and GILBERT BALLET. Translated by PETER CAMPBELL SMITH. London: Henry Kimpton, 1902. Foolscap 8vo, pp. 213. Price 5*s.* net.

Dr. Smith has made a useful present to English-speaking medical men. Neurasthenia, a plant of American growth, has not taken deep root in Britain. An eminent physician wrote to me not long ago that he saw no sufficient reason to accept neurasthenia as a special disease. The differentiation of new diseases is like the engravings which contain a hidden figure of a man or a cow or some other creature which can be made out after a little scrutiny. If one will not take the trouble to look for the tracing, the figure will not be descried. Doubtless this experienced physician had seen many cases of neurasthenia, but he arranged them under different forms.

On the Continent this disease gets wider recogniton. There are at least three separate books recently published in Germany on neurasthenia, and a host of articles in medical journals. The work under review is the joint product of two well-known professors of the medical faculty of Paris. They begin by observing, "We cannot help thinking that in some circumstances neurasthenia is commoner than it was sixty years ago. In any case we recognise it better and give it a name when we meet it." The authors devote the first eighty-eight pages to a description of the nature and causes of neurasthenia, and then pass on to the prophylaxis. Here the authors observe, "The modern concep-

tion which accords to heredity a power at least equal to that ascribed by ancient poets to fate is assuredly excessive." Most frequently hereditary influence does not produce irresistible outbreaks in the progeny. It is then that education may intervene to give birth to artificial instincts capable of balancing the hereditary instincts.

We have chapters upon psychotherapy, diet, climate, and hydrotherapeutics. The authors justly observe that experience has shown that the best treatment of neurasthenia consists in a wise regulation of the patient's hygiene. In this, which is often no easy matter, the patient needs the advice of the physician, who may derive help from a work like this. There are some formulated methods of treatment which receive a well-considered appreciation. The causes of nerve exhaustion nowadays are many and various, and different cases require special treatment. The book is written with that clearness and preciseness which is characteristic of French writers, and with unusual felicity of expression. Dr. Smith has succeeded in putting it into an English dress exempt from stiffness, and has added some useful notes.

WILLIAM W. IRELAND.

L'Audition. Par PIERRE BONNIER. Paris: Doin, 1901. Pp. 275, 8vo. Price 4 f.

This volume belongs to a new "International Series of Experimental Psychology, Normal and Pathological," edited by Dr. Toulouse, physician at the Asylum of Villejuif and director of the Laboratory of Experimental Psychology at the Paris École des Hautes-Études, well known also as the author of numerous works in various branches of psychology and psychiatry. He has planned the series with his customary energy and thoroughness; it is to comprise fifty volumes, dealing, it would seem, with nearly every subject which can be included under psychology. The contributors, while mainly French, have also been recruited from Russia, Italy, Belgium, England (Professor Stout, who will deal with metaphysics), America, and Roumania. German and Austrian psychologists are, however, alike absent. The enterprise, it will be seen, is a somewhat daring one; it is the most aggressive attempt which has yet been made by experimental psychology to take a recognised place in the intellectual world, and to claim the support of a large body of the intelligent public. It is to be hoped that Dr. Toulouse will be able to carry out his enterprise with complete success.

The present volume, on the sense of hearing, is not nominally the first of the series (that is to be by the editor and his assistant, Dr. Vaschide, and will be devoted to "The Examination of Subjects"), but appears as the twelfth on the list. Dr. Bonnier is a specialist in his subject; he devoted his attention to it even before he wrote his Paris thesis, and he is the author, not only of a work on the ear in four volumes, but of a long series of special memoirs on various auditory subjects. In the present book, avoiding elaborate detail, he discusses the conditions of hearing, the anatomy of the ear and its functions, and the theory of hearing. Organic lesions are not dealt

with, although various functional forms of deafness are described. A considerable part of the volume is controversial, for the author has a theory of his own which, while to some extent agreeing with Hurst's, is opposed alike to those of Helmholtz and Gellé. He believes that the theory of hearing must be taken out of the region of acoustics into that of hydrodynamics, and he insists that the ear is not a resonator but a registering apparatus. This view he defends with much skill. The theory of hearing, however, like the theory of colours, is one concerning which even the most competent authorities differ, and it would be impertinent to express here any opinion on the merits of the case.

It may be added that the volume is well illustrated, but there is no index, a defect to be noted also in most of the other volumes of the series which have yet appeared. HAVELOCK ELLIS.

Les Emotions. Par G. SERGI, Bibliothèque Internationale de Psychologie Expérimentale. Paris: Doin, 1901. Pp. 460, 8vo. Price 4 f.

Professor Sergi, although he speaks with most authority as an anthropologist, has long taken a keen interest in psychology. In the present volume—first published some years ago in Italian under the title of *Pleasure and Pain*—he appears as the champion of the James-Lange theory of the emotions, sometimes called the physiological theory, and by Sergi the peripheral theory, since, as he considers, that term best expresses its "opposition to the old theory according to which the emotions, like intellectual phenomena, are of central and cerebral origin; in our theory these phenomena develop primarily in the organs of nutritive life, which, in relation to the brain, are peripheral."

Sergi's new contribution to the James-Lange theory is an attempt to apply it to the æsthetic emotions. James had restricted the theory, somewhat unreasonably, to the "coarser" emotions, excluding the "subtler" emotions. Sergi seeks to show that such a distinction is not required. How far he has succeeded the reader must judge for himself. It cannot be said that either the truth or the falsity of this theory has yet been conclusively demonstrated. Clinical facts and experimental demonstrations have been brought forward on one side and the other. But emotional phenomena are so elusive and all-pervading that it is extremely difficult to isolate them, and so far each party has had little difficulty in showing that the evidence brought forward on the other side is not absolutely conclusive. Every one adopts—and is doubtless justified in adopting—that theory which best fits into his own psychological system. On a question on which such judicious authorities as Wundt and Ribot take opposite sides there is ample room for difference of opinion.

This book has been well translated by M. Petrucci, and has been revised by the author, who has written a new preface, and added a final chapter in which he discusses the most recent objections and criticisms. It is an attractively written monograph.

HAVELOCK ELLIS.

La Morale. Par G. L. DUPRAT, Bibliothèque Internationale de Psychologie Expérimentale. Paris : Doin. Pp. 400, 8vo. Price 4 f.

This book is an attempt to state "the psycho-sociological foundations of rational conduct," and in the preface the author seeks to justify the inclusion of a book on this subject in a series devoted to experimental psychology. In the past morals has been closely connected with metaphysics. That is no longer possible ; we have, the author admits, to content ourselves with a humbler task, but one which rests on a far surer foundation. "We have to vindicate for psychology, with which we must associate sociology, the exclusive right to furnish the moralist with the basis of his ethical doctrine. . . He who desires to show men the best way of living must be a savant before he can be a moralist ; he must at least be inspired by all the scientific data which individual and social psychology are in a position to give him."

Dr. Duprat is well equipped for the task he has approached. It was pointed out, in a review of the author's previous book, *L'Instabilité Mentale*, in this JOURNAL, that the value of that work was scarcely commensurate with the author's varied accomplishments and training. In the present work he has a more congenial task, and is able to make much better use of his equipment. It is true that the results he reaches are somewhat vague, but in outlining a new subject any undue precision would have been out of place, and this sketch of morality, on a scientific basis, will be found full of suggestive indications.

The work is divided into four parts. The first deals with method, and the author sets forth the proposition that, though morals must have a scientific foundation, it is not, properly speaking, a science, but, at the most, applied science. Morals is, in the strict sense, a technical matter—a craft. It is here compared to medicine, and the parallel drawn between the moralist and the doctor.

The second part, entitled "The Psychological Ideal," covers a considerable amount of ground, and discusses heredity, determinism, and the scope that is left for the individual ; a chapter is devoted to the criminal and unbalanced classes. The third part, "The Social Ideal," deals with morality as affected by the state, with the part that ought to be played by the state, and with marriage and the family. One chapter presents a clear and unprejudiced sketch of the doctrines of Tolstoy and Nietzsche, regarded as representing the two most opposed ethical doctrines—the gospel of love and the gospel of struggle, —and the author concludes that, while there are sound elements in each, we cannot accept either without qualification ; renunciation for the sake of renunciation, and virility for the sake of virility, are alike irrational. The concluding part deals with "The Struggle against Immorality."

It may be added that an English edition of this book is announced to appear, with a preface by Professor Stout. HAVELOCK ELLIS.

La Mémoire. Par J. J. VAN BIERVLIET, Bibliothèque Internationale de Psychologie Expérimentale. Paris: Doin, 1902. Pp. 352, 8vo. Price 4 f.

The name of Professor van Biervliet, of Ghent, is a guarantee of careful and competent work, though not usually of a very brilliant or original character. In the present volume he returns to a subject with which he has dealt before, and presents us with a useful, concise, and well-arranged summary of the experimental work bearing on memory produced during the past fifteen years.

The book is divided into three parts. The first deals with mental retention, or what Richet has termed "memory of fixation." Here are discussed the seat of memory, the types of memory, and the intensity of mental fixation, including the amnesias. This important section occupies half the volume. The second part deals with "memory of reproduction," including its disorders, such as the amnesias due to traumatism, disease, and intoxication (alcohol and tobacco), together with those connected with various forms of insanity; the experimental investigations dealing with the association of images, emotions, and ideas, are also summarised, and the nature of the bond uniting them discussed. The last part is concerned with "memory of identification," or with recognition and localisation in time. Various forms of paramnesia are here considered, and more especially the inability to recognise and identify. There is finally a short and rather slight chapter on experimental methods; this is the weakest part of the book, which can scarcely be recommended as a guide to those who propose to carry out investigations for themselves.

In following out his plan the author has not attempted to cover the ground exhaustively, but has selected what seem to him the most important investigations, whether carried out in Europe or America. Full justice is done to American psychologists—Jastrow, Münsterberg, Scripture, Stetson, Miss Calkins, etc.,—and summaries are given of Toulouse's elaborate experiments on Zola, and of Binet's on Diomandi. Altogether the book will be found a very convenient compendium of the experimental results lately reached in what is now a somewhat large and complete field of work. HAVELOCK ELLIS.

L'Année Psychologique. Publiée par A. BINET. Seventh year. Paris: Schleicher. Pp. 854, large 8vo. Price 18 f.

The latest issue of this valuable annual is marked by the different proportions in which the elements that constitute it now appear. The original memoirs occupy considerably more than half the volume, pp. 538, leaving less than pp. 150 for the analysis of current psychological literature, which bulked so largely in the early issues. The remainder of the volume is devoted, as usual, to the bibliography, which this year includes 2627 items.

Not only do the original memoirs this year constitute a larger portion of the volume, but they are shorter than usual, so that their number

extends to twenty-four. The first, of some length, is of biological character, and embodies a minute study of the habits of one of the most interesting of the wasps (*Bembex*) by Professor Bonnier. This is followed by a series of papers by Dr. Féré, presenting the results of his recent investigations concerning the variations in excitability and in amount of work done under the influence of fatigue, and of various pleasant and unpleasant stimuli; the results of most of these inquiries have already been noted in this JOURNAL. These papers are followed by Mlle. Joteyko and others, who deal with the relations of muscular fatigue to the nervous centres. Professor Clavière investigates the results of mental work and dynamometrical effort in schoolboys, and finds that intense and prolonged mental work during two hours leads to a notable and proportional diminution of muscular force as measured by the dynamometer, that moderate mental work produces no appreciable diminution of muscular power, while there is increase of muscular power in the total absence of mental work. Dr. Claparède discusses the question as to whether we possess specific sensations of the position of the limbs, and defends the use of the term "muscular sense," the word "sense" being an ancient term which it is impossible to attempt to confine within narrow technical limits. Larguier des Bancels deals with the estimation of coloured surfaces, showing how judgments of the extent of a coloured surface largely depend on the particular colour.

Dr. Binet, the editor of the *Year-book*, contributes an important series of five memoirs dealing with the measurement of the head in living subjects, more especially school children. Binet observes that investigations of this and allied anthropological character are being pursued by psychologists at the present time with much energy in various countries. He has consequently set himself to acquire a technical knowledge of anthropometrical methods, and the first of this series of memoirs describes at length his own recent education in this matter; he incidentally refers to various minor points in which the leading French anthropologists, like Manouvier and Deniker, differ from each other; his own methods appear to approach most closely to Deniker's. In the succeeding memoirs he proceeds to describe his study of the head measurements of children in schools near Paris, carried out with a view to ascertain how, if at all, intelligent children differ from unintelligent children in head and face measurements. The subjects were, so far as possible, racially homogeneous, belonging to the same region of France, and all pathological subjects, including all "defectives," were excluded from the inquiry. When the intelligent group was then compared with the unintelligent group it was found that there was an advantage, on the average, on the side of the former, but the advantage was very slight. After much fruitless manipulation of these results, in the hope of bringing out clearer conclusions, Binet resolved to compare the two extremes, the very intelligent and the very unintelligent, omitting those in the middle, and, as before, all abnormal cases. Much more pronounced results were now reached. On the whole, it was found, the intelligent children have slightly larger heads than the unintelligent, the chief advantage possessed by the former being in greater maximum, transverse, and also biauricular diameters. Nearly all the transverse measurements are, however, greater in the intelligent, this applying to

the zygomas, and even to the lower jaws. Antero-posterior measurements show very little advantage to the intelligent, and vertical measurements none at all. One measurement, indeed, and only one, shows an advantage in favour of the unintelligent: the measurement from the nostrils to the chin (inclusive of latter), thus including the greater part of the masticatory region. The frontal region plays a very small part in these differences; it is very slightly broader in the intelligent, but only, it would appear, because the parietal region is broader. Extreme variations were found chiefly among the unintelligent.

A related series of memoirs, but dealing with the weak-minded and imbecile children at the Colony of Vaucluse, is furnished by Dr. Simon. He finds that extreme variations, over and under the average, are very marked, and much more so in idiots than in the feeble-minded. Especially notable, apart from the general reduction of the cranial vault and the constriction at base, was the tendency to unequal development of the anterior and posterior portions of the skull, the chief defect being in the posterior region. In the psychological and anthropometrical study of idiots and the weak-minded we have a field of research of great interest and wide-reaching significance, and it is much to be regretted that it is not more frequently explored with Dr. Simon's thoroughness and care. HAVELOCK ELLIS.

Jahresbericht der Neurologie und Psychiatrie [*Year-book of Neurology and Psychiatry*]. Vol. iv. For the year 1900. Berlin: S. KARGER, 1901. 8vo, pp. 1100. Price not stated.

This volume, massive in size and highly important and instructive in contents, would require a small volume to itself were justice to be done in reviewing it. But as space does not permit this, and as many of the papers summarised in it have already been noticed in this JOURNAL, it will be sufficient to draw attention in a general way to its contents.

Such a volume is of the greatest usefulness to any one who endeavours to keep in touch with the progress which is being made from year to year in this most interesting branch of medicine. It is quite an impossibility for a busy man to read all the papers bearing on neurology and psychiatry, and a general summary, such as the *Jahresbericht* furnishes, is therefore most useful in enabling every one to ascertain, with the least amount of trouble and expenditure of time, what advances are being made in these important departments of medicine. The names of those associated with the editors, Dr. Flatau, of Warsaw, and Professor Mendel and Dr. Jacobsohn, of Berlin, are, in most instances, already known over the whole world as masters in their speciality. Such names as von Bechterew, Ewald, Jolly, von Leyden, Lugaro, Obersteiner, Pick, Schlesinger, Verworn, and Ziehen are a guarantee, if any were needed, that the work is carefully done, and that the summaries of papers are written by men thoroughly acquainted with their subject.

The book is arranged in sections, which are divided primarily into

those dealing with neurology and with psychiatry; the former are further subdivided into methods, anatomy, physiology, pathological anatomy, pathology, and treatment. The latter also contains six sections, viz. psychology, general ætiology, symptoms and diagnosis of mental diseases, special forms of insanity, criminal anthropology, forensic psychiatry, and treatment. Each of these is further divided into smaller sections, so that no part of the subject escapes notice, and any one can be readily referred to. There are, altogether, no less than sixty-two different sections. There is an index of subjects and of authors, so that it is easy to find any reference which one desires. At the beginning of each section there is a complete bibliography, and the total number of the papers and books included in these lists amounts to no less than 6400. This of itself shows how complete the compilation is, and at the same time demonstrates the impossibility of giving more than a general notice of the book. We have tested its accuracy in the case of a number of short papers published in some of the smaller medical journals, and have found them all included. Most of the papers mentioned in the bibliographical list are summarised in the immediately subsequent pages. These *résumés* are clear and accurate, though necessarily not critical. There are, unfortunately, numerous printing errors, especially in the names. This is perhaps excusable, and is the only fault that can be found with an admirable and thoroughly useful book. JAS. MIDDLEMASS.

Zur Lehre von der Blutzirkulation in der Schädelhöhle des Menschen namentlich unter den Einfluss von Medikamenten. Experimentelle Untersuchungen von Dr. HANS BERGER, Hausärzt d. Psychiat., Klinik zu Jena. Jena: Gustav Fischer, 1901.

Much the larger part of this instructive monograph is devoted to a review of previous literature on the subject, beginning with a general historical introduction which occupies nearly half the book. This is well done upon the whole, and will be useful to future workers, though it is not quite complete, there being no mention, for instance, of Cavazzani's important contribution to the subject, while Robertson's views as to the functions of the dural perivascular canals are not noticed. In general, however, the work of the British school has justice done to it. The conclusion on page 36, that "the circulation in the closed cranium must take place under the same conditions as in the rest of the body," can scarcely be regarded as proved; and we notice an error on page 54, where it is stated that Gulland failed to find nerves in the walls of the cerebral blood-vessels.

The author's own observations were made partly on animals; but the most noteworthy are those on a patient with a considerable cranial defect, the method used being chiefly that of Mosso, and plethysmographic tracings from the arm being taken simultaneously. A good deal of the work covers old ground, including a study of the circulatory, respiratory, and vaso-motor movements of the brain, and touches on many points of interest. For instance, the author supports the view of

Mosso that the vaso-motor waves are of two kinds, passive and active, the latter (clearly shown in one of the curves) implying the existence of vaso-motor nerves. The danger of mistakes from the marked effect produced upon the curves by slight changes of position, respiration, etc., is an important point strongly insisted on.

The most generally interesting section of the book, however, is that which deals with the effect of drugs on the cerebral circulation. It includes, besides a review of the literature, a number of original observations on amyl nitrite, camphor, digitoxin, caffein, cocain, ergotin, morphin, and hyoscin. Amyl nitrite was found to exercise a specific dilating action on the human cerebral vessels, as on those of animals. Digitoxin and ergotin increase the cerebral blood-supply, both, probably, by augmenting the general arterial pressure. On the other hand, morphin and hyoscin lessen the supply of blood to the brain, the latter by actual contraction of the cerebral vessels, so that it should be used with caution where cortical malnutrition is suspected. Camphor and caffein seemed to have no effect whatever, and cocain, strange to say, actually reduced the height of the cerebral pulse-waves, an important observation showing that increased chemical change (as manifested by rise of temperature and subjective and objective phenomena) is not necessarily accompanied by increased blood-supply. It is right to say, however, that some of these statements are apparently based on single experiments. The facts taken together tend to show that the drugs act for the most part directly upon the nerve-cells. The monograph is liberally illustrated with curves. W. R. DAWSON.

Reports of the Cambridge Anthropological Expedition to Torres Straits. Vol. II, 'Physiology and Psychology;' Part 1, "Introduction and Vision." Cambridge: University Press, 1901. Pp. 140, 4to. Price 9*s*.

The straits between Australia and New Guinea, named after the great Spanish navigator whose pioneering discoveries in these regions are only now beginning to receive the credit due to them, have long served to indicate one of the main southern trade routes, but have seldom attracted scientific investigators. Some fourteen years ago, however, Dr. Haddon was in that region exploring its marine zoology. While studying the fauna, by a natural transition he became interested in the people. The final result of the visit, indeed, was that Dr. Haddon abandoned zoology and devoted his great and versatile energies entirely to anthropology; at the present time he is the President of the Anthropological Institute of Great Britain. His interest in the peoples of Torres Straits still continues, and a few years ago he was enabled to carry out a cherished plan for a thorough scientific and methodical investigation of the district, anthropological and psychological. The Cambridge Expedition, conducted by Dr. Haddon, including many able specialists, especially Dr. Rivers in psychology, and well equipped with scientific instruments, is notable as the first considerable scientific expedition which has ever been sent out to study

anthropological and psychological phenomena. The results of the expedition will be published in some six volumes, of which the present part—for which Dr. Rivers is mainly responsible—is the first portion to appear.

Dr. Rivers' investigation of the vision of the natives mainly falls into three divisions: (1) visual acuity; (2) colour-vision; (3) visual spatial perception.

Visual acuity was tested according to several methods, of which the most satisfactory was found to be Snellen's method, by which the letter E is held in various positions. There was found to be no marked difference between the visual acuity of the European and the Torres Straits Islander, such difference as was found being to the advantage of the latter. Visual acuity declines at an earlier age than in Europe. Myopia was rare; astigmatism was occasionally found. There was some reason to believe that the natives could see better in the dark than Europeans, and Dr. Rivers would explain this by greater abundance of pigment and more rapid formation of visual purple. With regard to the slight difference in visual acuity between the European and the Torres Straits Islanders, Dr. Rivers is in agreement with those who attribute the visual feats of savages to greater practice in observation.

The investigation of colour-vision was carried out chiefly with Holmgren's wools and Lovibond's tintometer, and due care was taken to avoid fallacies. Not one case of red-green colour-blindness was found among 152 natives of Torres Straits and the Fly River District, but there was some reason to suspect the presence of the rare condition of yellow-blue blindness. Confusion between green and blue was very common, also between blue and violet, while red was always well discriminated. Colour nomenclature and the derivation of colour names were also carefully investigated; as in other parts of the world, the common name for red was found to be derived from blood, and of green from gall. The colour words for red and yellow were found to be the most definite and best established. The interest of Dr. Rivers' report is greatly increased by the constant reference to the results reached by previous investigators of primitive peoples. These references are full and accurate, though at one point—in reference to colour-vision—the previous state of the problem seems not quite accurately represented. Magnus is classed among those who have based a belief in primitive defectiveness of colour-vision on the evidence of nomenclature alone. It is true that in his first book Magnus ranged himself with Geiger, but, unlike Geiger, he was an ophthalmologist, not a philologist, and in his two subsequent pamphlets on this subject he clearly stated that philological evidence is not adequate to prove the defective colour-vision of primitive peoples. And he not merely "argued" that defects in colour-vision have a probable physiological basis, he attacked the question directly. With the advice and aid of Dr. Pechuel-Loesche, an eminent traveller and ethnographer, he set on foot inquiries among many different races in various parts of the world, besides collecting such existing evidence as he could find, and he reached the conclusion that among primitive peoples there not only must be, but actually is, a tendency to defective perception of blue and green. Although he could not command the facilities at the disposal of the later

investigator, his position twenty years ago was exactly the same as that of Dr. Rivers to-day.

In making observations on visual spatial perception there appeared reason to believe that the natives showed less sensitiveness to optical illusions than Europeans.

On the whole, this first instalment of the results of the Cambridge Expedition fully demonstrates the great value and interest of the results that have been reached. HAVELOCK ELLIS.

Trattato di Psichiatria. Del Prof. BIANCHI LEONARDO. Napoli: 1902. Part II, pp. 171 to 377. Price l. 6.

As already indicated in the notice of the first part of Professor Bianchi's text-book (*Journal of Mental Science*, October, 1901, p. 786), this second instalment deals with the elementary symptoms of mental disorder, and is intended to form an introduction to the clinical study of insanity. It consists of seven chapters, in which the physiology and pathology of perception, of attention, memory, ideation, the emotions and sentiments, the will and consciousness are successively considered. It is virtually a succinct treatise upon normal and pathological psychology. It is coloured throughout by the strong individuality of the author, who has beyond question given a masterly exposition of this difficult subject. In view, however, of the fact that a translation is in preparation, and as, in ordinary course, the complete work in its English dress will be reviewed in this JOURNAL by some one fully competent for the task of duly estimating the value of new contributions to psychological literature, it will, perhaps, suffice for the present to have indicated the general scope of this second part. As the third part is already in the press, it may be hoped that the complete work will soon be available to the English reader. W. FORD ROBERTSON.

Parole Pronunciate dal Prof. Clodomiro Bonfigli, Presidente della Lega Nazionale per la Protezione dei Fanciulli Deficienti, il 24 Aprile, 1901, nell' Innaugurazione Ufficiale dell' Istituto-Medico-Pedagogico della Lega [*Inaugural Address of Professor Bonfigli on the Opening of the Institution for Mentally Deficient Children at Rome*].

Prof. Dott. G. C. Ferrari: Istituzione della Lega Nazionale per la Protezione dei Fanciulli Deficienti [*Dr. Ferrari on the League for the Protection of Deficient Children*].

A. Gianelli: Sulla Educazione dei Fanciulli Deficienti [*On the Education of Deficient Children*]. *Rassegna Internazionale*, 1 *Marzo*, 1902.

Resoconto Finanziario della Lega Nazionale, 1899—1901.

Relazione Finanziaria de l'Istituto Medico-Pedagogico. Rome, 1902. (*Financial Statements of the said Institution.*)

Towards the end of last March, along with Dr. Alexander Robertson, I visited Rome, when I had the honour of being shown through the

great asylum of Santa Maria della Pietà by the superintendent, Dr. Clodomiro Bonfigli. How much pleasure did it give me to converse with this distinguished professor, and to be introduced to his brilliant staff of young physicians and pathologists! The survey of the numerous buildings presented many novel features. The library, the offices, the wards, with some unwonted types of insanity, the grounds gay with early flowers and the trees and shrubs of a warmer sun, and, lastly, the commanding view from the summit of Janiculum, with the Alban hills on one side, the Vatican and the Eternal City on others, filled my mind with a crowd of images which it would be vain to endeavour to record. I shall, therefore, content myself with the account of a visit which I made on the afternoon of the same day to the new training school for imbecile boys in the Via Pietro Cossa on the right bank of the Tiber, near the Ponte Cavour.

The first school for imbeciles in Italy was begun by the Senator Vincenzo Tommasini on the Janiculum in 1884.

The first approach towards the present institution was made by Professor Bonfigli in the Chamber of Deputies about five years ago. He urged the necessity of taking Italy out of its inferior position, compared with other civilised nations, in the education of deficient children. The Minister of the Interior, while admitting the desirability of the object, declared that the State was not prepared to assume such a charge. Turning his hopes upon private charity, Bonfigli founded in 1898 the League for the Protection of Deficient Children, which received the adhesion of the principal scientific and political men of Italy. Doctoress Montessori undertook to lay this object before the public, which she eloquently advocated through the principal towns of Italy. Enthusiasm was kindled, and local committees were formed to collect subscriptions. Professor Bonfigli began by instituting a preparatory school for the training of teachers in this special branch of education. Those who had already acquired a certificate of teaching for the primary schools were instructed in the elements of biology, hygiene, and the ordinary symptoms of deficient mental power, as well as the methods and art acquired in the special teaching of the deaf and blind. The present training school for imbeciles was begun a year ago in a conventual building. In time, no doubt, more suitable quarters will be obtained in a less inhabited neighbourhood. At present it gives instruction to fifty-six boys. Fifty of these were sent from the asylum by Dr. Bonfigli, their cost being defrayed by the provinces; six are private boarders. All the children I examined seemed educable, save perhaps one, a microcephale. The circumference of his head was 37 c. They seemed in good health, and had every sign of being well cared for. The institution is under the direction of Dr. Montesano, with a secretary. The staff of teachers is liberal, allowing suitable division of classes in small schoolrooms. There is a matron and five governesses, and male teachers of music, gymnastics, and language. They have the services of eminent medical men in special diseases. The school material is ample and varied. There were some appliances of Italian device for testing sight and touch which I had never seen before. Evidently every means are used to awaken a dull apprehension and hold the attention of the pupils. The symptoms of the inmates, their

grades of intelligence, and their progress are carefully noted, and, in time, observations important to psychology may be expected to come from Dr. Montesano's institution. Here I had the good fortune to meet Professor Tamburini, of Reggio Emilia, and Dr. Virgilio, of Aversa. These distinguished physicians were in Rome for a few days to prepare for the Government a report upon the asylums of Italy. I accompanied them through all the rooms, and saw everything. A chamber had been set apart for scenic exhibitions, which was darkened, and on the little stage a pantomime was performed by three of the pupils. One of the governesses explained the meaning to the rest as the acting went on. In the Rassegna Professor Gianella explains in a popular way the need and use of instruction for the imbecile, and the methods which have been proved for conveying it. The paper is illustrated with some woodcuts. His information seems almost wholly derived from French sources; but these are so ample that nothing of moment is omitted.

From the financial statements it appears that the daily cost to each pupil comes to l. 0·55; the monthly board to l. 30, *i. e.* about £18 8*s.* 4*d.* a year. The diet roll is given. During the hot months the inmates are rusticated to the heights of Rocca di Papa. The income of the institution, about l. 20,000, is derived from payments through the asylum from the several communes, a subsidy of l. 1000 from the Minister of Public Instruction, payments for private boarders, and charitable contributions. The money seems to be carefully spent. The salaries of the teachers, l. 750 a year, are less than those of the primary communal schools, and we share in the hopes that the funds will soon allow a more generous retribution to these painstaking and devoted women, who have made an apostolate of this work of beneficence to a helpless class. WILLIAM W. IRELAND.

Part III.—Epitome of Current Literature.

1. Anthropology.

The Finger-prints of Normal and Insane Persons [*Le impronti digitali dei fanciulli normali, frenastenici sordomuti*]. (*Atti della Soc. Rom. di Antropol., vol. viii, fasc. ii*, 1901.) *Sanctis, S. de, and Toscano, P.*

THE authors examined the finger-prints of forty boys in an elementary school in Rome, forty boys in an establishment for the weak-minded (not including cases of extreme idiocy), and twenty-three deaf-mute boys; the ages varied between six and fourteen.

Three types of imprint are described as normal, three others, simpler in character, as abnormal. The weak-minded and deaf-mute boys showed greater frequency of the abnormal types of imprint than the normal boys. The weak-minded and deaf mutes presented, how-

ever, no truly specific asymmetries, the same asymmetries occurring in all groups of subjects. It is noted, at the same time, that the weak-minded and deaf mutes present a greater tendency to uniformity of pattern in the same individual than do the normal subjects; what is here called "the uniform-anomalous type" prevails among the weak-minded, and especially among the deaf mutes. Simplicity may thus be said to be the special degenerative characteristic of the finger-prints of the weak-minded and the deaf mutes. But the anomalies found by the authors among these two groups of subjects are not so marked, they note, as other authors have found among idiots, epileptics, and criminals. The authors regard it as, perhaps, significant that the most exceptional anomaly, whether in normal or abnormal groups of subjects, occurs only in the index finger, "the finger of most advanced physiological evolution." The paper is illustrated and furnished with tables.

HAVELOCK ELLIS.

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2. Neurology.

Cases illustrative of the Localisation of the Mental Faculties in the Left Prefrontal Lobe. (*Amer. Journ. of the Med. Sci., April*, 1902.) *Phelps, C.*

The first part of this article consists of an interesting history of many attempts made to localise the mind in the human body before and since that made by Gall in the first decade of the nineteenth century. After mentioning the work done by Bouillaud, Flourens, and others, the author states that no further advance was made for twenty years or more, until Broca, in 1861, localised the centre for articulate speech. He then describes the experiments in cerebral localisation made by Fritsch and Hitzig in 1870, closely followed by those of Ferrier, Horsley, Schafer, and many others, resulting in the determination of centres of control for nearly or quite all the groups of voluntary muscles, for general sensation, and for the more important special sensations of sight and hearing.

He points out that on the question of control of the intellectual and moral faculties Ferrier and Hughlings Jackson arrived at conclusions which were radically different. The latter, together with all those who believe that there are higher centres which form the substrata for the higher mental operations, placed them in the frontal lobes. The author believes that if mental control be resident in the frontal lobes at all it must be localised in their prefrontal region, the posterior portion of the frontal convolutions having been demonstrated to control special motor functions, including the co-ordination of muscles of articulation. He is led to the conclusion, by an analysis of a considerable number of cases, in which injury has been essentially limited to one or both frontal lobes, that not only does such control probably reside in the prefrontal region, but that it lies in the left to the exclusion of the right lobe.

In his first series of cases, published in 1894, out of 225 necropsies

he excludes, owing to an early fatal issue, primary and permanent unconsciousness, etc., all but twenty-eight cases, in which the attendant conditions permitted an estimate of the direct results of frontal lesion. He added eleven more cases in the second edition of the same work, and still later cases increased the number of his personal observations of frontal lesion, verified by necropsy, to forty-six. The whole number of these more recent cases, together with those included in the second series, and previously unpublished, are then described in detail.

He makes three generalisations from an analysis of his first series of cases, *e. g.*:

1. In every instance but two in which consciousness was retained or regained, and the mental faculties were not perverted by general delirium, laceration involving the left frontal lobe was attended by default of intellectual control, and the lesion was usually, if not always, of the prefrontal region, and implicated either its superior or inferior surface. Subcortical disintegration, or deep or extensive laceration of the cortex, was specially characterised by abrogation of mental power and superficial laceration by aberration in its manifestations. In one of the two exceptional instances referred to in which laceration of the left frontal lobes was not attended by default of intellectual control, the supervention of final coma within two hours was so nearly immediate as to practically withdraw it from the class of cases under consideration. The other case seems to have been made exceptional by reason of the mental condition having been regarded as normal on the one day only in which the patient emerged from a general condition of stupor. In the first series of cases the inferior surface of the lobe was the more frequently implicated, but in the second it was the superior; and the abrogation of mental power seemed to be proportionate to the extent of the lesion rather than to its situation in the prefrontal region.

2. In every instance in which laceration was confined to the right lobe the mental faculties were unaffected, except as they were obscured by stupor or delirium occasioned by coincident general lesion.

3. Compression or contusion of the left lobe only exceptionally produced specific intellectual disturbance.

This generalisation is based upon an examination of an entire series of 295 cases in which the history was supplemented by necropsy. He questions, however, whether in recovering cases the lesion may not often be contusion, either limited to, or especially pronounced in, the left frontal lobe.

The author is of opinion that the large number of cases cited, with the analysis of their symptoms and lesions, are probably sufficient in themselves to form a basis for conclusions. They represent the personal observation and record of 800 cases of intra-cranial traumatism, of which more than 300 were subjected to either operative or post-mortem inspection. Excluding those cases in which death had been preceded by primary and permanent unconsciousness, they were all germane to the present inquiry as showing either the presence of left frontal lesion where mental symptoms had been noted, or the absence of such symptoms where the lesion was situated in any other region of the brain. In many excluded, because unverified cases, the coincidence

of predominating symptoms of a mental disorder with external indications pointing to a left frontal lesion afforded at least a corroboration of the inferences which the post-mortem examination of the other cases proved to be well founded. A. W. WILCOX.

The Action of Santonin on the Colour-sense, especially the Dichromatic Colour-sense [*Ueber die Wirkung des Santonins auf den Farbensinn, insbesondere den dichromatischen Farbensinn*]. (*Zeit. f. Psych., Heft* 4, 1901.) *Nagel, W. A.*

Prof. Nagel, who is partially colour-blind (green blindness), has been experimenting on himself with santonin. The rather puzzling action of this drug on colour perception has long been known, and many experiments have been made by previous observers. As, however, with some other similar drugs, there is great variation in individual reaction, and the unpleasant results that are liable to occur also stand in the way of experiment. Nagel's observations were chiefly made with Helmholtz's colour-mixture apparatus. Violet and blue appeared absolutely unchanged at all stages of santonin poisoning. At the other end of the spectrum, on the contrary—from yellow-green to red—the colours appeared pale or greyish from the first, and were finally seen only as white. The colour-system was not, however, thus rendered monochromatic, for though the spectral colours were affected, pigments, coloured glass or paper retained their vivid colours. These results correspond, on the whole, with those reached by some previous observers. Nagel's explanation is that the effects are produced not by the temporary falling out of one of the components of the dichromatic colour-sense, but, on the contrary, by the special stimulation of the blue or violet component. He remarks that, apart from santonin, strong stimulation of the retina with diffused white light produces increase of blue sensation, and he has also found that brief stimulation with strong sunlight produces, under certain circumstances, a blue after-image, and also that, with pupils dilated by atropine, small black objects on a bright ground are seen as blue. In this way he would explain the action of santonin, not as paralysing one element of colour-vision, but as abnormally stimulating another.

The other symptoms noted were a peculiar odour, nausea, and a high degree of nervous restlessness. At some points Nagel's observations recall the effects of mescal, although the chief feature of the latter—the visions—is entirely absent. HAVELOCK ELLIS.

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3. Physiological Psychology.

On Dreams [*Le rêve*]. (*Rev. Scient., June 8th,* 1901.) *Bergson.*

This is the subject of a lecture delivered before the Institut Psychologique. The part played in dreams by visual sensations of internal and external origin is all-important, but auditory sensations as well often determine the character of certain dreams. And so with sensations of touch. The author mentions interesting observations illustrating these

points. One must remember that in what we call natural sleep our senses continue to work. Although they work with less precision they receive numerous impressions, which, while they would attract no notice during the waking period, may be vivid during sleep. The colours, the changing forms, which appear when our eyes are closed, constitute the material of our dreams; they do not produce them, because they are vague and ill-defined. Memory forms our dreams. Recollections of objects perceived more or less clearly, more or less difficult to recall during the waking state; these give shape to our dreams, although we cannot always recognise this. A conjunction of the two factors, memory and sensation, constitutes the dream. The author also examines the question of the psychological characteristic of sleep, the real or essential difference between perceiving and dreaming. It is not abolition of reasoning. To sleep is to be disinterested. In dreaming the same faculties are exercised as during the waking state, but they are in a state of relaxation, not in a state of tension. We hear a dog barking during sleep; we dream in consequence of an assembly murmuring, shouting, etc.; no effort is required. To associate the noise with the barking of a dog requires a positive effort. This force the dreamer lacks, and herein he differs from the subject awake. Other differences might be deduced from this essential difference. The author mentions especially three points: the incoherence of dreams, the abolition of the sense of duration which dreams often appear to manifest, and the *order* in which recollections appear before the dreamer, to fit in with the sensations actually present. H. J. Macevoy.

Contribution to the Semeiology of Dreams [*Contribution à la séméiologie du rêve*]. (*Gaz. des Hôp., May 23rd*, 1901.) *Vaschide et Piéron.*

A brief account is given of thirteen observations, carefully analysed, in which symptoms of illness followed upon characteristic dreams on an average forty-eight hours later, *e.g.* (1) a little girl, æt. 3½ years, dreams that she is asleep in a closed copper bed, and that a carpenter who looks like her doctor fixes a vice by her bedside and squeezes her head in it. She shortly after developed a febrile illness which proved to be meningitis. (2) A lady, æt. 41 years, dreamt that her neighbour came to see her with a serpent coiled about her neck, which entered her (the lady's) mouth and tried to come out by the ear. In order to protect her own child, which she thought was lying by her side, she compressed her own ear to keep in the serpent. She was bitten by it, and could hear the hissing of the infuriated reptile. Three days later she had a purulent discharge from the ear.

In other cases, membranous sore throat, typhoid fever, bronchitis, etc., respectively followed, at intervals varying from a few hours to two days, dreams in which the subjects experienced painful sensations referred to the throat—sensations of thirst, of suffocation, etc. etc. On the other hand, the authors have observed cases in which dreams of this character were not followed by anything untoward. Still, cases like the above they consider to be useful contributions to the study of the manifestations of pathological changes in the "subconscious" mind.

H. J. Macevoy.

The Mental Condition of Saint-Simon [*L'État mental de Saint-Simon*]. (*Rev. Phil., Jan., March, April*, 1902.) *Dumas, G.*

Saint-Simon, the philosopher, the precursor and teacher of Auguste Comte, is an interesting figure from the psychiatric point of view, and Dr. Dumas has here given a somewhat elaborate account of his life. Born in 1760, he was the oldest of seven children, and belonged to an ancient and noble family, traditionally said to have descended from Charlemagne; the author of the famous memoirs belonged to one branch of the family. In the early part of his career, before he adopted socialistic views, the philosopher was wont to insist on his noble descent, and to say that all great men—Bacon, Galileo, Newton, etc.—were gentlemen. At an early age he showed characteristic self-confidence, energy, and independence; at thirteen refused to take his first communion, and when, in consequence, confined, he wounded his keeper and escaped. At fifteen he already began to gain a vague idea of his mission in life, but his education was conducted in a methodless way, though he used to congratulate himself that d'Alembert had been one of his masters. He was an enthusiastic admirer of Rousseau, and went to visit him. At sixteen he was in the army, and in 1779 was fighting in America under the orders of Washington, but was much more interested in political science than in military matters, and he soon left the army, "to study," as he said, "the progress of the human mind, and to work at the perfecting of civilisation." At the same time he still remained eager to take part in all sorts of adventures. When the Revolution broke out he took the popular side at first, and renounced his title of count, but he soon withdrew from the whirlpool, for he had no love of mere destruction. He speculated unscrupulously, however, with national property, acquired wealth, and, arousing the suspicions of the ruling party, he was imprisoned for a time. In prison, exalted by his ideas of scientific and social reform, he had a hallucination: Charlemagne appeared to him, and declared that his glory in philosophy would equal Charlemagne's in other fields. On leaving prison he began to study mathematics and medicine, and, being now rich, kept open house, all men of science being welcome. His receptions were presided over by a series of mistresses, and in 1801, when he married, by his wife. Very soon, however, he read the books of Madame de Staël, and realised that she was the collaborator whom fate had destined to share with him his great task. He succeeded in obtaining a divorce from his wife, though it was only with much grief that he could leave her. He had, however, neglected to consult Madame de Staël—a characteristic instance of his sanguine and impulsive tendencies,—and when he proceeded to Coppet to set forth his plans for social regeneration his reception was frigid. He retired to Geneva, and consoled himself (1803) by writing his first book, a somewhat fantastic production, but already containing the germs of some of his greatest and most fruitful ideas. He there plans an "Introduction to the Science of the Nineteenth Century," but, feeling that his knowledge must first be enlarged, he travelled in England and Germany. Then, his funds being exhausted, he was compelled to find employment as a clerk, but his

health broke down, and he began to spit blood. But a saviour appeared in the form of an old servant of the family, one Diard, who placed himself and his house at Saint-Simon's disposal. The philosopher accepted, and lived in peace until Diard's death in 1810. In the meanwhile he endeavoured to thrust his projects before Napoleon and influential persons in the scientific world, but with no result, and he began to think that he was being persecuted; he definitely accused Laplace of "poisoning ten years of his life." From the height of his pride he dealt out contempt to the great astronomer, but Laplace took no notice. On Diard's death Saint-Simon was again reduced to misery, and, overcome by privations and anxieties, he had a severe illness, with delirium. On recovering, his family granted him a small pension, and he proceeded to develop his philosophic and scientific ideas, one of the chief being that the science of man must be placed on the same basis, and conducted by the same sound methods, as the physical sciences, instead of, as had hitherto been the case, on a metaphysical or theological basis. His efforts to attract attention and get his books printed proving vain, he again fell ill, and we find him for a short time in an asylum. Concerning his disorder nothing, unfortunately, is known, save that he suffered much from insomnia. On leaving the asylum he brought forward his scheme for the union of England and France (he had a great admiration for England), as a nucleus for the future unification of the whole of Europe. Again reduced to despair by want and neglect, he resolved on suicide, and, having spent his last moments in philosophic meditation, he shot himself. The only result was, however, that he lost the sight of one eye. Gradually friends and admirers, including Comte, came around him, and he died in 1825, full, to the last moment, with the thought of his works and of his dreams for the happiness of mankind.

Was he insane? Dumas inclines to think not. He was an abnormal man certainly, and a neuropath, but he must be classed, Dumas believes, with the group of messiahs—the men with a mission. The whole of his life was consistently arranged, almost systematised, around his great mission; to that everything was subservient, and, in spite of all incoherences and extravagances, he was justified by the fact that some of his main ideas are now embodied in human thought. Outside his messianic character, Dumas points out, he was a man with the ordinary simple, commonplace, human emotions. HAVELOCK ELLIS.

The Value and Limits of Psychological Investigation in Psychiatry and Criminal Anthropology [*Valore e limiti dell' indagine psichologica negli studii psichiatrici e di anthropologia criminale*]. (*Il Manicomio, anno xvii, No.* 3, 1901.) *Del Greco.*

In this critical essay del Greco, developing views which he has put forward in earlier papers, argues against what would appear to be a current tendency in Italy to minimise the *rôle* of psychological inquiry in the study of insanity and crime.

The reaction from the old metaphysical psychology has brought in an

extreme mechanical positivism, which views consciousness as a mere epiphenomenon, a grouping of sensations reflecting a grouping of vibrations in the brain-cells; in this doctrine the psychical factor becomes almost a *quantité négligeable.*

When, however, we attempt to apply this artificial associationism in clinical inquiry, it at once proves itself inadequate; instead of the conditions which this psychic atomism would suppose, it is the fact of an active individuality, round which the complex mental phenomena cluster, that imposes itself on the observer.

Tracing this psychical formation to its simplest expression, the author finds it, with Fouillée, in instinct—appetite. As the biological individuality becomes defined in the struggle with the environment, the *ego* appears "in the form of the impulsive psyche rising to the volitional and rational psyche." The *ego* is always experienced as an *activity;* it is a dynamic whole which operates on each impression by combined disintegrations and integrations.

Followed back in the individual to the obscure facts of temperament, in the zoological line to the organisms without distinct nervous structures, the two series—material and psychical—reach a point where they seem to merge in impulse—tendency. But it is impossible to reduce one series to the other; they must be regarded as two aspects of the somato-psychic personality. It is necessary to study them together "in the unity of the somato-psychic individual."

The neglect of this synthetic view, leading, as it does, to the adoption of a crude doctrine of somatism, has been responsible for such absurdities as the attempts to define localised psychic centres. In criminal anthropology the same doctrine presents even greater dangers to the future development of that science. W. C. SULLIVAN.

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4. Ætiology of Insanity.

On the Heredity of Endogenous Psychoses in Relation to Classification [*Ueber die Vererbung endogener Psychosen in Beziehung zur Classification*]. (*Monats. f. Psychiat. u. Neurol., April and May*, 1901.) *Vorster.*

In this paper the author endeavours to demonstrate the unsoundness of the prevailing opinion of polymorphism in the heredity of mental disease. He quotes Kirchhoff, Scholtz, and others, who hold the view that a child of parents mentally afflicted may, to a certain extent, be expected to suffer from some functional, nervous, or mental disorder; but that that child is not to be expected to suffer necessarily from the same form of mental disorder as its parents. Sioli believes that mania, melancholia, and circular insanity mutually replace one another in heredity. Kraepelin and Harbolla believe that the form of psychosis in the descendants is, in the majority of cases, similar to that observed in the ancestors.

With these conflicting statements before him, the author has investigated the question of polymorphism in heredity by a study of twenty-

three families, which he has been able to investigate at his asylum at Stephansfeld.

He found nine families liable to suffer from *mania depressiva*, eight from *dementia præcox*, six from "reconstructive psychoses" (adolescent, climacteric insanities, etc.).

Taking the nine families whose ancestors suffered from *mania depressiva*, he finds that 80 *per cent.* of the mentally afflicted descendants suffered from the same form of insanity. In the case of the eight families whose ancestors suffered from *dementia præcox*, 77 *per cent.* of the mentally afflicted descendants suffered also from *dementia præcox*.

In twenty-nine instances of brothers and sisters coming under the author's care, the form of insanity was similar in twenty-six of the families.

The author, in conclusion, believes that a more careful investigation of the family history will help in prognosis; that is to say, that the physician should, in hereditary cases, always endeavour to find out whether the family suffers from a curable or incurable form of insanity.

W. H. B. STODDART.

Nervous Diseases and Pregnancy [*Nervenerkrankungen und Schwangerschaft*]. (*Allgem. Zeitschr. f. Psychiat., B. xxxviii, H.* 5.) *Mongeri.*

He observes that the character of women is altered during pregnancy, and often in a pathological direction. He is of opinion that it has a favourable influence in hysteria when it is not complicated with some other affection of the nervous system. Marriage not only satisfies the sexual instinct, but it gives them some one on whom they can expend their tender feelings, and gains for them some one who will care for them and protect them. "I have known," he says, "and treated several very hysterical young girls who are now married, and show no trace of nervous disease. Some of them have no longer the desire to satisfy the sexual feeling, and are averse to such intercourse, although they love their husbands and live happily with them. The physician need not hesitate to recommend hysterical women to marry if the other party have a healthy constitution, and is free from predisposition to nervous disease. On the other hand, he should never advise a woman to marry who has come through a severe attack of insanity, not only on account of the danger to the children, but because of the danger of relapse, often in an aggravated form."

Dr. Mongeri discusses at some length the cause of *chorea gravidarum*, and cites the experiments of Pianese, who has advanced the idea that chorea is the symptom of a disease of an infective character. This, he holds, is indicated by the lesions found, to wit, small hæmorrhages, perivascular inflamed spots scattered over the central nervous system, congestion of the liver with increase of pigment, necroses and extravasations in Bowman's capsules and other parts of the kidneys. He was able to withdraw from the spinal canal of a choreic patient a special bacillus, which, being inoculated into dogs, cats, and rabbits, gave positive results in the brain, the medulla, and the nerves. In no other organs did changes appear. Pianese obtained cultures of these bacilli, and found them in the blood of living choreic patients. Triboulet succeeded in

communicating chorea from one dog to another; but he failed to detect a special bacillus in the blood of choreic patients. Dr. Mongeri thinks that auto-intoxication furnishes the best explanation of the origin of chorea during pregnancy.

Dr. Mongeri concludes that pregnancy favours the production of an auto-intoxication and gives a predisposition to eclampsia. A current insanity is aggravated through pregnancy or rendered chronic, though an accidental mental derangement may derive benefit from it.

WILLIAM W. IRELAND.

Consanguine Marriages and their Consequences [*Consanguinität in der Ehe und seinen Folgen*]. (*Allgem. Zeitschr. f. Psychiat., B. lviii, H.* 5.) *Peipers.*

Mr. Felix Peipers has taken much pains to gather all the published reports bearing on the question of consanguine marriages, and his collection, though additions could be made, is pretty complete. In handling statistical literature of this kind one generally meets some contributions which show a controversial bias; Mr. Peipers especially remarks that three authors have published figures which are so far out of line with those of other inquirers in the same field that they may be treated as palpably incorrect, and the question occurs, Are they not to be rejected as untrustworthy? As these papers all support the old notion that close marriages entail something prejudicial to the offspring, it is possible that if they were summarily rejected, the remaining advocates of this view would consider that the question had been prejudged. Probably the authors in question had begun with the assumption that such marriages were prejudicial, and had collected supposed facts with too little scrutiny. If one were content to take the statistics of the last thirty years only, it would appear that the great preponderance of evidence is in favour of those who consider that consanguine marriages, *per se*, have no unhealthy effects; and if statistical inquiry continues to realise the same result, the older array of figures on the opposite side will, in comparison, shrink more and more. The author has himself made some extensive inquiries in special institutions, especially amongst the epileptics in Bielefeld, and in various asylums and schools for deaf mutes and idiots, as well as from private sources. He has arrived at the conclusion that a degenerative tendency in the offspring of the union of consanguine relations has, as yet, not been proved.

Mr. Peipers is still anxious to carry on the inquiry, and will be thankful if answers to his form of questions bearing on this subject are sent to him.

WILLIAM W. IRELAND.

Statistical Note on the Rôle *of Consanguinity in the Ætiology of Epilepsy, Hysteria, Idiocy, and Imbecility* [*Note statistique sur le rôle de la consanguinité dans l'étiologie de l'épilepsie, de l'hystérie, de l'idiotie, et de l'imbécillité*]. (*Prog. Méd., May 4th*, 1901.) *Bourneville.*

In 2784 defective children observed at the Bicêtre and in the Fondation Vallée from 1879 to 1900, Bourneville has found only 91 cases (3·23 per cent.) in which the parents were of near kin—cousins-

german in 49 cases, cousins farther removed in 36 cases, other or undefined relationships in 6 cases. In all the 91 cases some degree of neuropathic heredity could be traced. These figures thus confirm the view that parental consanguinity is, *per se*, insignificant as a cause of degeneracy in the offspring. W. C. SULLIVAN.

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5. Clinical Neurology and Psychiatry.

Argyll-Robertson Pupil, its Clinical Value and its Relation to Syphilis [*Le signe pupillaire d'Argyll-Robertson; sa valeur séméilogique; ses relations avec la syphilis*]. (*Gaz. des Hôp., Dec. 28th*, 1901.) *Cestan et Dupay-Dutemps.*

Argyll-Robertson pupil is an acknowledged sign of tabes and of general paralysis, both of which diseases have a close relation to syphilis. The authors have set themselves the task of determining whether this sign, when it occurs in cases other than tabetics or general paralytics, has any relation to previous syphilis in the patients.

In their investigation they have been careful to examine all patients in a dark room, and to throw a beam of strong light on to the macula of the eye under examination; and they have rejected all cases in which there was the slightest sign of contraction to light, or in which there was any failure to contract on accommodation. In cases of myosis in which it was difficult to ascertain whether the pupil contracted, they adopted the ingenious plan of dilating the pupil with cocaine before examination. No cases of tabes or general paralysis are considered in this paper.

To facilitate the discussion, the patients are divided into three classes. In the first class are placed those cases in which syphilis was certain or extremely probable. There were ten such cases. In four of these reflex iridoplegia was the only symptom or sign, five were cases of hemiplegia; there were two cases of myelitis, one was a case of hæmatomyelia, one amyotrophic lateral sclerosis, and one Friedreich's disease.

In the second class are placed cases in which it was practically certain that the patients had not had syphilis. Under this heading there is a discussion of certain cases of multiple neuritis in which the pupils did not react to light; but it is demonstrated that these are not true cases of Argyll-Robertson pupil, the sign being, in these cases, due to scotomata, retro-bulbar neuritis, etc. The authors here also quote two cases from the literature of syringomyelia, in which the Argyll-Robertson pupil occurred, and in which there was no history of syphilis.

The third class might have been omitted from the paper, since it includes only cases in which there was not any reflex iridoplegia.

Recognising that the light reflex is always tested in the insane, the authors then looked up the statistics of some asylum physicians.

Siemerling and Mignot have both reported that the Argyll-Robertson pupil occurs rarely in the insane apart from general paralysis and tabes. Marandon de Montyel, however, appears to have made the extraordinary statement that one quarter of all cases of insanity present this symptom. With such divergence of opinion, the authors very naturally sought to investigate the matter for themselves at Salpêtrière. They failed to find a case of Argyll-Robertson pupil there apart from general paralysis and tabes. The authors very properly observe that it is no easy matter to test the pupils in the insane as accurately as in other cases. The conclusion arrived at from this research is that, if subsequent investigation should confirm the above observations, in the insane just as in cases of organic disease of the nervous system, the Argyll-Robertson pupil means syphilis.

The paper concludes with rather too pessimistic a discussion of our ignorance of the course of the fibres along which the light reflex travels. The authors are evidently unfamiliar with the experimental work which has been done in this country in connection with the Argyll-Robertson pupil. W. H. B. STODDART.

On the Symptomatology of Tabes Dorsalis in the Pre-ataxic Stage, and on the Influence of Optic Atrophy on the Course of the Disease [*Zur Symptomatologie der Tabes Dorsalis im praeataktischen Stadium, und über den Einfluss des Optischatrophie auf den Gang der Krankheit*]. (*Monat. f. Psychiat. u. Neurol., July and August*, 1900.) *Förster.*

This is an analysis of twenty-seven cases of tabes in the pre-ataxic stage. They do not appear to be all undoubted cases of tabes. For example, the diagnosis of Case 18 is made solely on the fact that the patient has had syphilis and now has optic atrophy; and the author rather begs the question in the second half of his paper by asking, "What would become of diagnosis if there existed a genuine non-tabetic optic atrophy?"

The cases are tabulated under the heading of twenty individual symptoms, and it is pointed out that no one of these symptoms existed in every case.

Although an inspection of the table is not convincing, the author, in the conclusions which he draws from it, is in agreement with the usually accepted view that other symptoms of tabes do not progress when optic atrophy has set in; and he quotes cases in which the signs and symptoms have even retrogressed (return of knee-jerks, etc.). He does not attempt to explain this improvement of the ataxic symptoms in such cases. W. H. B. STODDART.

On Objective Signs of Disturbed Sensation in Cases of Traumatic Neurosis—so called [*Ueber objective Symptome der Störungen der Sensibilität bei den sogen traumatischen Neurosen*]. (*Monats. f. Psychiat. u. Neurol., February*, 1901.) *Bechterew.*

In cases of traumatic neurosis we are often called upon to decide whether complaints by patients of disturbed sensibility are well founded or due to malingering. In the present paper Bechterew draws attention

to the importance in such cases of observing the objective signs of disturbed sensation—anæsthesia, hyperæsthesia, paræsthesia, or pain. Though first described by Mannkopf, the author claims priority in establishing the importance of these signs.

The signs to which the author refers are as follows:

1. There is diminution of the cutaneous reflexes in anæsthetic areas, and corresponding increase in hyperæsthetic areas. In the case of hemianæsthesia there is diminution of the cutaneous reflexes (*e. g.* plantars) on the anæsthetic side. If this be due to organic brain disease, there is also inequality of the tendon reflexes on the two sides; but if due to functional disease, there is no inequality of the tendon reflexes.

2. If an electrical wire brush be applied to a normal area of skin, there is disturbance of respiration and pulse; if it be applied to an anæsthetic area, this disturbance is less marked; if to a hyperæsthetic area, it is more marked.

3. Dilatation of the pupils should be noted when the wire brush is applied to a normal area, a supposed hyperæsthetic area, or a supposed anæsthetic area.

4. There may be vaso-motor spasm on stimulation of an anæsthetic area, or undue vaso-motor dilatation in a hyperæsthetic area.

5. The vascular reaction to stimuli may be shortened or delayed in the area of disturbed sensation.

6. There may be local alterations in the surface temperature.

7. The author quotes cases in which convulsive twitchings, occasional giddiness, and swaying of the body occurred on irritation of a hyperæsthetic area.

He further points out that pains are sometimes associated with local vaso-motor symptoms, *e. g.* abnormal redness, cyanotic discoloration, dermography, etc. The parts principally affected by skin hyperæmia appear to be the face, throat, neck, and upper part of the chest.

W. H. B. STODDART.

The Sense of Smell in General Paralysis [*Recherches expérimentales sur la sensibilité olfactive dans la paralysie générale*]. (*Rev. de Psychiat., February*, 1802.) *Toulouse and Vaschide.*

It has long been known that there is a tendency to loss of the sense of smell in general paralytics. A. Voisin, indeed, regarded this as one of the earliest signs, and therefore of diagnostic value. The present investigation was carried out at Villejuif, on twenty-eight women in various stages of the disease. The method was one which has been frequently used by Dr. Toulouse in previous investigations, and consists essentially in a graduated series of solutions of camphor, various precautions being taken to avoid fallacies. The difficulties in the present case were very great, and to avoid error the experiments were repeated many times.

It was found that complete loss of smell does not tend to appear at a very early stage (contrary to Voisin's opinion), and that it increases progressively with the course of the disease. Of the twenty-eight subjects, eight, or about one third, were absolutely anosmic, or quite without sense of smell, while among normal subjects only one in thirteen

is found to be in this condition. None of the anosmic individuals belonged to those in the early stage of the disease.

The authors also investigated what they term the "tactile olfactive sensibility" of their subjects; in other words, the reaction of the olfactory region to ammoniacal stimulation, using graduated solutions, as with the camphor. This kind of sensibility, or rather organic irritability, is very fundamental, and it is not surprising that it usually persisted in spite of the decay of the true olfactory apparatus. In most cases, however, although a painful sensation was perceived, the subject could not (as most normal persons can) detect the nature of the stimulus.

It was noted that perception is lost much sooner than sensation,—that is to say, that while the subject was vaguely conscious of some olfactory sensation when the camphor was applied, and could distinguish it from water, she was often unable to recognise the nature of the odour, even at an early stage of the disease. It is interesting to remark, the authors observe, that in a disease which is the very type of dementia, of intellectual weakness, the most delicate form of mental activity, perception, should be the first to go. HAVELOCK ELLIS.

Statistical Contribution to the Etiology and Symptoms of General Paralysis [*Statischer Beitrag zur Aetiologie und Symptomatologie der progressiven Paralysie*]. (*Arch. Psychiat., B. xxxv, H. 2.*) *Raecke.*

Dr. Raecke has made an elaborate study of 136 patients suffering from general paralysis. Of these, twenty-nine men and three women were followed to the end, the others being transferred to various asylums. His inquiries confirm the results of previous observers. The evidence of the great part played by syphilis in the causation of the malady is powerful. The previous existence of lues was found to be certain in 57 *per cent.* of the cases, to be probable in 20·9 *per cent.*, unknown in 10 *per cent.*, and denied in 11·8 *per cent.* Only fifteen of the sixty-three had been under medical care for venereal disease prior to the onset of nervous disease. Antispecific treatment was practised on twenty-eight patients with little success. Immobility of the pupil to light in both eyes was found in fifty-four patients, and on one side only in ten; slow reaction of the pupil in thirty-eight, prompt in eight, *i. e.* the reaction was impaired in 92 *per cent.* In only one case was there a return of pupil activity. In above half the cases the patellar reflex was increased. Dr. Raecke found that the paralysis of the pupil and exaggerated patellar reflex frequently go together, though he does not consider that impairment of the pupillary reaction indicates affection of the posterior column of the spinal cord, as Gaupp has maintained. Tremor of the tongue appears to be about the most constant symptom. It was present in ninety-five cases; deviation of the tongue to one side in twenty-four. He found the duration of general paralysis to be two years and three months. Sprengeler, from an observation of 337 cases in Göttingen, found the mean duration to be two years and six months for men, and three years five months and a half for women.

WILLIAM W. IRELAND.

On the Early Symptoms of General Paralysis [*Ueber die Frühsymptome der progressiven Paralysie*]. (*Allgem. Zeitschr. für Psychiat., B. lviii, H. 5.*) *Moravesik*

Amongst the early symptoms of general paralysis are mentioned disorders of digestion, wandering neuralgic pains, a diminution in mental activity, a feeling of tightness or beating within the orbits, flashes before the eye, sounds in the ear, with pulsation in the arteries of the neck and temples. The reproduction of ideas becomes sluggish. He cannot hit upon the right word, and has to use less appropriate expressions. His memory begins to fail him. Sometimes, on the other hand, the intensity of intellectual power seems increased, even while the patient is suffering from the troubles of digestion, loss of flesh, sleeplessness, inequality of the pupils, and heightened patellar reflex, and he is able to work as well or even better than usual. At an early date the patient becomes more emotional, and shows a sentimental distress at anything pathetic or unpleasant. He has paleness of the face and a blue ring around the eyes. There is often a rise of temperature during the night and an increased secretion of saliva.

Dr. Moravesik confirms the observation of Mendel that the type of general paralysis has altered during late years, returning to the old classical demented form, and that remissions of the symptoms are more considerable and more frequent. He also thinks that now the initial symptoms of paralysis are more liable to be confounded with other forms of insanity, especially paranoia, while the characteristics of the malady at a later date become more accentuated.

WILLIAM W. IRELAND.

Cerebral Syphilis simulating General Paralysis [*Syphilis cérébrale simulant une paralysie générale*]. (*Le Prog. Méd., Jan. 18th,* 1902.) *Brissaud et Vichin.*

This is a case in which the diagnosis was for some time uncertain, and in which at one time the condition was almost characteristic of general paralysis. A man æt. 43 years, in a responsible position, had syphilis in 1897, and was treated. In 1898 he began to suffer from headaches on the left side, especially localised in the temporal and posterior parietal regions. On July 22nd he noticed that he had dimness of vision, scintillating scotoma, and developed an attack of Jacksonian epilepsy. The headache disappeared for a while, only to recur again, and on September 18th he had a right brachial aura, "mirror writing" was noticed by him, and ten minutes later he had a second epileptiform attack. He was ordered to Egypt. On November 10th, after temporary motor aphasia, he had a third fit. For the next four months he was pretty well (he was under treatment). On March 23rd, 1899, recurrence of temporary motor aphasia and a fourth fit. June 1st, auditory hallucinations followed by a fifth fit. After this he did not regain health as usual, disorder of speech persisted, and on July 10th he had a sixth fit. He returned to Paris, and four days later (July 14th) had a seventh fit. Ballet and Brissaud then saw him. His speech, twitching of the lips, trembling of the tongue, altered handwriting, unequal pupils—all strongly suggested general paralysis. On July 22nd paresis of the

right upper limb occurred. Intra-muscular injections of biniodide of mercury were prescribed; the fits did not recur, and now supervened ocular troubles, which enabled his medical advisers to exclude once for all the diagnosis of general paralysis. Diplopia was followed by strabismus, and on October 15th there was complete paralysis of the sixth nerve on the right side, with slight ptosis of the upper lid and mydriasis. Partial paralysis of the third nerve was also present. There was also noticed right-sided twitching of the eye, slight facial paralysis, and deviation of the uvula to the left. The diagnosis appeared to be clearly cerebral syphilis: arteritis at the base, especially in the circle of Willis, associated with bulbo-pontine lesions.

In spite of some improvement under treatment, the prognosis given was grave, for the diffuse lesions suggested rather syphilitic arteritis than a gumma. However, the result was more favourable than could be expected, for the patient gradually resumed his occupation, and in November, 1901, he seemed to be as well as if he had had no cerebral disorder. H. J. MACEVOY.

Two Cases of Idiocy with Diplegia [*Diplégie et Idiotie chez deux frères*]. (*Prog. Méd., April 27th*, 1901.) *Bourneville and Crouzon.*

Dr. Bourneville has added to his numerous contributions to the pathology of idiocy a description of two brothers admitted to the Bicêtre in 1897. They were both helpless idiots, and were aged thirteen and ten respectively. The limbs had become rigid; neither of them could stand. The family history is given at some length, and shows nervous diseases among the collaterals, but the grandparents, father and mother, seemed to have been healthy. The eldest began to walk, when he had the measles at eighteen months, which is said to have had a backward effect upon him. The younger had never walked; he had some convulsions when eighteen months old. They could use the hands so far as to grasp objects and put them to their mouths. Both had strabismus, one convergent, the other divergent. The eldest died in December, 1899. Nothing seems to have been found in the brain to explain the idiocy. The cerebellum was found to be atrophied, all its parts were diminished in value, the pons Varolii was also less than usual.

As the authors remark, atrophy of the cerebellum is a rare affection, and was insufficient to explain the symptoms. The authors do not think themselves entitled to affirm that a similar atrophy will be found in the cerebellum of the other brother. A microscopic examination of the brain was made, and a diminution of the fibres of the anterior column of the pyramids was observed. WILLIAM W. IRELAND.

Mental Condition in Aphasia [*État mental des aphasiques*]. (*Rev. de Psychiat., Jan.*, 1902, *No.* 1.) *Vigouroux.*

The question to be determined is how far organic aphasia, on account of the alteration of internal speech, determines mental enfeeblement tending more or less to dementia. Vigouroux reviews the various opinions that have been held, *e. g.* that of Trousseau, who thought that in aphasics there was intellectual impairment; that of Charcot and Ballet, who considered that this impairment varied with the type of

mind affected, that is, according as the individual is visual, auditory, etc. The appreciation of the intellectual ability is often a difficulty; there are a number of observations, for instance, in which sensorial aphasia with paraphasia may simulate dementia. Charpentier believes that among old chronic patients in asylums with apparent incoherence are a certain number of cases of paraphasia not understanding what they say, but well knowing what they wish to say.

The general conclusion of the author after a study of the question is that, while it is clear that a certain number of aphasic patients have been in full possession of their intellectual faculties in spite of their disorders of speech, yet the majority show intellectual enfeeblement and easily become demented. H. J. MACEVOY.

Definition of Hysteria [*Définition de l'hystérie*]. (*Rev. de l'hyp., Jan.*, 1902.) *Babinski.*

In spite of the large number of works dealing with the subject of hysteria, there is a great divergence of opinion concerning the nature of this neurosis. Babinski attributes this to the lack of a good definition. In the search for some characters which are common to all hysterical manifestations, and yet confined to hysteria, he draws special attention to these: the possibility of their being reproduced by suggestion with exactness in certain subjects, and that of their disappearance through the exclusive influence of persuasion. The word suggestion here used itself needs accurate definition. It must imply that the idea which one tries to insinuate to the hysterical patient is unreasonable, and should not be used in the sense of being synonymous with persuasion. The typical manifestations of hysteria major, the varieties of paralyses, contractures, anæsthesias, etc., are all of this kind; they can be exactly created by experimental suggestion. In addition they are all susceptible of disappearing under the *exclusive* influence of persuasion. On the other hand, the latter characteristic is not met with in other conditions. There is not another nervous affection, well defined and outside the limits of hysteria, which psychotherapy alone will cure; it may be of use, but not all-sufficient; the proof is that in cases of this kind persuasion does not lead to an immediate cure. The above relates to what Babinski calls *primitive* symptoms, which may occur without being preceded by other manifestations of hysteria. But he holds it legitimate to call also hysterical those disorders which, without exhibiting the characters of primitive symptoms, are yet closely allied to, and subordinate to them; but one must add to these the epithet *secondary*. The muscular atrophy of hysteria is a type of this kind. The definition proposed is—Hysteria is a psychical condition which renders the subject of it prone to auto-suggestion; it manifests itself principally by primitive symptoms and accessorily by certain secondary symptoms. That which characterises the primary symptoms is that it is possible to reproduce them in certain subjects by suggestion with rigorous exactitude, and to cause them to disappear by the exclusive influence of persuasion. That which characterises secondary symptoms is that they are closely subordinate to the primary symptoms.

Incidentally, Babinski refers to the subject of hypnotism, which he holds to be closely related to hysteria, and which he thus defines:

—Hypnotism is a psychical condition rendering the subject of it susceptible to adopt the suggestion of another; it manifests itself by phenomena, which suggestion creates, which persuasion causes to disappear, and which are identical with hysterical manifestations.

To the objection that may be raised that in certain hysterical cases we may meet with some symptom rebellious to treatment by persuasion, Babinksi replies that the characteristic of hysterical manifestations is that they are *susceptible* of cure by this means, they are *pithiatic* (*πειθω, ἰατός*)—a more accurate word, the author suggests, than the vague one *hysterical*. Restricting hysteria within the limits above defined, Babinski holds that such symptoms as exaggeration of the knee-jerks, the big toe phenomenon (Babinski's sign), pupillary immobility, paralysis limited to the distribution of one nerve, etc., cannot be classified among hysterical manifestations.

H. J. MACEVOY.

Hysterical Psychosis and Myoclonus [*Psichosi isterica e mioclonia*]. (*Il Manicomio, anno xvii, No.* 3, 1901.) *Mondio.*

The patient was a woman æt. 24, with alcoholic and neuropathic taint in ancestry; she suffered in childhood from general choreiform tremors, which gradually disappeared before puberty. Always odd in disposition, as she grew older she appeared more unstable and eccentric; she developed homosexual tendencies, and became addicted to drinking. At twenty-three years of age she came under treatment for persecutory delirium, with suicidal ideas and refusal of food. After a short period of improvement she was readmitted with the same mental symptoms, which were associated with ordinary hysterical stigmata. She now presented, in addition, anomalous muscular phenomena combining the characters of myoclonus, electrical chorea, convulsive tic (Charcot), and fibrillary chorea (Morvan). She remained huddled up in a state of general flexion; the upper limbs and right leg were agitated by constant, rapid, synchronous tremors; the shoulders were jerked up and down in movements of wider range; from time to time rapid fibrillar contractions ran along some of the larger muscles; occasionally one or more muscles passed into tetanoid spasm. The muscles of the face showed no clonic movements, they were occasionally contracted in a grin of pain. Emotion and effort increased the spasmodic symptoms; they ceased during sleep.

After persisting without much change for two months the myoclonic condition disappeared gradually in the right leg and left arm; the mental state remained about the same. At the date of the last note, three months later, the clonic spasms were limited to the right forearm and hand; the patient remained obstinately mute, and appeared to be dominated by persecutory delusions.

Discussing the case, the author points out that the association in an hysterical patient of myoclonic phenomena with symptoms resembling other spasmodic affections—electric chorea, convulsive tic, etc.—supports Raymond's view that all these conditions are to be regarded not as distinct diseases, but merely as syndromes developing on a basis of neuropathic degeneration.

W. C. SULLIVAN.

Symptomatic Value of Dreams as regards the Mental State in a Patient suffering from Circular Insanity [*Valeur symptomatique du rêve au point de vue de l'état mental de la veille chez une circulaire*]. (*Gaz. des Hôp., August 20th*, 1901.) *Vaschide and Piéron.*

This case, of Mrs. B—, æt. 42 years, was under observation for over three years. She early showed a curious disposition to be influenced by meteorological variations. She was sent to the asylum at the age of thirty-two years, where she remained for over eight years. Suffering with circular insanity, at first her lucid periods were much in excess of the periods of excitement, but the former became shorter, and the latter proportionately longer, as time went on. One feature of the patient's disposition was her keen observation of her dreams, which she was fond of interpreting. The authors, as the result of many experiments, were satisfied that her interpretation was often correct, and of useful import in prognosis. The nature of the indicating dreams varied according as they announced a period of excitement, one of depression, or a period of calm. (1) With dreams announcing a period of excitement, this condition usually came on suddenly not less than thirty-six hours after it had been foretold. The dream was usually in character like a nightmare, with feelings of being choked, strangled, violently handled. (2) In the case of dreams announcing a period of depression, the patient thought she did not exist, that she was a child, that her senses were restricted, that she was unable to move, etc. Her awakening was slow, and followed by some hours (eighteen to thirty-two) of indecision, when the period of depression began. (3) As regards dreams foretelling a period of calm, a correct result was less frequent, in six only out of fourteen of observations; the dreams were less characteristic. In a fourth set of observations the patient exhibited dreams foretelling a continuance of her then present mental condition—the particular period in her circular insanity being prolonged beyond its usual duration.

This case is important in connection with the question of prevision through dreams. The authors think that it is a possibility, while fully recognising that a mass of worthless evidence has been produced in favour of this view. H. J. Macevoy.

Paroxysms of Anguish—Epilepsy and Hysteria [*Paroxysmes d'angoisses —épilepsie et hystérie*]. (*Rev. de l'Hyp., Jan.*, 1902.) *Raymond.*

Cases shown at the Clinique of the Salpêtrière.

1. Man æt. 52, engineer. Suffered for eight years from fits which have become worse. After some general tremors, objects begin to appear more distant, then a shock at the heart is felt, palpitations, and loss of consciousness. This is followed by an imperative desire to sleep for seven or eight hours. No involuntary micturition, no biting of the tongue. Occasionally a keen desire to eat constitutes the crisis. Epileptic attacks of this kind, coming in late, are often of grave import, being related to arterio-sclerosis.

In the former history of the patient one notes that he inherits melancholia from his mother, and has had obsessions, continually puzzling his mind about final causes, the nature of man, the reason of his sojourn on

earth, etc. Raymond, in addition to the administration of bromide in such a case, recommends moral treatment.

2. A boy æt. 13½ years, also subject to attacks, but of a different kind. He has been to school since the age of five years. Six months ago, after being locked up by a schoolfellow in the water-closet, and apparently as the result of fright, he became giddy on returning home, slept badly the following night, and dreamt a good deal. Since then he has had daily fits, which begin with a kind of aura, beating in the temples, hissing in the ears, vertigo, thumping of the heart; then he falls to the ground, becomes stiff, and struggles. At the onset there was no loss of consciousness, but now it is the rule. The attacks last two minutes; he gets up tired, cries, but does not feel an irresistible desire to sleep. It is difficult in some cases to diagnose hysteria from epilepsy. On one occasion the boy had involuntary micturition during a fit, but this may be seen in hysteria. He has bitten his tongue sometimes; this is in favour of epilepsy. There is, at times, some weakness on the left side; this does not help much in diagnosis. But there are disorders of sensation. On the left one notes absolute anæsthesia limited to the upper third of the arm, and close to this hyperæsthesia; this points almost certainly to hysteria. Moreover, in the post-paroxysmal stage, instead of being drowsy and sleepy the boy cries for a while, and, recovering himself, becomes cheerful again. This confirms the diagnosis of hysteria. The treatment here recommended is by persuasion ("suggestion")—the attention must be exalted, and sensation restored. If necessary hypnotism may be required to annul the memory of the emotion which seemed to give rise to the morbid phenomena.

H. J. Macevoy.

Psychical Disorders in Malaria [*Les troubles psychiques dans le paludisme*]. (*Le Prog. Méd., Sept. 28th*, 1901.) *Cardamatis.*

After reviewing the historical aspect of this question from the time of Hippocrates down to our days, the author gives the results of his clinical experience. He classifies clinically the intellectual disorders which are associated with, or due to, malaria into—(*a*) those which accompany the febrile attacks; (*b*) those which occur during the intervals, as well as during the attacks, of chronic malaria; (*c*) those which are observed in the course of intermittent fevers and pernicious attacks; (*d*) disorders which appear during the malarial cachexia. Great stress is laid upon the predisposing causes as compared with the immediate or exciting cause—the poison; the malarial parasite provokes simple hyperæmias; other pathological alterations beyond this are, according to the author, related to the predisposition of the organism. The close relation to alcoholic toxæmia is emphasised. Among the general conclusions are—(*a*) malaria lights up morbid predispositions (neurasthenia, hysteria, psychoses), or a general or local disorder present in a latent state; it may aggravate disorders already active; (*b*) the delusional state of malaria is provoked by hallucinations; (*c*) according to the degree of excitability of the individual, the condition of predisposition, and the activity of the malarial poison, four degrees of malarial toxæmia may be distinguished: (1) excitement, (2) anæsthesia, (3) coma, (4) paralysis; (*d*) acute forms of insanity occur

but rarely in malaria; (*e*) beyond the melancholic type and the maniacal type there is a third type of insanity, often seen following upon a febrile attack—the mixed depressive and excited type; (*f*) psychical disorders in the course of chronic malaria are rare, while the occurrence of psychoses, which are said to appear some time after the disappearance of malaria, is doubtful. H. J. MACEVOY.

Case of Acute Delirious Mania [*Sur un cas de délire aigu*]. (*Gaz. des Hôp., Jan. 14th*, 1902.) *Buvat.*

This is a case, apparently, of endogenous toxic origin, immediately arising after a violent emotion of sorrow, which caused sudden suppression of the menses. J. C—, ♀, was admitted into Villejuif Asylum, May 1st, with certificates stating that she was acutely maniacal and violent, and that she also presented signs of mental enfeeblement and alcoholism. She was restless, incoherent, violent, and slightly feverish. The onset of her illness dated from the beginning of her child's illness; she became sad, irritable, and ate but little. The child dying, her menstruation ceased after twenty-four hours' duration, and she began to have delusions. A few days later she became acutely maniacal. May 2nd, restless, incoherent, destructive, scarcely heeds questions; has to be fed with stomach-pump; temperature 37·8° C. Between May 3rd and May 12th temperature varied between 39·4° C. and 38·2° C., and the acutely maniacal condition persisted. No sign of typhoid, etc. Wasting rapidly. This went on, more or less, till June 6th, when the patient became quieter; her temperature fell to normal, and her tongue became cleaner. After June 14th, although there was no fever and the acute delirious condition did not recur, the patient remained maniacal until the end of August—restless, incoherent, sleeping badly, mistaking identities, etc.

On August 30th a sudden emotion apparently brought about convalescence. One of five patients with whom she was bathing made an attempt to drown one of the attendants, thereupon J. C— rushed to the alarm bell and fled naked from the bath-room, shouting for help. A few minutes later she gave a sensible connected account of what occurred in the bath-room, although she was incoherent and maniacal when she was being undressed. From that time she rapidly improved, gained weight, and was discharged October 10th.

Dr. Buvat believes that the copious injections of serum (with chlorides and bromides in solution) he gave had a beneficial effect on the course of the illness. H. J. MACEVOY.

On a Special Form of Negation of Memory [*Sopra una forma speciale di negativismo mnemonico*]. (*Il Manicomio, anno xvii, No. 3*, 1901.) *Angiolella.*

The patient was a man æt. 40 years, with nothing special in his family history. His first mental symptoms—apparently of an acute confusional type—occurred in 1899, following an attack of some infective fever, probably typhoid, in Brazil. After treatment in an asylum he returned to Italy in April, 1900, when he presented no other mental symptoms except the peculiar disorder of memory described in

this paper. Up to the date of the paper (October, 1901) this disorder has persisted unchanged.

Questioned even on the simplest subject—whether he is married or single, how many children he has, how long he has been in the asylum, whether he has had his dinner, etc.—he answers that he does not remember, that he is "no good at remembering from one day to another." If told anything as a fact and then asked about it, he replies, "If you say so, it must be so." When asked if he is well, or if he is cold, he answers, "I am so-so, not very ill and not very well," or "I am not precisely cold and not precisely hot." At times he plays cards with other patients and acquits himself very fairly. On one occasion the experiment was tried of giving him no dinner; some time after, asked if he had dined, he replied that it was not yet the hour; told that the hour was passed and that he had dined, he accepted the statement. He has to be guided to his bed every night; if the effort is made to compel him to choose his place in the dormitory without help, he insists on his lack of memory and becomes excited. At no time, however, does he exhibit symptoms of *angoisse*. He asks for nothing, and appears generally apathetic.

Discussing the case, Angiolella rejects at once the hypothesis of simulation; it is negatived by the absence of motive, the long duration of the symptoms, and the fact that the patient is not a degenerate. On the other hand, it is difficult to imagine that so profound a loss of memory should not be associated with other evidence of advanced dementia. Moreover, the patient's attitude of ignorance refers not only to the past but to the present. The inference is, therefore, that the case is allied to the *folie du doute*—the patient will not venture to affirm anything, or to deny anything, for denial is also an assertion of certainty; he simply denies that he can affirm anything.

Angiolella discusses acutely, and at considerable length, the relationship of this peculiar condition to the obsessional *folie du doute*, and to the delirium of negation. His conclusion is that it depends on a special and limited defect in cerebral function, consisting in a weakening of the power of perception and retention. Impressions, accordingly, do not fix themselves firmly in the patient's consciousness, and thus do not furnish the elements of sure judgment. Out of this state of doubt and uncertainty is formed the conviction in the patient's mind that he has lost his memory, and this idea acquires the character of a fixed delusion. W. C. SULLIVAN.

The Mental State of the Subjects of Tics [*L'état mental des tiqueurs*]. (*Prog. Méd., Sept. 7th*, 1901.) *Meige and Feindel.*

The fact that tics only occur in individuals of the degenerate class has been recognised by most writers on these affections. The aim of the present paper is to describe more fully the special mental state which accompanies the tic. The authors find the most constant features of that state in a weakness and instability of the will and the emotions, recalling conditions which are normal in childhood. This state of *psychic infantilism* is expressed in an inconstancy and variability of ideas, to which corresponds a similar variability of tic movements. Tics localised to particular muscles or groups of muscles similarly have

their counterpart in such psychic abnormalities as fixed ideas, obsessions, etc. A tic may thus arise from an obsession if the besetting idea provokes a motor reaction; or, inversely, a tic may engender an obsession. The mental basis is similar in the two cases, and it is not rare to see obsessions and tics alternate or coincide in the same individual. The different varieties of phobia, the *délire du toucher*, hypochondriacal doubts, etc., are mentioned as forms of obsession, common in the subjects of tic. The authors urge that it is important to distinguish the tics which belong to the fundamental state of psychic infantilism from those which are related to these secondary mental disorders. In the latter, which are harder to eradicate, it is necessary to direct treatment specially to the mental condition.

W. C. SULLIVAN.

Differential diagnosis between Hysteria and Katatony [*Beiträge zur differential Diagnose der Hysterie und Katatonie*]. (*Allgem. Zeitsch. f. Psychiat., B. lviii, H.* 5 *and* 6.) *Kaiser, O.*

He describes at considerable length two patients in the Asylum of Alt-Scherbitz, one, which he calls a typical case of katatony, becoming finally *dementia præcox;* the other, a young student with hysterical convulsive attacks and hallucinatory states and delirium. Kaiser regards hysteria as an abnormal mental susceptibility of the nervous system, by which it becomes prone to yield either to outward suggestions or to fanciful notions formed within the mind of the patient. Through this hyper-suggestibility, whole association systems are diverted from their functions, and the activity of others heightened. The differential diagnosis between katatony and aggravated hysteria is stated to be, that in the former there is a childish mental weakness, a state of depression with few ideas, passing into dementia, which contrasts with the selfish caprice, cunning, and persistence of purpose in the hysterical patient.

In my opinion, katatony is a formal distinction into which it is difficult to squeeze a sufficient number of cases of insanity. To find katatony one must hold Kahlbaum's description in mind, and step into the asylum to seek for examples. It is like looking for faces in the fire.

WILLIAM W. IRELAND.

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6. Pathology of Insanity.

Changes in the Cerebellar Neuroglia in Progressive Paralysis [*Die Gliaveränderungen im Kleinhirn bei den progressiven Paralyse*]. (*Arch. f. Psychiat. u. Nervenkr., B. xxxiv, H.* 2, *p.* 523.) *Raecke, Dr.*

Fifteen cases in which the changes in the cerebellar neuroglia were specially studied are given in some detail. The results correspond generally to those of Weigert. In the molecular layer, Bergman's fibres are increased in numbers, but unevenly. Most of the new fibres run vertically, but some obliquely or transversely, the last often forming bands at two levels, viz. along the outer margin of the cortex and at the

boundary of the granular layer. In the latter position they form basketworks enclosing Purkinje's cells. The transverse fibres are mostly delicate, but a number of large spider-cells at the border of the granule layer give off coarse fibres, running to the surface. The largest collection of glia-nuclei is in the same situation. In the granule layer also the changes are of unequal degree. They consist in loss of granules, the place of which is taken by hypertrophied neuroglia fibre and nuclei. In the medulla the hypertrophy is rarely of great extent, and appears to prefer the immediate neighbourhood of the vessels, where large, coarse-fibred spider-cells are also found. Fibres and nests of glia-nuclei occur, however, between the nerve-bundles. In general, the rule is that in progressive paralysis the molecular layer is most involved, then the granule layer, more in spots, and last and least the medulla. Hence it is the dendrites of Purkinje's cells which appear to be chiefly affected in this disease, and their bodies also vanish in advanced cases. The morbid process thus seems to advance from without inwards. Little clinical value is claimed for these results, owing to the irregular distribution and frequently slight degree of the foci of disease; but it may be supposed that the changes contribute to the ataxy and incoordination. The paralytic seizures are more likely, from these cases, to be connected with diseased foci in the thalamus. No relation could be detected between the cerebellar changes and absence or increase of the reflexes.

W. R. Dawson.

The Topography of Degeneration in the Cortex of Paralytics in relation to Flechsig's Association Centres [*Die Topographie der paralytischen Rinden Degeneration und deren Verhältniss zu Flechsigs Associations-Centren*]. (*Neur. Cbl., No.* 2, 1902.) *Schaffer, Karl.*

Dr. Karl Schaffer, of Budapest, gives the results of his examination of the brains of three general paralytics. His paper is illustrated with five lithographs, showing sections of brain stained by Weigerts-Wolter's method. The degenerated parts take on the stain poorly. Schaffer finds the most degenerated parts in general paralysis to be the anterior and basal portions of the frontal lobes, the whole parietal lobes, the posterior median convolutions, the insula, and the temporal gyri, and the occipital lobes and the upper surface of the cerebellum. Less affected were the anterior median gyrus, the margins of the calcarine fissure, and the inferior occipito-gyri. This showed that degenerative process most affected the association centres of Flechsig, his sensory spheres being very much less touched. Schaffer holds that the degeneration of the cortex in general paralysis is not haphazard but selective. He upholds Flechsig's views, and considers that they have been confirmed by the recent researches of Ramon y Cajal, who has made an original study of the nerve-tissues in the fœtus and in the newly-born child. The latter describes a specific plexus of centripetal nerve-fibres, which terminate in the motor area of the cortex, in the sphere of bodily sensibility, and in the visual area. It is significant that this plexus does not pass into Flechsig's association centres, confirming Schaffer's observation of the posterior median convolution being, in general paralysis, much more degenerated than the anterior. These considera-

tions induce Schaffer to think that the posterior median gyrus belongs rather to the association centres than to the sensory areas.

Cajal confirms the observations of Flechsig that the fibres of the association centres become mature later, and shows that these centres in the new-born child, as well as in some small mammalia (the mouse, the rabbit), have no exogenous terminal fibres; while, at the same time, the pyramidal cells and the nerve-cells of the zonal layer have a special appearance in the embryonic development. He largely agrees with Flechsig's views, and considers his anatomical and physiological dualism in the cortex as rational *a priori*, but he differs in regarding the association centres as wanting a specific terminal plexus, and not projection fibres. Cajal also holds, as against Flechsig, that the association centres occur not only in the anthropoid apes, but also in the smooth-brained animals. WILLIAM W. IRELAND.

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7. Sociology.

Judicial Condemnations of Unrecognised Lunatics [*Les aliénés devant les tribunaux*]. (*Rev. de Psychiat., March*, 1902.) *Pactet.*

In this critical review the author, by reference to some of the recent literature on the subject, illustrates the frequency with which persons suffering from mental disease are committed to prison for criminal acts. A number of personal observations (referring chiefly to general paralytics) are quoted to the same effect. To prevent such miscarriages of justice the author suggests that all persons accused of criminal offences should be submitted to examination by an alienist; and he quotes the opinion of Dr. Paul Garnier—an exceptionally competent judge in the matter—as to the practicability of such a plan, at all events in large centres of population. The author also advocates the Belgian system of frequent examinations of prisoners by alienist inspectors, and recommends certain modifications in the French procedure of *expertise* in criminal cases. W. C. SULLIVAN.

Criminal Asylums and Sections for the Insane in Prisons [*Manicomii criminali e sezioni per folli nelle case di pena*]. (*Riv. mens. di Psychiat. forense, Feb.*, 1902.) *Penta.*

In Italy, as in most other countries where such institutions exist, the admissions to criminal lunatic asylums have increased enormously in recent years. Thus, in spite of the opening of two new asylums of the same class, the original criminal asylum of Aversa, which in 1876 contained nineteen patients, in 1898 contained 209. This increase Penta ascribes, in part, to a real increase in lunacy, but much more to wider knowledge of the nature of insanity, and more particularly of the close connection between mental disease and crime. In face of this condition of things, the future of the criminal lunatic asylum becomes an urgent problem. Penta's opinion is that a multiplication of these institutions is undesirable. He thinks that they should be reserved for incorrigible degenerates who, with or without co-existing insanity of

thought, are insanely criminal in conduct. Curable or less dangerous cases he would send to ordinary asylums, or would treat them in special annexes to prisons. The creation of such annexes, after the model of the section for insane criminals in the Moabit Prison at Berlin, he regards as the most effectual way of dealing with the problem.

W. C. SULLIVAN.

On Diminished Responsibility [*Sulla responsabilità diminuita*]. (*Riv. mens. di Psychiat. forense, Jan.*, 1902.) *Penta.*

The doctrine of the partial responsibility of the insane for criminal acts is taken, Penta points out, in a different sense by lawyers and by alienists. The former interpret it as meaning that an insane person, no matter how insane he may be, is to be held in some measure accountable for his conduct unless it can be shown to depend logically on his delusions. The alienists, on the other hand, would apply the doctrine to cases of slight or early insanity, putting forward the mental condition as a plea in mitigation of punishment. In either sense the doctrine is fallacious. The mind is a unity, a synthesis, and not a mere aggregate, and the idea of spheres of mind, one sane and the other diseased, is quite untenable. And further, the fallacy is a very mischievous one. It would combine the maximum of harm to the insane person with the minimum of protection to society; the degree and not the nature of the social reaction would be changed, so that the insane culprit would be subjected to penal discipline instead of to medical treatment; and his time of restraint would be shortened so that he would have increased opportunities for wrongdoing. The doctrine is, in fact, a feeble and useless compromise in the struggle between tradition and science. In the present state of that struggle the proper attitude of the alienist is to confine himself to indicating the mental condition of the criminal without entering into the metaphysical question of "responsibility." If forced to deal with that question he will do wisely to hold fast to the choice between absolute responsibility and absolute irresponsibility.

W. C. SULLIVAN.

Abnormalities of the Circle of Willis in Criminals, in relation with Alterations in the Brain and Heart [*Anomalie del poligono arterioso del Willis nei delinquenti in rapporto con alterazioni del cervello e del cuore*]. (*Arch. di Psychiat., vol. xxii, fasc.* 1, 1902.) *Parnisetti.*

In a series of eighty-seven *post-mortem* examinations of criminals, the author found that the circle of Willis presented abnormalities of origin, development, or direction in 65·5 *per cent.* of the cases, the majority (32·18 *per cent.*) occurring on the left side. In 73·56 *per cent.* of the cases the weight of the brain was below the average, and the inferiority of weight coincided in 51·72 *per cent.* of the subjects with the existence of such vascular anomalies. Morbid changes in the vessels, membranes, and brain-substance were unusually abundant. The weight of the heart was below the average in 75·86 *per cent.* of the criminals examined, and in 49·42 *per cent.* this condition was associated with abnormalities of the circle of Willis. Among the cases with these latter abnormalities heart lesions were particularly frequent.

The paper is accompanied by a plate showing the arrangement of the vessels at the base of the brain in nine of the cases.

No information is given as to the age or stature of the subjects.

W. C. SULLIVAN.

Contribution to the Medico-legal Study of Prostitution and Vagrancy in Imbeciles [*Contribution à l'étude médico-légale des imbéciles prostituées et vagabondes*]. (*Gaz. des Hôp., July 30th*, 1901). *Garnier and Wahl.*

The authors record three medico-legal observations of imbecile prostitutes. The subjects all presented numerous stigmata of degeneracy, and displayed extremely perverse instincts. Attention is drawn to the large proportion of congenitally weakminded persons to be found amongst prostitutes and vagrants, and measures of special restraint for individuals of that class are recommended. W. C. SULLIVAN.

Notes and News.

THE MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

A COUNCIL and GENERAL MEETING of the Association were held on May 21st, 1902, at No. 11, Chandos Street, Cavendish Square, W. Dr. Oscar T. Woods presided.

The Council was attended by Drs. Oscar T. Woods, L. A. Weatherly, Fletcher Beach, Alfred Miller, C. Mercier, H. H. Newington, P. W. Macdonald, H. Rayner, James M. Moody, T. Stewart Adair, C. H. Hitchcock, Theo. B. Hyslop, C. H. Bond, G. Stanley Elliot, R. Percy Smith, J. B. Spence, A. N. Boycott, H. A. Kidd, and Robert Jones.

Apologies for non-attendance were received from Drs. A. R. Urquhart, J. Wiglesworth, and H. T. S. Aveline.

The following members attended the General Meeting: — *Members:* Drs. Oscar T. Woods, P. W. Macdonald, H. Rayner, L. A. Weatherly, F. Beach, C. K. Hitchcock, R. D. Hotchkis, J. M. Moody, G. S. Elliot, C. H. Bond, H. H. Newington, C. Mercier, T. B. Hyslop, T. S. Adair, H. A. Kidd, A. Boycott, C. S. Morrison, E. W. White, J. C. Johnstone, W. Kingdon, J. W. Evans, J. Benson Cooke, J. G. Soutar, W. J. Mickle, H. E. Haynes, J. H. Edwards, J. F. Blandford, H. Barnett, T. C. Shaw, J. Middlemass, G. E. Mould, F. A. Elkins, C. Clapham, G. H. Savage, H. Corner, R. H. Cole, E. Powell, W. E. Jones, J. M. Ahern, G. H. Johnston, E. B. Whitcombe, D. Bower, J. Chambers, G. E. Shuttleworth, R. Langdon-Down, A. Helen Boyle, R. P. Smith, F. Edridge-Green, W. Douglas, H. F. Winslow, E. S. Pasmore, C. T. Ewart, D. H. Macmillan, J. S. Bolton, A. J. Alliott, H. C. MacBryan, J. P. Richards, R. Baker, J. B. Spence, T. O. Wood, W. H. Haslett, James Stewart, and Robert Jones.

Visitors: Dr. Osswald Hofhain, Mr. C. B. Lockwood, and Major C. W. Johnson, R.A.M.C.

The PRESIDENT said that, as the minutes had appeared in the JOURNAL, it would save time if the members would consent to their being taken as read. This was agreed to.

Dr. HAYES NEWINGTON mentioned that two days ago he heard from the late Registrar of the Association, Mr. Benham, who requested him to place before the members an expression of Mr. Benham's hearty appreciation of the kindness and courtesy which had always been extended to him, especially during his illness.

Dr. Newington had much pleasure in mentioning the matter, and in stating that Dr. Benham was much better, and hoped soon to be amongst them again as well as ever.

The following candidates were elected as ordinary members: Dudgeon, Herbert William, M.D.Durham, M.B., B.S.Lond., Horndean, Mowbray Road, Upper Norwood, S.E., Medical Officer to the Egyptian Asylum, Abassieh, Cairo, Egypt (proposed by G. H. Savage, James M. Moody, and H. Hayes Newington); Forshaw, W. H., M.R.C.S., L.R.C.P.Lond., Assistant Medical Officer, London County Asylum, Claybury, Woodford Bridge, Essex (proposed by Robert Jones, C. T. Ewart, and J. S. Bolton); Forsyth, John Glen, M.B., C.M.Ed.. Assistant Medical Officer, Cumberland and Westmorland Asylum, Garlands, Carlisle (proposed by W. F. Farquharson, Geo. A. Rorie, and John Findlay); Kerr, Neil Thomson, M.B., C.M.Ed., Medical Superintendent, Lanark District Asylum, Hartwood, Shotts (proposed by J. Carlyle Johnstone, T. C. Clouston, and W. Ford Robertson); Round, John, L.R.C.P., L.R.C.S., L.F.P.S.Glasgow, 34, Huntingdon Street, Barnsbury, N. (proposed by T. Claye Shaw, H. Hayes Newington, and Robert Jones); Rows, R. G., M.D.Lond., M.R.C.S., L.R.C.P., Pathologist, County Asylum, Lancaster (proposed by David Orr, J. S. Bolton, and Robert Jones).

The PRESIDENT referred to the loss of members during the past year by death, viz. Dr. Strange, Dr. Boddington, and Dr. Bonville Fox. He was sure every one in the room deeply regretted their removal. It was usual at the annual meeting to mention those losses, and he merely referred to them now in order to express his own deep sympathy with the friends of those gentlemen.

REPORT OF TUBERCULOSIS COMMITTEE.

The PRESIDENT said that the report of the Tuberculosis Committee came before the Council Meeting that day, and in order to have the matter formally placed before the present meeting he would call upon Dr. Weatherly.

Dr. WEATHERLY said it was his pleasure to simply bring before the meeting in a formal way the report of the Tuberculosis Committee. The report had been printed, was in the hands of the Council, and would be in the hands of every member before the next Annual Meeting, when he would be glad to move its adoption.

The PRESIDENT said that at the Annual Meeting an opportunity would be afforded of discussing this report. He thought members would agree to the suggestion of Dr. Weatherly that the report should be laid on the table. Agreed.

Dr. HENRY RAYNER opened a discussion on "Sleep in relation to Narcotics in the Treatment of Mental Diseases" (see p. 460).

Dr. T. CLAYE SHAW read a paper entitled "The Surgical Treatment of Delusional Insanity based upon its Physiological Study" (see p. 450).

Dr. ROBERT JONES' paper, "Notes on the Treatment of Morphinomania," was not read owing to the advanced hour of the afternoon. It appears in this number of the JOURNAL (see p. 478).

Members afterwards dined together at the Café Royal, Regent Street.

SCOTTISH DIVISION.

A meeting of the Scottish Division was held in the Central Hotel, Glasgow, on March 28th.

Present: Drs. Clouston, Carlyle Johnstone, Carswell, Ford Robertson, Graham, Havelock, R. D. Hotchkis, Hamilton Marr, John Keay, Macdonald, McRae, Maxtone Thom, Mitchell, Oswald, W. A. Parker, Rorie, G. M. Robertson, A. R. Turnbull, Urquhart, W. R. Watson, Yellowlees, and Dr. Lewis C. Bruce, Divisional Secretary for Scotland. On the motion of Dr. Turnbull, Dr. Graham was called upon to preside.

The minutes of last meeting were read, approved, and signed.

ELECTION OF MEMBERS.

The following candidates were elected Ordinary Members of the Association:—Dr. Kenneth D. C. McRae, Assistant Physician, District Asylum, Inverness; Dr.

Eric M. Thomson, Assistant Medical Officer, James Murray's Royal Asylum, Perth; Dr. Leonard D. H. Baugh, Assistant Medical Officer, Stirling District Asylum, Larbert; and Dr. Frederick Watson, Assistant Medical Superintendent, District Asylum, Ayr.

Dr. BRUCE proposed, and Dr. YELLOWLEES seconded, the nomination of Dr. Carlyle Johnstone to the Examinership for the Nursing Certificate.

Dr. URQUHART proposed, and Dr. PARKER seconded, the nomination of Dr. Carswell as Examiner for the Medical Certificate of the Association.

After some discussion these proposals were adopted by the meeting.

NOMINATIONS FOR ELECTIONS TO THE COUNCIL.

Dr. TURNBULL said that he understood that the Assistant Medical Officer representing Scotland now retired, and proposed Dr. McRae as his successor.

Dr. CARLYLE JOHNSTONE suggested that whoever was named as a member of Council ought to engage to attend the meetings.

Dr. OSWALD moved that Dr. Macdonald, Senior Physician at Hawkhead Asylum, be nominated, as he would undertake to attend the meetings in London.

Dr. PARKER said he had much pleasure in seconding the motion.

After some discussion as to the importance of attending the Council Meetings, especially that one usually held in May, the Chairman announced that the feeling of the meeting was evidently in favour of Dr. Macdonald's nomination, and this was agreed to *nem. con.*

PLANS OF VILLA AT PERTH ROYAL ASYLUM.

Dr. URQUHART apologised for bringing such a very slight affair before the meeting. It was only of interest to those who were dealing with private patients, and more especially with those paying the higher rates of board. The lower part was to be built of stone, with a verandah to the south, and the upper part of brick, half timbered. The main feature was a central hall, large enough to be used for billiards. The patients' parlours were grouped round this central hall, with glass-panelled doors for the purpose of intimate supervision. Private patients were not, as a rule, willing to have attendants sitting beside them at all times. The attendant was, therefore, usually relegated to the corridor, in a most uncomfortable position. Otherwise the domestic arrangements were of the usual villa type, minus kitchen premises. These two villas were placed to the north of the main asylum, one on either side of the chapel, the basement of which was to form stores, and a subway to be continued to the central kitchen. The important point now to be determined is the question whether these houses should be quite detached, or connected by some kind of corridor. He had therefore endeavoured to ascertain from the patients themselves what their preference would be, and had consulted with Dr. Clouston as to the results of his experience. The upshot was that it had appeared to him that the Murray had as much entirely separate accommodation as was desirable in present circumstances, and that the majority of patients were strongly in favour of an attached house, so that they might live in the main current of life in the asylum without any difficulty in moving about the establishment on winter evenings, etc.

The CHAIRMAN said that the erection of such a convenient residence for the patients who were able to afford it was a very interesting subject, where they might be supervised in a convenient, unobtrusive, and effective manner. It might be too much to expect that a thorough examination of the plans could be made in a cursory manner round the table, and perhaps Dr. Urquhart might see his way to give a fuller account of the building when convenient.

Dr. CLOUSTON thanked Dr. Urquhart for having brought these plans before them. One could not express an opinion merely by glancing at the plans, but they all knew that these houses would be tasteful outside and in, and if there was as much comfort as they had at Craig House, he would have very great satisfaction in having these houses attached to his institution. He thought, however, that there ought to be two staircases. He doubted if it was a proper thing to fill up the space on the first floor over the hall by box-room accommodation, and thought it better to place the cupboards round about.

Dr. CARLYLE JOHNSTONE seconded the vote of thanks, and said that the plans showed an amount of artistic skill which was generally absent from asylum buildings.

Dr. URQUHART, in reply, said that with regard to the single staircase, it ought to be stated that the villa was really a small house, as there were only eight bedrooms on the first floor. The height of the ceilings downstairs was 11 feet 6 inches, and the windows were all to open casement fashion. There was no use of having small rooms with fourteen-foot ceilings, as at Gartnavel, and he did not think that any cupboard should be any higher than they could reach comfortably from the floor, and modern libraries were now constructed in the fashion adopted. The whole of the roof over these cupboards was a glass canopy, and the first-floor rooms would not be in use by day. With regard to the cost, if that house were built for State-supported patients there would be space in it for seventeen. As it was, they expected to accommodate from seven to nine, depending upon the rates paid. The contract price, exclusive of foundations, which would cost about £80, came to £1604, so that would be about £100 a bed on the ordinary calculation, which he thought sufficient even for patients paying £200 or £300 a year. The finish of the inside was somewhat elaborate, but he thought that they would be able to complete the house at the price indicated. Perhaps the best way of describing the villa in detail would be on the occasion of a visit of the Scottish Division to Perth.

Dr. CLOUSTON opened a discussion on "Toxæmia in the Etiology of Insanity" (see page 434).

A vote of thanks was accorded to Dr. Graham for his conduct in the chair.

NORTHERN AND MIDLAND DIVISION.

A meeting of the Northern and Midland Division of the Medico-Psychological Association was held on Wednesday, April 16th, at Shaftesbury House, Formby.

Members present: Drs. Blair, T. P. Cowen, S. Edgerley, Stanley A. Gill, C. H. Gwynn, C. K. Hitchcock, R. Legge, Alfred Miller, Bedford Pierce, H. A. Robinson. F. O. Simpson, A. Simpson, J. B. Tighe. Visitors: Drs. Drury, E. H. Gill, A. C. Blackney.

Dr. Stanley Gill having been voted to the chair, Dr. Hitchcock read the minutes of the last meeting, and stated that he and Dr. Miller had attended the Council Meeting in London. He reported the result of the representations that had been made regarding nominations by the Northern and Midland Divisions to fill vacancies in the Council.

The minutes were then adopted, after which the Chairman announced that there were one or two strangers present, whom they welcomed.

THE ELECTION OF SECRETARY.

Dr. PIERCE proposed that Dr. Hitchcock be re-elected. This was seconded by Dr. MILLER, and unanimously agreed to.

Dr. HITCHCOCK said he would be glad to take the office for another year. He did not think, however, that one man should continue in the office year after year, because it added to the interest of a society when members took office in rotation. If, however, the Society wished him to accept office he would be glad to do so.

PLACE OF NEXT MEETING.

An invitation from Dr. Pope to hold the Autumn Meeting of the division at Middlesbrough was unanimously accepted.

The following candidate was elected as an Ordinary Member:—A. Mair Rattray, M.B., C.M.Edin., Senior Assistant Medical Officer, City Asylum, Gosforth, Newcastle (proposed by Drs. Callcott, T. W. McDowall, and Robert Smith).

Dr. F. O. SIMPSON read a paper entitled "Calcification of the Pericardium" (see page 529).

Dr. T. P. COWEN read a paper entitled "Pupillary Symptoms in the Insane and their Import" (see page 501).

A vote of thanks was accorded to the Chairman at the close of the meeting.

Previous to the business meeting Dr. Gill entertained the Division at luncheon. Those members who were able to remain spent a very pleasant evening as his guests.

SOUTH-WESTERN DIVISION.

The Spring Meeting was held on Tuesday, April 22nd, 1902, at Cotford Asylum, near Taunton, under the chairmanship of Dr. Aveline.

Present: Drs. Braine-Hartnell, H. T. S. Aveline, Laing, Sproat, Davis, MacBryan, Morton, Weatherley, Willis, Hungerford, Findlay, Beale-Brown, P. W. MacDonald (Hon. Sec.), and one visitor.

The Hon. Sec. read the minutes of the last meeting, which were adopted.

The following were elected ordinary members:—Thomas Richard Beale-Brown, M.R.C.S., L.R.C.P.Lond., A.M.O., Cotford Asylum, Taunton; Arthur Charles King-Turner, M.B., C.M.Edin., The Retreat, Fairford; and William Frederick Willis, M.R.C.S. and L.R.C.P.Lond., A.M.O., County Asylum, Exminster, Devon.

Dr. WEATHERLY said that he had very much pleasure, on behalf of the members of this Division, in asking Dr. MacDonald to carry on the secretarial duties again. They recognised his work and all he had done for the Association, and they would feel grateful if he would again accept the position. (Hear, hear.)

Dr. MACBRYAN seconded the proposition, which was put to the meeting and carried unanimously.

On the proposition of Dr. DAVIS, seconded by Dr. MACBRYAN, it was decided to submit the name of Dr. Braine-Hartnell for the consideration of the Council when nominating members to fill vacancies.

Dr. J. V. Blackford and Dr. Goodall were elected to the vacancies on the Committee of Management.

The CHAIRMAN said that the next business was the selection of the date and place of the next meeting. Dr. Davis had been kind enough to invite them to Exminster, and he proposed that the invitation be accepted, which was unanimously adopted.

Dr. MACDONALD read a letter from the Hon. Mrs. Wade, widow of the late Dr. Law Wade, of Wells, dated October 27th, 1901, in which she thanked the members for the vote of sympathy extended to her in her great loss.

Dr. WEATHERLY read a paper entitled "The Evolution of Delusions in some Cases of Melancholia" (see p. 495).

Dr. SPROAT read a paper entitled "The Care of Idiots and Imbeciles." The publication of this paper has been unavoidably postponed.

VOTE OF SYMPATHY.

The CHAIRMAN said that they all regretted that owing to illness Dr. Benham had been obliged to give up work. He had six months' leave granted him, and he (the Chairman) had seen him before he went away, and again about a month ago, and he was glad to inform them that he was very much better. They all expressed sympathy with him.

Dr. WEATHERLY endorsed the Chairman's remarks, and said that they all recognised the work Dr. Benham had done, and the Association generally trusted he would soon be with them again.

The CHAIRMAN proposed a vote of sympathy and condolence with the widow of the late Dr. Bonville Fox, of Brislington House, and said he remembered when he first joined the society what a lot of work Dr. Fox had done for it.

Dr. MACDONALD said that he had known Dr. Fox for a great many years, and he was sure they all felt that by his death they had lost a very able member of the profession. In days gone by he had taken a very active and important part in the work of that Association. He had heard Dr. Fox's voice on many memorable occasions, and he was sure it was the wish of the members that a most cordial vote of sympathy and condolence should be passed.

Mr. DAVIS proposed a vote of thanks to Dr. Aveline for his hospitality, and said that the members had looked forward with interest to an inspection of the extensive and modern asylum at Cotford, and no doubt many of them had learnt a great deal from it.

Mr. BRAINE-HARTNELL seconded the proposition, which was carried unanimously.

The members afterwards dined together at the Station Hotel.

SOUTH-EASTERN DIVISION.

The Spring Meeting of the South-Eastern Division was held, by the courtesy of Dr. Barton, at the Surrey County Asylum, Brookwood, on April 30th, 1902.

Present: Drs. Barton, Bolton, Bower, Chambers, P. Campbell, Cappe, H. Corner, W. I. Donaldson, C. Edwards, F. H. Edwards, C. Stanley Elliott, Lieut.-Col. J. W. Evans, Drs. Edridge-Green, France, Fee, Gayton, Gardiner Hill, Haynes, Hyslop, Robert Jones, Kerr, Moody, Mott, Macmillan, A. S. Newington, Peeke Richards, Steen, Shuttleworth, Grimmond Smith, Stoddart, R. J. Stilwell, F. R. P. Taylor, E. W. White, and Boycott (Hon. Sec.).

After luncheon a meeting of the Divisional Committee was held. During the morning the grounds and asylum buildings were inspected, and at 2.45 p.m. the General Meeting of the Division took place, Dr. Barton being voted to the chair.

The minutes of the last meeting were read and confirmed.

The following gentlemen were elected ordinary members of the Association:—Frederick Cairns Blakiston, M.R.C.S.Eng., L.R.C.P.Lond., Assistant Medical Officer, Herts County Asylum, Hill End, St. Albans (proposed by Drs. Boycott, Grimmond Smith, and McConaghey); Percival L. Langdon-Down, M.B., B.C. Cantab., Normansfield, Hampton Wick (proposed by Drs. T. S. Tuke, R. Langdon-Down, and Boycott); Robert Serjeant, M.R.C.S.Eng., L.R.C.P.Lond., Assistant Medical Officer, Camberwell House (proposed by Drs. Edwards, Lavers, and Boycott.

Official Recommendations.

Dr. A. Norman Boycott was nominated as Honorary Secretary to the Division for 1902–3.

Drs. Everett, Gardiner Hill, and T. S. Tuke retired by rotation from the Divisional Committee, and Drs. Wolseley Lewis, Amsden, and F. H. Edwards were elected in their places.

The name of Dr. Mott was suggested to the Council to fill the vacancy on that body at the next Annual Meeting.

Next Meeting.

An invitation from the Drs. Tuke to hold the Autumn Meeting of the Division at Chiswick House in October, 1902, was unanimously accepted.

Dr. N. H. Macmillan read a paper on "The Treatment of Colitis" (see page 509).

At the close of the discussion on this paper the following resolution, proposed by Dr. E. W. White and seconded by Dr. Mott, was unanimously carried:

"That this Division of the Medico-Psychological Association approves of the register for recording cases of dysentery and diarrhœa in asylums, and will do its utmost to further the carrying out of the same."

The Chairman regretted that time did not permit Dr. H. Corner to read his paper on "Melancholia as the Expression of Physical Disorder."

A hearty vote of thanks was accorded to Dr. Barton for entertaining the Division at Brookwood, and also for presiding in the chair.

The members afterwards dined together at the Café Monico, Regent Street.

RECENT MEDICO-LEGAL CASES.

Reported by Dr. Mercier.

[The Editors request that members will oblige by sending full newspaper reports of all cases of interest as published by the local press at the time of the assizes.]

Welsh v. *Duckworth and others.*

This was a remarkable action brought to recover damages for conspiracy and false imprisonment. The plaintiff was sergeant in the Liverpool Police Force, and the defendants are superior officers in the same service. As far back as 1891 plaintiff was employed at the docks, and it was admitted that while so employed

he had on various occasions obtained sacks of corn-sweepings, bundles of cigars, and perhaps other things of small value for the defendants, Chief Inspector Strettell and Chief Clerk Sperrin, under whose orders he was. He had never got anything for the defendant Duckworth. It was proved that the corn-sweepings were often given away at the docks for nothing as worthless, and that on some occasions the plaintiff had been paid 10s. per sack for these sweepings. It was admitted that the two officers had occasionally received cigars from the plaintiff, but as to a number of other articles alleged by the plaintiff to have been procured for them the defendants denied all knowledge, and the plaintiff adduced no corroboration of his statement, though he said he had had a large number of letters, which he had destroyed, with respect to them. Of all the letters he had kept but three, and these dealt with corn-sweepings, cigars, and tobacco only. As far as can be judged from the evidence, the plaintiff had on various occasions, from nine to eleven years ago, obtained from ships' stewards and such people small quantities of tobacco and cigars, which he had given to the defendants Sperrin and Strettell, and that seems to have been the full extent of these dealings, of which a very great point was made at the trial.

It appears from the evidence that the plaintiff was not liked in the force, that he was charged with being addicted to drink, and that he was a man of intensely suspicious nature. He frequently complained that as an Irishman and a Catholic he could not get justice, that his nationality and religion retarded his promotion and excited prejudice against him; and in this he persisted, although there are many Irish Catholics in the Liverpool Police Force, and although, in order to abolish his grievance, he was actually transferred to the section of an inspector who was an Irish Catholic. When he was reprimanded for drinking and for small faults, he would get very excited, and suggest that there were plots against him. He declared that he could never get fair play; he talked mysteriously of the misdeeds of his superiors, and of the conspiracy against him until the matter came to the ears of the watch committee, and they investigated his complaints. He was called before them, and submitted a written statement to them, on which he was examined. The examination seems to have been patient and thorough, and the committee came to the conclusion that plaintiff's charges were baseless, a conclusion in which they were confirmed by a written statement by the plaintiff himself that he had no charges to make. The upshot of the investigation was that the committee decided to obtain medical opinion upon the state of the plaintiff's mind, so that if it were disordered, as they evidently suspected, they might award him a pension. Otherwise he must have been dismissed. On the instruction of the committee, the head constable had the plaintiff examined by the police surgeon, Dr. Dawson, whose evidence was that the plaintiff complained of insomnia, indigestion, general nervousness, and breakdown, caused, as he said, by the persecution and tyranny of his superior officers. Asked if he could give any reason for, or show any proof of this persecution, he said he could not. He said that even the tramway officials were set to spy upon him and to see that he paid his fare.

Dr. Lowndes, another police surgeon, also examined the plaintiff, who complained that he was being persecuted because he was an Irishman and a Catholic.

Dr. Wiglesworth also examined the plaintiff, who complained of being persecuted by practically all the members of the force. He did not single out any officer or any two officers as his persecutors; it was a general charge against practically the whole of the Liverpool Police, that they were conspiring to deprive him of justice. Witness pointed out the improbability of his statements, and said that at any rate the chief constable would do him justice. Plaintiff said that the chief constable was as bad as the rest. Witness pointed out how incredible it seemed that a gentleman in the position of the chief constable should be banded together with all the other officers of the force for the purpose of injuring plaintiff, and asked for proofs, but could get no mention of any proof whatever. "I consider," added Dr. Wiglesworth, "that he was absolutely unfit to continue duty as a police officer, that he was suffering from delusions of suspicion and persecution, that he was insane, that he might develop dangerous tendencies, and that he ought to be placed under care and control."

Upon the reports of these three medical men, the plaintiff was arrested as a dangerous lunatic, taken to the workhouse, and placed in a padded room. This was the false imprisonment complained of. Here he was examined by Mr. Stewart,

the stipendiary magistrate, by Mr. Henry Peet, J.P., and by Drs. Smart, Alexander, Bickersteth, and Barnard, the result of their examinations being that he was discharged. Of these, all but Mr. Stewart gave evidence at the trial, and stated that in their examinations of the plaintiff he made allegations against Strettell and Sperrin only, and these allegations he supported by showing the letters from them which have already been referred to, asking him to procure certain articles for them. The grounds that they had to go upon were therefore quite different from those upon which Drs. Dawson, Lowndes, and Wiglesworth formed their opinions.

The judge summed up the case with the care and impartiality to which we are accustomed from Mr. Justice Wills, the gist of his charge, as it concerns readers of this JOURNAL, being as follows:—His lordship impressed upon the jury that they were not trying whether the doctors arrived at a right conclusion or not as to the plaintiff's mental condition, but were trying whether their action, erroneous though it might be, was brought about by the fraudulent and wicked malpractices of the three defendants. In his opinion it seemed quite clear that the responsibility for the removal of Welsh to the workhouse rested upon the chief constable, who did not attempt to shirk the responsibility. The question was whether or not the proceedings were within the statute. There he thought the defendants were in considerable difficulty, and a verdict against them on this part of the case would not involve any kind of imputation upon them. If the chief constable had acted wrongly, the officers who acted upon his directions were not protected by his orders. It was a cardinal principle in English law, and a very good one, that an order given by a superior, which he had no right to give, did not protect his inferior. Therefore, if the chief constable had no right to send plaintiff to the workhouse, the defendants were not protected by having acted under him. His lordship proceeded to deal with Sections 13 and 20 of the Lunacy Act, 1900, and pointed out that "under proper care and control" must be such care and control as would be proper if a man were a lunatic, or the Act would have no meaning. He would ask them whether Welsh was under proper care and control. But there was another question, which constituted the real difficulty of the defendants upon this part of the case. He agreed with counsel for the plaintiff that the meaning of the words "if a constable is satisfied that it is necessary for the public safety or for the welfare of the alleged lunatic that he should be placed under control" then steps might be taken, was that a constable must exercise some independent judgment, and not shelter himself by simply saying that he had no responsibility in the matter—simply adopted whatever the doctors said. Did the chief constable honestly satisfy himself that the plaintiff ought to be kept under care and control? It went without saying that he honestly believed that he was doing right and was fulfilling his duties under the section. It was for the jury to say whether that was done according to the view of the law that he had explained. In a subsequent discussion between his lordship and counsel on the legal question, the judge repeated his ruling that it would not do for a constable simply to make himself the mouthpiece of a doctor without exercising any judgment of his own. If he had the opinions of doctors and honestly came to the conclusion in his own mind, that would be honest satisfaction; but if he exercised no judgment at all, and simply sheltered himself behind the doctors, that would not do.

The questions left to the jury were, first: Was there a conspiracy to procure the dismissal of the plaintiff and his imprisonment as a lunatic? To this the jury answered, "No." The other questions were: Was the chief constable honestly satisfied, when he gave the order to remove the plaintiff to the workhouse, that it was necessary for the public safety or for the welfare of the plaintiff that he should be forthwith placed under care and control? and, Was the plaintiff under proper care and control? As to these questions, it does not appear whether they were categorically answered, but upon the written reply of the jury being handed to the judge, his lordship said, "On the question which relates to false imprisonment you find in favour of the plaintiff?" To which the foreman answered in the affirmative. "Then," said his lordship, who does not seem to have been prepared for this result, "you have to say what damages." These were assessed at £200. Counsel for the defendants asked for a stay of judgment, to which the judge assented, remarking that he was very anxious to get this Act of Parliament definitely construed.—Liverpool Assizes, Mr. Justice Wills.—*Liverpool Courier*, May 10th, 12th, 13th, 14th, 15th, and 16th.

The sections of the Lunacy Act, 1890, to which the judge referred were as follows:—"Every constable . . . who has knowledge that any person within the district . . . is deemed to be a lunatic, and is not under proper care and control, . . . shall within three days after obtaining such knowledge give information upon oath to a justice (Sect. 13).

"If a constable . . . is satisfied that it is necessary for the public safety or the welfare of an alleged lunatic with regard to whom it is his duty to take any proceedings under this Act, that the alleged lunatic should, before any such proceedings can be taken, be placed under care and control, the constable . . . may remove the alleged lunatic to the workhouse. . . ." (Sect. 20).

These proceedings are parallel to those of the judicial reception order, and of the urgency order in private cases, but no actual documentary order is required for the immediate removal of the alleged lunatic to the workhouse, nor is any statement required of the reasons for this step, such as is required in the case of the urgency order. The trial turned upon the point whether the chief constable, who was not a party to the action, was *satisfied* that this step was necessary. If he were so satisfied, his subordinates were justified in acting upon his orders, which in that case were legal, and the action would not lie. If he were not so satisfied, then the judge ruled that his order to remove the patient was illegal, the defendants were not protected by it, and the plaintiff must have his verdict upon this part of the case. The evidence upon which the chief constable acted was made up of (*a*) his own observation of the plaintiff, (*b*) the reports of his subordinate officers, and (*c*) the reports of Drs. Dawson, Lowndes, and Wiglesworth, who testified that the plaintiff was a lunatic who might develop dangerous tendencies, and that he ought to be placed under care and control. It is unfortunate that the actual terms of the certificates or rather reports, for they were not, and did not need to be, certificates in the form prescribed by the Act, are not given in the report of the trial, but the purport of them is given in the evidence. As described, they do not state that the plaintiff was a dangerous lunatic at the time of the examination, but that he might develop dangerous tendencies; and there does not appear to be sufficient warrant in this statement for the instant arrest of the plaintiff, his removal forthwith to the workhouse, and his incarceration in a padded room. If the chief constable were satisfied of the necessity of this action, it must have been from the evidence (*a*) and (*b*), and not from the medical reports. Dr. Wiglesworth explicitly stated in court that the confinement of the plaintiff in a padded room was unjustifiable, and therefore there could have been nothing in his report to justify this. It should be stated that this step was taken on the order by telephone of the workhouse medical officer, who had received information by telephone that a dangerous lunatic had been admitted. Examination of the evidence of the chief constable and of his subordinate officers does not reveal any act or threat on the part of the plaintiff that indicates the necessity for such instant action, and it is probable that this was the ground upon which the jury arrived at the conclusion that the chief constable was not "satisfied" within the meaning of the Act that such action was necessary. The case has been reported at length because it is one of considerable importance, and indicates how very necessary it is that the terms of the Act should be observed in the letter and in the spirit.

Rex v. *Simmons.*

Edward George Simmons, 36, was indicted for the murder of Hettie Stephens at Melcombe Regis, on March 27th.

Prisoner was steward of a club, opposite to which was the bar at which deceased served. Prisoner was a married man, but had paid great attention to the girl, and had given her presents. Shortly before the murder he had told the employer of the deceased that she was robbing him and that she drank. The employer, both at the time and at the trial, scouted the accusations as absurd. On the evening in question prisoner went into the bar and had some private conversation with the deceased over the counter. Deceased was heard to say, "I don't want anything more to say to you, Mr. Simmons;" and to some other observation of the prisoner, "No, not after what you said about me." Prisoner then fired three shots at the girl with a revolver, killing her on the spot, and a fourth shot into his own mouth, which gave him but a slight wound. A man who was in the bar seized the

prisoner, on which the latter said, "Don't hold me, Purden, let me go and look after the girl. Look after the girl. I know I did it. I meant to do it." To the police he said, "I did it. I lost my temper. She did not treat me as she ought to have done a married man. I shot her. That is all I have to say." It was proved that the prisoner had bought the revolver two days before, and that on the same day he bought a butcher's knife, saying, what was manifestly untrue, that he wanted it to kill pigs with.

For the defence, the plea of insanity was raised, and in establishing this plea a degree of latitude was allowed to the defence which is rare even in these humanitarian days. The prisoner's eldest brother and many other witnesses were called, and gave the prisoner's history from infancy. As a child he was excitable and delicate. At school he was given special privileges on account of his health. He walked in his sleep. In 1883 a companion of his went to prisoner's home, and informed his father that prisoner had been at his rooms all the evening; that he could make nothing of prisoner, and had left him in charge of a friend. When his friends went for him prisoner seemed dazed, and could not walk properly, though he was not in drink. On the way home he revived, but talked rubbish. In July of the same year he disappeared, he was advertised for, and answered from Ramsgate, after being away for four days. Some time after that he again disappeared and enlisted. He served from 1886 to 1894, and left as sergeant. His certificate of discharge was, "Exemplary. A very good clerk. A thoroughly trustworthy and smart non-commissioned officer." After he left the service he became steward of a club in Manchester. Here he became excitable, restless, and sleepless, and complained that the committee were against him, which was not the fact. Before his escapade to Ramsgate he had complained that the foreman in the business in which he was employed was against him. While employed at this club he would frequently go about the premises and sit on the doorstep in the early morning in his pyjamas. He used to be very much worried and make a great fuss over trifles, and make troubles out of nothing. A week or two before the murder he had been worse. He complained of severe pains in the top of his head. He complained repeatedly that the top of his head was coming off, and begged his wife to press on it, which she did. He then consulted Dr. Wetherall, who treated him for alcoholic gastritis and spoke positively to the strong alcoholic odour of his breath, though other witnesses denied that the prisoner drank. On March 25th he was in a highly-wrought excitable state. A stranger who witnessed the purchase of the revolver remarked that he did not seem to be in his right mind. A day or two before, he had come home in a most excited state because a stranger had spoken to him without being introduced, and on another occasion because he had seen a man with a bracelet on his wrist.

Dr. Weatherly, called for the defence, was asked, "Have you formed an opinion of the prisoner's mental condition at the time of this act?" Prosecution objected to the question as being the question which would have to be answered by the jury.

The Judge: "No; only partially. I shall tell the jury that prisoner may not have been in a well-balanced state, and may even have had partial delusions, but that of itself would not be enough. But I cannot disallow this question."

Dr. Weatherly was of opinion that the prisoner suffered from *petit mal* without convulsion. He believed that the prisoner meant to kill himself, that he acted under the influence of morbid delusive fear, that he imagined that his whole life would be ruined if his wife knew that he had given a few presents to this girl, and that this produced the irresistible impulse to kill the girl.

The judge here put some very significant questions to this witness. "Have you ever," he said, "found this to be the fact—that a person suffering from mental disease, unhinged from some cause or other, would suddenly take a violent dislike to a person with whom up to that moment he had been on terms of intimate friendship of a perfectly proper nature, and proceed to make charges against that person, and then as suddenly agree to their being cast to the wind?" And, when this question had been answered in the affirmative he said, "Would there not be the same relative want of control in the charge made by the person as there would be want of control in an act done afterwards? would you not come to the conclusion that the whole thing was due to mental want of control?"

Dr. W. B. Morton gave evidence in the same sense.

In summing up, his lordship is reported to have said that there was a fine

dividing line between the healthy, vigorous mind and the dilapidated mind of the insane; but though the mind of a man might not be healthily disposed, he might be responsible for his acts. Counsel for the defence asked them to say that there was overwhelming proof of a diseased mind. But it was not enough that he had a diseased mind. The jury must find that in consequence of that diseased mind prisoner had not at that particular time a full appreciation of the nature of the act which he committed. In other words, that his mind was a blank, or that he was under the uncontrollable impulse of a madman. Guilty, but insane.—Dorchester Assizes, Mr. Justice Bucknill.—*Dorchester Telegram*, June 10th.

It is certain that a few years ago this merciful verdict could not have been delivered in such a case as this. The evidence of deliberate intention was strong, as was the evidence of previous animosity. The prisoner had already attempted to injure the girl—to get her dismissed from her situation—by officiously representing to her employer that she was neither honest nor sober. He purchased both a revolver and a butcher's knife. He shot her dead at the first shot, and fired twice into her lifeless body. Immediately after he said, "I know I did it, I meant to do it." Subsequently he mitigated this statement by saying, "I lost my temper." In the act itself there is not only no trace of insanity in the legal sense, but there is ample evidence of intention and deliberation. The whole of the evidence of insanity was derived from the previous history of the prisoner, and it is precisely this class of evidence which many judges have rigorously excluded from the consideration of the jury. The whole of the prisoner's life, from infancy down to the time of the trial, was scrutinised with the utmost vigilance, and everything that could suggest that he was—I will not say insane, but different from the average ordinary man was adduced and dwelt upon. The experts called for the defence were not only allowed the widest possible latitude, but the judge himself went out of his way to suggest an exonerating hypothesis which had not occurred to them. Dr. Weatherly's opinion that the prisoner suffered from *petit mal* must have been founded upon facts which were not reported at the trial, and supposing it to be valid, it applies only to corroborate the hypothesis of the prisoner's general mental deterioration; for it is quite certain that the murder itself was not done in a period of post-epileptic automatism. The judge told the jury that he never recollected a case so fully charged with difficulties, and certainly the difficulties are very great. The first, and one of the greatest, is that of discerning an adequate motive for the crime. The prosecution suggested that the prisoner was in love with the girl, that he desired to possess her, that she refused, that he then tried to get her dismissed from her place in order that she might be more fully in his power, and that failing this, he shot her. It is proverbially dangerous to attribute motives. As has been before remarked in these pages, if we knew the full history and circumstances of the actors, the motives of most of the crimes that we call motiveless would be clear enough. Had the trial taken place in a neighbouring country, the agitation and excitement that the prisoner evinced on the two or three days preceding the murder would have been attributed to the resolution that he had then formed to commit the murder, and this hypothesis would have been as probable as that advanced by the prosecution. Certain it is that the circumstances of the crime alone lent no support to the plea of insanity. This was established solely by reference to the prisoner's previous life, and after this case it will be impossible even for Dr. Weatherly to assert that our legal procedure presses with undue severity upon prisoners of unsound mind, or that any difficulty is placed in the way of establishing the plea of insanity.

Rex v. *Burden.*

Frank Burden, 31, gardener, was indicted for the murder of his wife. Prisoner had spinal disease, and when his wife became pregnant he was convinced that she had been unfaithful, as he believed himself to be impotent and incapable therefore of being the father of the child. They had many quarrels on the subject, and after one of these the prisoner murdered his wife with a knife and a razor, which he then hid under the mattress of the bed. He subsequently tried to drown himself. Dr. Macdonald deposed that several relatives of both the father and the mother of the prisoner were insane, and that the prisoner suffered from the two fixed delusions that he was himself impotent and that his wife was unfaithful. Prisoner described

a visit that he had had from the devil in the night. Dr. Weatherly gave similar evidence. On the other hand, Dr. Good, the surgeon to Dorchester Prison, who had had the prisoner under observation for four months, could detect no insanity in him. The judge here asked the jury whether they were satisfied that the prisoner was insane at the time that he committed the offence; and the jury, after some hesitation, replied that they were. His lordship said that he agreed. It would be too terrible, after what they had heard, to come to any other conclusion. Guilty, but insane.—Dorchester Assizes, Mr. Justice Bucknill.—*Dorchester Telegram*, June 10th.

It will be observed that there was no certain proof that the conviction of the prisoner that he was impotent and not the agent of his wife's pregnancy was a delusion. The deceased seems to have been a modest, well-conducted woman, and the strong probability is that the belief was a delusion; but its delusive nature was not susceptible of certain proof, and Dr. Good, who had the best opportunity of acquainting himself with the prisoner's state of mind, did not regard it as a delusion. Even if the belief was erroneous and the woman innocent, it by no means follows that the belief was a delusion. It may have been a sane mistake. But the judge took a strong course, and practically directed the jury to find a verdict of insanity. The verdict was probably right, but the evidence upon which it was founded was so slender as to justify fully the conclusion of the Committee of this Association that in practice the law does not press hardly upon prisoners with respect to whom the plea of insanity is raised.

LABORATORY OF THE SCOTTISH ASYLUMS.

The pathologist, in the Fifth Annual Report, gives in an appendix the following list of publications (continued from the Fourth Annual Report) containing records of researches carried out in the Laboratory, or in association with it:

W. Ford Robertson and James H. Macdonald; "Methods of rendering Golgi-sublimate Preparations Permanent by Platinum Substitution."—*Journal of Mental Science*, April, 1901.

Chalmers Watson: "A Contribution to our Knowledge of Disease of the Nervous System in Horses."—*Veterinary Journal*, March, 1901. "On Disease in the Nervous System of Horses."—*Veterinary Journal*, June, 1901. "The Pathogenesis of Tabes and Allied Conditions in the Cord."—*British Medical Journal*, June 1st, 1901.

Lewis C. Bruce: "Clinical and Experimental Observations upon General Paralysis."—*British Medical Journal*, June 29th, 1901; and *Trans. of the Medico-Chirurgical Society*, Edinburgh, 1900–01.

W. Ford Robertson: "Observations bearing upon the Question of the Pathogenesis of General Paralysis of the Insane."—*British Medical Journal*, June 29th, 1901; and *Trans. of the Medico-Chirurgical Society*, Edinburgh, 1900–01. "The *Rôle* of Toxic Action in the Pathogenesis of Insanity."—*British Medical Journal*, October 26th, 1901. "Platinum Method for the Central Nervous System."—*Proceedings of the Scottish Microscopical Society*, vol. iii, No. 2, 1901.

A. R. Urquhart and W. Ford Robertson: "A case of Epilepsy following Traumatic Lesion of Pre-frontal Lobe."—*Journal of Mental Science*, January, 1902.

Sir John Batty Tuke and W. Ford Robertson: "The Pathology of Insanity."—*Quain's Dictionary of Medicine*, 3rd edit., 1902.

W. Ford Robertson and J. S. Fowler: "Researches on the Channels by which the Cerebro-spinal Fluid escapes from the Intra-cranial Cavity, by the late Dr. George Elder."—*Journal of Pathology and Bacteriology*.

CORRESPONDENCE.

From Dr. D. G. THOMSON, Norfolk County Asylum, Thorpe, Norwich.

HOSPITAL IDEALS IN THE CARE OF THE INSANE.

I am sure few papers dealing with the practical side of asylum work have been read by most of us with such interest as that by Dr. Robertson, of Larbert, on the nursing of asylum patients, reported in the April number of the *Journal of Mental Science*, and I hope that others like myself who were not present when the paper was read will, either at future meetings or by letters to this JOURNAL, contribute their views on this important subject.

Dr. Robertson's conclusions and practice are based on one fundamental belief or premise, which is that the more closely we follow not only the hospital ideal but hospital methods, the more perfect will our asylum nursing become. I, for one, emphatically urge and protest that this belief or premise is unsound; I believe that while theoretically diseases of the mind may be diseases of the body as much as tubercle and typhoid, yet in any case they demand an utterly different machinery and environment for their management and treatment from that which obtains for ordinary bodily disorders in a general hospital.

I am quite aware that from a medical point of view every inmate of an asylum is a patient, but to assert that the hospital ideal is to be aimed at and striven for in the care and management of the ordinary asylum inmate is absurd. I am sure we have run after this *ignis fatuus* "hospital ideal" long enough and far enough. Moreover, we have in vain called asylums hospitals. One we have called Bethlem Hospital for centuries; the public, who won't be humbugged, call it Bedlam. Another we have for a few years called Graylingswell Hospital, although by law it is a county lunatic asylum, and thereby try to deceive ourselves and the public, but only deceive the former. We have dressed our female attendants in hospital nurse's uniform and called them nurses; I do so myself, indeed we have, in our zeal for hospital appearances, a comical ostrich-like way of ignoring the male division in showing strangers round our asylums, because somehow it is not so consonant with our hospital ideals as the female division. Further, I am constantly dinning into the ears of the friends of patients that this Norfolk County Asylum is a hospital, knowing all the time that this is only a sop or comfort to their feelings, and that it is no more a hospital than a hospital is an asylum.

Let us set aside all this prejudice in favour of hospital ideals, and certainly let us disabuse our minds of the idea that the hospital nurse is the ideal woman, and review the situation and examine the matter *de novo*.

As Dr. Robertson's paper refers chiefly to the "nursing" of male insane persons by women, I will confine my remarks to male patients. There are in this asylum 360 male patients who may be classified shortly as follows: 50 epileptics, 50 infirm, 5 recent melancholic or maniacal cases, and 255 "chronics" in good health.

I presume no one with any sense of the fitness of things would suggest that the 255 "chronics" should have women in charge of them. With very few exceptions the fifty epileptics could not be managed by women, and certainly my five recent cases, not epileptic or infirm, admitted during the past thirty days, could also not be managed by women; so there remain only my fifty sick and infirm cases who might be managed by women.

To hear the current talk about hospital ideals in asylums one would imagine that there was any amount of acute or chronic bodily and psycho-physical sickness in asylums demanding the specially trained hospital nurse, but we asylum doctors—perhaps I should have said we hospital physicians—know this is all nonsense. I go my rounds on the male division to-day, and I find out of my 360 patients eight men in bed; in winter perhaps a dozen, in summer perhaps none at all. Of the eight I find to-day, two are in bed for acute maniacal excitement, women could not "nurse" them; one is in advanced general paralysis, and as he is no longer obscene, blasphemous, and excited withal, but only demented, helpless, and filthy in habits, he might be nursed by a woman; one has an ulcer on his leg; another has bronchial catarrh; and three others are suffering from senile debility. The six latter might be "nursed" by women as capably as by men, although the three

senile cases were sent here from workhouse infirmaries, where, forsooth, they were said to be unmanageable, under unfavourable conditions I admit, by trained women nurses there.

Therefore, so far as I can see, the only considerable number of male cases which *could* be managed by women are the forty to fifty infirm cases. Analysing these cases one finds them to be mostly more or less feeble old men able to go through the ordinary performances of life—eating, sleeping, exercising, dressing, and undressing—provided all facilities are given them for this, and all difficulties of initiative smoothed away; that is to say men who require *attendance*. But surely this is not *nursing* unless an unwarrantable use or misuse is made of the term, and this *attendance* can be as well given by men as women.

Dr. Robertson admits that bathing and other sanitary requirements have to be fulfilled in the case of his women-nursed male patients by male attendants. I think such an admission damns his whole scheme; anything more unsatisfactory or subversive of proper discipline and methods than this handing over of male patients at one time to the care of women and at another to men is difficult to conceive. A nurse in a hospital will do anything and everything for a male patient so long as he is in bed helpless, but as soon as he gets up and about he attends to his toilet, bathing, and calls of nature himself; and this, of course, an asylum patient cannot or should not do in privacy. One knows that on rare occasions a male asylum patient will do things, such as take food, for a woman when he will not do so for a man, and *vice versâ*; and, acting on this knowledge, I have on such rare occasions employed a female asylum nurse to help in the nursing of a male case. It may be that we do not sufficiently keep in view the occasional great benefit which might be derived from a slight extension of such a principle, but this is far from either the general practice Dr. Robertson recommends or the principle on which he bases his practice.

A minor premise of Dr. Robertson's is his contention that men are not naturally nurses by inclination or instinct.

I have shown above that, firstly, there is really very little nursing to do, using the term in its hospital sense, and I now say that what little there is to do can be equally well done by men. *A priori* perhaps one would not expect men to turn to or take up nursing as women do, yet when they do do so they do it equally well, if not better, than women; just as although not naturally or aboriginally cooks, dressmakers, etc., those who take up these callings excel women therein. Who of us among his staff of male attendants has not a few admirable nurses? I have several whom I would not replace by the best women asylum-trained nurses, far less by hospital nurses. That female nurses would consent to, and even prefer to nurse on the male division is quite beside the mark, and the reasons plain. Firstly and chiefly, the intinctive natural preference of one sex for the other, and secondly, that the male insane are at least twice as easily managed as the female insane.

There are many other matters of interest touched upon in Dr. Robertson's paper; indeed, it teems with topics for controversy, to which I should like to refer, but your valuable space I fancy forbids. I must, however, enter my protest against his scheme of having a hospital-trained nurse as the principal official in a female ward and calling her a new creation, which scheme, apart from its being unnecessary, reduces our on the whole admirable and daily improving asylum nurses to the position practically of wardmaids. I submit the same arguments against this as I have adduced against the hospital female nursing of male patients. The advantages of having two or three hospital-trained nurses available for special bodily illnesses are manifest in any asylum, or for the matter of that, in a school or any similar institution. One of my two assistant matrons has had hospital training, and her special nursing knowledge is at times of great value, but to appoint a hospital-trained nurse, as such, over the charge nurse of a ward would be as much a misapplication of a specially and specifically educated product as to place a doctor as foreman in a chemist's shop; the nurse would have little or no nursing, and the doctor little or no doctoring.

Does Dr. Robertson not credit our male and female attendants with any sentiment, aspiration, or ambition above the pay and limited promotion to which he refers on page 279? Were I a fully asylum-trained certificated charge nurse and a hospital-trained nurse were put in authority over me, not as an officer, but as a fellow nurse, I would most certainly resent it, just as I would were I a fully quali-

fied and asylum-trained assistant medical officer if a gynæcologist, operating surgeon, or even a general hospital physician were appointed as my medical chief.

Dr. Robertson suggests that the hospital-trained nurse would never be guilty of the ill-treatment of patients. Of course, I cannot possibly admit this; hospital training does not eliminate the "black-sheep" that exist amongst us, whether we be asylum doctors or hospital doctors, asylum nurses or hospital nurses.

I heartily join Dr. Clouston and the other speakers in the discussion on the paper in their admiration of Dr. Robertson's enthusiasm. I would even go further than they, in believing that with his enthusiasm he could make the converse of his methods a success, viz. that male attendants should nurse female patients. It is better, however, to have enthusiasm and a trial of new methods of management than a dead-level red-tape conservatism; but the enthusiast must expect criticism, and I trust that he will acquit me, in this somewhat forcibly-worded letter, of any other intent than to fairly examine the methods he suggests and practises.

To the Editors of the JOURNAL OF MENTAL SCIENCE.

GENTLEMEN,—There is sufficient internal evidence in the letter addressed to you by "Resartor" to warrant the belief that his strictures on my last review of the Commissioners' Blue Book are the result of certain carefully collaborated objections against the manner and the matter of these reviews.

He accuses me, in the first place, of "shakiness in inferences and conclusions"—a sweeping condemnation, but one hardly justified by the instances he quotes. He declares that I am "much exercised by the manner of taking the annual census of the insane as on December 31st of each year," but he continues "everyone knows that this process is not accurate." So far, then, I am not "shaky." What he distinctly objects to is that I should presume to suggest that the average residence of the year should be taken "as a more accurate basis." This is a direct misrepresentation, a statement which I meet by a flat contradiction. May I, through you, request "Resartor" to read my review more carefully? I suggested nothing of the sort. At the top of page 77 in the January number of your JOURNAL he will find that the suggested comparison between the totals of the average number resident was meant merely to give the Lord Chancellor, to whom the report is addressed, *a better estimate* of the amount of work the Commissioners have to do annually; it was not put forth as "a more accurate basis" of statistical computation. A tyro in arithmetical reasoning could see that such a summation could not possibly be taken as a basis for working out ratios and proportions, and that fact alone should have made "Resartor" pause before citing this, his own, assumption of my meaning in the forefront of his accusation. Ignoring, however, the simple arithmetical rule that actual numerical computation and not estimated summaries must form the groundwork of every statistical argument, he amusingly nails his ignorance to the mast by occupying nearly half a page of your valuable JOURNAL in an attempt to prove to you and your readers by columns of figures (which I spare him from criticising) how sadly I have erred—the labour of which calculation he might easily have saved himself had he taken more than a passing glance at the wording of my article, and adhered to the elements of statistical computation.

Secondly, he objects to my request for an analysis-table to show the reasons for, the results of, the antecedent residence of, and the nature of each case of transfer. Why? Does "Resartor" ever read the lunacy reports of other countries, or is he so insular as to believe that the Blue Book, by reason of the Association's early responsibility in the matter of its statistical tabulations, cannot be improved upon? Does he know that in some foreign reports every case of admission and discharge, to say nought of transfers, is carefully analysed? There was nothing so preposterous, therefore, in making this innocent and quite unoriginal proposal, and it seems to me a mere laborious effort to pick holes in my criticism so pointedly to object to such a suggestion. For all that "Resartor" may say to the contrary, I maintain that alienist physicians are *not* truly appreciative of the practical utility of transfer as a mode of treatment, for unless under actual compulsion, either official or administrative, cases are seldom transferred from one asylum to another for curative reasons only.

Thirdly, he declares that I am "mixed on the subject of recovery ratios," and bases this assertion on a single sentence, with a complete disregard of its context. In my critique I am at pains to prove that the actual recovery rate may be assumed to be somewhat greater than the numerical estimate furnished by an admission ratio or a daily average ratio. "Resartor," however, disregards the argument, and prefers to pick to pieces a comment by which I am tending to the conclusion of my proposition. In so doing he appears to display not critical ability but animus, and it would be right to ignore such an assumption of error; but I am perfectly willing to meet him even on the small of strip ground he has marked out for himself, to maintain once more that he shows defective acquaintance with statistical reasoning and a simple disregard of plain English when he declares that by what he quotes I am "mixed on the subject of recovery ratios." The sentence he dwells upon and criticises is this: "We go further, however, and maintain that, considering the magnitude of the yearly aggregate increase in non-recoverable cases, and the merely fractional diminution in the recovery rate, the inference that asylums show no improvement in their recoveries is altogether a false one." This sentence in my critique followed a quotation from the report showing the existing discrepancies between admission and daily average recovery ratios. "Resartor" says that he can find no such inference in the Blue Book. I did not say it was in the Blue Book—it is a natural and popular inference and not a stated one. He then makes the following observation: "Returning to the sentence quoted above, if he, in using the term recovery rate, refers to that which is calculated on admissions, he is doing that which is not lawful to a statistical expert by considering it *in relation to* yearly aggregate increase. On the other hand, if he is meaning the recovery rate in proportion to daily average numbers he is clearly wrong in talking of its diminution as fractional, etc." [the italics are my own]. Now my sentence makes no attempt whatever to consider the recovery rate calculated on admissions "in relation to yearly aggregate increase." This is "Resartor's" own erroneous deduction. I merely desired to emphasise the fact—a simple fact which any unbiassed mind at once can grasp—that such a yearly aggregate increase must in some measure affect the calculation, be it the average number resident or the admission rate which may be chosen. A simple calculation will prove this even to the biassed. The word "considering" is also, I believe, capable of more meanings than one. Again, the diminution must certainly be fractional, in a comparative sense, considering how great is the yearly aggregate increase in non-recoverable cases; if "Resartor" does not credit this, it can easily be demonstrated to him by a few examples in elementary division. Then he objects to the suggestion I offer to have a quinquennial analysis of all admissions, and once more his superficial reading of my meaning leads him to unwarranted criticism. There is nothing so "disastrous" in the idea of tracing out the fates of every admission every five years as "Resartor" would have you believe. He makes a mountain out of a molehill, and apparently strives to misinterpret my proposal. I cannot weary you with a detailed explanation of what, after all, was but a passing suggestion, but anyone possessed of a fair mind can, by perusing the review and "Resartor's" letter side by side, discover that it is not merely an ultra-conscientious objection to my statistics that has provoked this *ex cathedrâ* indictment of my work.

Fourthly, "Resartor" declares that "the fact is patent that in spite of increase in numbers of all patients there are absolutely less" suffering from general paralysis than formerly. How does he know this? His "patent fact" is a mere bit of guesswork, a gratuitous and unwarrantable assumption, coming ill from one urging the doctrine of exactitude. Because the Commissioners show statistically that there are fewer general paralytics in asylums, does "Resartor" imagine there to be fewer cases in the community? He must be a very optimistic being if he does.

Fifthly, he does not like my objections to the causation table supplied by the Commissioners, he thinks its infallibility established because it was the outcome of the recommendation of a strong committee of the Association! A valuable and uncontrovertible argument forsooth, one utterly beyond the pale of criticism!

And lastly, he ridicules me for being pleased at the disappearance from the report of the table of causes of general paralysis, and he says, "Why?" Will he trouble himself to cast his eye over that table in the Commissioners' Report for 1900 or any previous year, and declare his complete satisfaction with every item therein? Will he tell us how "old age," "previous attacks," "puberty," and many

other "causes" there enumerated can have been factors in the production of this essentially organic disease? And he inquires if I am wedded to the belief that syphilis is a sole factor in any given case—it is a trivial matter, but if he is so interested in my beliefs I may assure him that I am. In an article on "The Probable Ætiology of General Paralysis," published nine years ago, I suggested, on clinical grounds alone, syphilis as the prime factor in every case of this disease, and recent pathological evidence of an irrefutable character has certainly not shaken my conviction.

These, gentlemen, are all the points of evidence in "Resartor's" indictment, by which he seeks to establish my "shakiness in inferences and conclusions." As to his criticism of my literary manner, which he regards as "too vigorous," it surely is a subject of regret that during the eleven years in which I have reviewed these reports no other Daniel has come to judgment, nor until now has one arisen to urge this trenchant objection to my style, for I would willingly have clothed my contentions in more sober, though I believe less effective, utterances, to avoid offence to the susceptibilities of some of your readers.

During the time that I have, under you and your predecessors in the editorial chair, reviewed these reports for the JOURNAL, I flatter myself that I have, accidentally perhaps, been the means of introducing alterations into the official statistical summaries, as well as of modifying the views previously held by the Commissioners as to the alleged increase of insanity—at all events emendations have directly followed the suggestions I ventured to offer,—and it seems late in the day to be taxed with charges of unfairness of comment and inaccuracies of deduction, not one of which "Resartor" has, save in his own judgment, established.

But all this may perhaps be regarded by those of your readers who are hypercritically disposed as "pointing to the value of the reviewer," and with your permission I shall follow the example set me and similarly hide my identity.—I am, yours truly,

F. S. S.

OBITUARY.

BONVILLE BRADLEY FOX.

We had long known that Dr. Bonville Fox was in a grave state of ill-health, and so his death at the early age of 49, which occurred on April 2nd, 1902, though most deeply regretted, came to us all as no surprise. It was a long and a painful illness, and borne by him with the greatest patience and fortitude.

Dr. Bonville Fox was the son of the late Dr. Francis Kerr Fox, the well-known proprietor of Brislington House Private Asylum; the nephew of the present Dean of Westminster, and the half-brother to the late Dr. Edward Jay Fox, of Clifton, Ex-President of the British Medical Association, who pre-deceased him only by a few days.

He was educated at Dr. Hudson's School, Manilla Hall, Clifton, and at Marlborough College, and afterwards took his degree of B.A. at Christ Church College, Oxford, in 1876.

He studied medicine at St. George's Hospital, taking his M.R.C.S. in 1878. After this he acted as Assistant Medical Officer at Bethlem Hospital for a period of six months. In 1879 he took his M.B. degree at Oxford, and in 1882 his M.D. After his work at Bethlem he became Assistant Resident Medical Officer at Brislington House, his father's well-known private asylum, which has always stood in the forefront of similar institutions in this country.

At the death of his father he became joint proprietor with his brother, Dr. Charles Fox, and sole proprietor on the retirement of the latter some few years ago.

Dr. Bonville Fox married the daughter of the late Mr. Tom Danger, who for many years was Clerk of the Peace for the City of Bristol. He leaves a family of two sons and one daughter.

In addition to his professional work, of which we shall presently speak, Dr. Bonville Fox was a zealous member of the Keynsham Board of Guardians, and was for a considerable time the vice-chairman of that body.

In politics he was a staunch conservative, and an active worker on the Brislington District Conservative Committee. Always having a great liking for agriculture, he became a most useful member of the North-East Somerset Farmers' Association. He was a capital shot, an enthusiastic cricketer, and a man who endeared himself to a large circle of friends and neighbours.

His loss is greatly felt in the district, and it was with feelings of deep regret at his early death, and of heart-felt sympathy for his wife and his children, that large numbers of those who had known him assembled at the quiet private cemetery of Brislington House on April 5th, when his body was laid to rest.

In the west of England he held a high position as a mental consultant, and his great experience and his sound judgment made his advice in this branch of medicine frequently sought and most highly valued.

By the members of the Medico-Psychological Association he will be much missed. For years he was a regular attendant at the quarterly meetings, and he had been elected a member of the Council several times. His thoughtful and scholarly mind was appreciated by all who knew him, and whenever he rose to speak he commanded immediate attention and respect, for it was always recognised that he seldom brought forward an opinion which had not been carefully weighed and logically reasoned.

He contributed an article to Tuke's *Dictionary of Psychological Medicine*, and several papers to the *Journal of Mental Science*. Many will remember his capital paper on "Exaltation in Chronic Alcoholism," and the interesting discussion which followed; while those of the Association who were fortunate to be his guests at the meeting held at Brislington House on May 1st, 1891, will have happy recollections of that pleasant day and his kind and generous hospitality.

His death causes a gap in our Association not easily filled, and we mourn with many the loss of a kind heart, a scholarly mind, and an ever thoughtful courtesy.

LIONEL WEATHERLY.

ARTHUR STRANGE.

"Arthur Strange, Med. Supt. Salop and Montgomery County Asylum, Bicton Heath, Shrewsbury, M.D.Edin., 1867."

Such is the description of the subject of this notice given in the *Medical Directory*, and it is eminently characteristic of the man. There is no parade of titles, of appointments held in other places, of attachments to learned societies, of papers written, or work done. Simply a plain statement that he was qualified in a certain way and was carrying on a definite appointment in a certain part of the country. It reads almost like an inscription on a monument, and, indeed, to those who knew him no more appropriate legend could be engraved on the walls of the building in which he worked and where he died than the simple facts drawn up in his own words.

Dr. Strange, who was 58 years of age at the time of his death, was appointed to the charge of the county asylum at Bicton Heath in the year 1872, previous to which time he had held various degrees of assistant medical officership at the Chester, Gloucester, Leavesden, and Colney Hatch Asylums. The immediate cause of his death was meningitis, and he died literally in harness, for he was only off duty for three weeks before his death. About seven years ago he had a severe illness, erysipelas and sequelæ, and was off duty for three months. He was buried in Oxon Churchyard, Shrewsbury, and he has left a widow and seven children to mourn his loss. Descended from families honourably associated with the treatment of insanity—his father was the superintendent of the asylum at Powick, and by his mother's side he was related to the Skaes—he successfully carried on the traditions of his ancestors, imbued from an early age with those advanced and sound principles which later on he carried into effect. It is difficult to convey to others a real estimate of his character, because he was essentially a man who had to be known to be fully appreciated. Not that he was reserved in conversation, or that he hesitated to ventilate his opinions; on the contrary, he was free and ready of speech, and often expressed himself with a force and fearlessness that could only arise from a man of strong convictions, obtained by familiarity with the subject he was discussing; but he was essentially of a practical mould, obstinate perhaps, but impatient of listening to the discussion of matters about which he had already formed strong opinions. He was opposed to irrelevancy of any kind, and

not being a man of wide reading or of scientific trend, he preferred to spend his energy in attending to the wants and the comfort of his dependents. Strange was a man of thought and action, but not in a public sense. He never spoke in debate, nor did he write except when officially obliged to do, and yet he was not a nervous man, nor was his a mere humdrum intellect. It was sufficient for him that a duty had to be carried out in as careful and complete a manner as he could do it, and his time and energies were devoted to making his asylum as safe and up-to-date as lay in his power. Of course this meant that he moved to a large extent in a groove, but discursiveness was anathema to him, and he probably best recognised the way in which he could be most useful.

The writer, who was intimately associated in work with him for some time, can speak of him as the embodiment of truth, loyalty, and devotion to principle, whilst his rugged honesty and individuality were reflected in an exterior forcible and unconventional. To us who are left behind Arthur Strange is both an example and a warning; an example in the devotion of his life to duty, in his unswerving fidelity to his friends, in his knock-down denunciation of humbug in any form, and in his uncompromising manner of dealing with deceit or malice; a warning in that he stayed too much in his immediate surroundings, and thus failed to expand to the degree that he was really capable of, and this not from mere inertia or idleness, but from a too keen sensitiveness to criticism, and partly perhaps from the restricted conditions under which the work of a conscientious medical superintendent is carried on, conditions which, during the early and subsequent parts of his career, were of a narrower and more restricted kind than they are nowadays.

To most of the younger members of this Association Dr. Strange must be unknown both in appearance and character; to those who have spent many years in the specialty he will be remembered in the manner which would have been most agreeable to him, as one who by his practice and example endeavoured to do the right thing, and who did it with all his might.

George Fowler Bodington.

We greatly regret to have to record the death, in his seventy-third year, of Dr. George Fowler Bodington, which occurred recently in Paris. He was the eldest son of Mr. George Bodington, surgeon, of Sutton Coldfield, of whose work as a pioneer in the outdoor treatment of tuberculosis Sir Walter Foster has recently reminded us, and was educated for the medical profession at Queen's College, Birmingham.

After taking the Membership of the Royal College of Surgeons, and holding the post of House Surgeon at Queen's Hospital, Birmingham, he visited as a ship's surgeon Natal and India. He spent some time practising his profession in the back settlements of Pietermaritzburg, where his fees were paid him in elephants' tusks, of which he brought away some hundreds of pounds' worth as the fruits of about eight months' work. He returned to England, married, and settled in practice at Kenilworth in partnership with the late William Bodington, F.R.C.S., his uncle. In 1866 he moved to Middlesbrough-on-Tees and to Saltburn, where he remained until called to take the management of a prosperous private asylum established by his father at Sutton Coldfield, near Birmingham. He bore a leading part in establishing the Birmingham Medical Institute, of which he was one of the early Presidents; and he was also President of the Birmingham and Midland Counties Branch of the British Medical Association in 1876.

He at this time associated himself with the late Mr. Dalrymple in the movement to obtain legislation for the care and control of inebriates. But meanwhile two events happened of considerable importance; he lost his first wife and married again; the asylum, owing to the falling in of the lease, had to be transferred to Ashwood House, Kingswinford, in Staffordshire. Unfortunately, the second Mrs. Bodington never enjoyed good health at Kingswinford, and Dr. Bodington decided to sell the asylum and seek elsewhere, in a more congenial climate, a home for his family. After wandering for a year or two he settled eventually in British Columbia, where he purchased a farm and carried on medical practice, but it is doubtful whether these ventures were altogether successful. The advance of civilisation in these western regions rendered a large lunatic asylum a necessity of the province, and of this Dr. Bodington was appointed Medical Superintendent in

1895. His success in this work is well attested by the following extract from the report of his successor:

"It was apparent that to bring about the required changes would entail an immense amount of work, and Dr. Bodington felt constrained, through the advance of years, to relinquish the labour to younger hands, and seek well-earned rest and retirement in the land of his birth, surrounded by the members of his family and his friends. In this connection I can truthfully testify that no greater general sorrow has been witnessed throughout the institution than that occasioned by the departure of the one who had taken the helm at a very trying time, and had safely piloted the hospital through some difficult passages, giving to it his best energy and utmost attention, though never in robust health, and having already arrived at that period of life when men hope to be able to forget labour and worry. Dr. Bodington's resignation was accepted by the Government, who voted him a retiring allowance for his faithful services, which terminated on February 28th, after six years of most arduous toil, during the greater part of which he was alone in the charge of the institution."

He came to England last year to visit his relations and to renew acquaintance with old friends, and he eventually settled in Paris. His death occurred after a very short illness, but his state of health had not been satisfactory for some time past.

Dr. Bodington was a man of magnificent physique and fine presence, a delightful companion, and an enthusiastic man of letters. He was for many years a member of this Association; he resigned on going to British Columbia, and was re-elected in 1895.—From the *British Medical Journal.*

NOTICES BY THE REGISTRAR.

Examination for the Nursing Certificate.

Five hundred and forty-three candidates applied for admission to the May examination for this certificate. Of this number 179 failed to satisfy the examiners, twelve withdrew, and the following were successful:

ENGLAND.

Three Counties, Hitchin.—Females: Edith Folkes, Beatrice Florence Rainbow, Lucy Devereux, Minnie Winter, Maud Rainbow. Males: Charles Michel, Isaac Bottomley.

Bucks County.—Females: Violetta Peck, Emily Hutchins, Emily Hughes, Agnes Louisa Smith, Ada May Johnson, Agnes Louisa Walton, Mary Kinsella. Male: Christopher Hicks.

Cumberland and Westmorland.—Female: Sarah Heron. Males: John Stewart, Richard Lambert.

Devon County.—Females: Ada Trenerry, Annie Elizabeth Harris, Bessie Marley, Mary Ellen Ley. Males: William Henry Ponsford, John Tuplin, Edwin Leach.

Kent County, Maidstone.—Females: Eugenie Emily Bishop, Ellen Lavinia Morris. Male: Charles Thomas Worsel.

Kent County, Chartham.—Male: Harry Percival Hastings.

Lancaster County, Rainhill.—Females: Bessie Case, Nellie Trusler, Edith Maud Alford, Alice Mansefield Caley, Lilian Riley, Annie Moss, Edith J. Poulton, Ada Foster, Sarah Smith, May Hughes, Jessie Hollingworth, Hannah Drabble, Beatrix Ethel Hudson, Emma Smith, Rachel Crilly, Alice Mary Lamb, Mary Mason, Catherine Lamb. Males: James Renshaw, William Leonard Gill, James Everitt, William Stones, Archibald Osman Wynne, Harry Harding, William Charles Boddy, Leonard Roberts Kingdom, Walter Hague.

London County, Bexley.—Females: Annie Berry, Alice Musto. Males: Arthur Watson, Edwin Robert Blackman, Ernest Gordon Clark, Alfred Williams, Thomas Foster.

London County, Cane Hill.—Females: Lily Annie Ashby, Esther New, Elizabeth Rees. Males: John McKeown, George Griffith.

London County, Claybury.—Females: Amy Louisa Lelliott, Catherine Helen

Henson, Alma Augusta Annie Holtzhansen, Alice Mary Ayres, Bertha Skinner, Ethel Ellis, Clara Charlotte Webb, Beatrice Ida Shirley. Male: Walter Harry Dew.

Middlesex County.—Females: Annie Berry, Ida Caroline Reakes, Annie Maxwell, Alice Rebecca Mawson, Anastasia Maria McDonald, Harriet Almma Spurling. Males: William Henry Russell, George Sharpe, George Bowmer, Arthur Thomas Boxall.

Warneford Asylum, Oxford.—Females: Kate Alice Wilkins, Agnes Thomson.

Surrey County, Brookwood.—Females: Harriet Annie Baker, Frances Brodribb, Edith Frances Crouch, Emeline Ada Driver, Amy Elizabeth Platt, Maud Rosaline Griffin, Margarat Walters. Males: Henry Lowe, Charles Arthur Woodcock, Thomas Betteridge.

Warwick County, Hatton.—Females: Frances Rudge, Elizabeth Hinsley, Nancy Woosnam. Males: Harry Frederick Latham, George Matthews.

Isle of Wight.—Males: William Edwards, William Henry Sneath.

North Riding, Yorks.—Female: Catherine Emeline Jackson. Males: John Robert Peckitt, Thomas Dunn Bertram.

Menston, Yorks.—Females: Isabel Patchett, Annie Ford, Mary Greenall Molyneux. Males: Joseph Craven Thornton, James Holmes.

South Riding, Wadsley.—Female: Mary Jane Batty. Males: John Richard Reynolds, Charles Robert Lincoln.

City of Birmingham, Winson Green.—Female: Alice Lees. Males: William Edward Barry, Arthur Walton.

City of Birmingham, Rubery Hill.—Females: Florence Gwendoline Wright, Ada Collins, Harriet Ada Stringer, Annie Maria Ellis, Ellen Roberts, Harriet Cotton, Florence Clews. Male: Arthur Thomas Horton.

Bristol City.—Female: Edith Mary Yeoman.

Hull City.—Females: Mary Emma Clark, Ada Learoyd, Kate Harrison, Annie Louisa Credland, Kathleen Winifred McCardle. Male: George Herbert.

Newcastle City.—Females: Margaret Wilson Smith, Deborah Elizabeth Haynes, Marian Aldis, Isabella Bulman, Mary Jane Law. Male: Walter Phillips.

Nottingham City.—Females: Mary Ellen Rawson. Males: John Henry Stapleton, William Loach, Frank Law, Mark Tomlinson, George William Frow.

Plymouth Borough.—Females: Evelyn Hodge, Florence Ada Harper.

Portsmouth Borough.—None.

Sunderland Borough.—Females: Louise Slaney Page, Elizabeth Ann Smith. Males: John Charles Young, William Lewis Willcock, William Allen, David Hume.

West Ham Borough.—Females: Charity Filby, Louisa Mary Maud Griffin, Jane Waite Robinson. Males: Walter Wilkinson Hollis, James Hunt, Joseph Jennings, William Charles Peat, George Edwin Sparkes, Samuel Frederick Robinson.

Darenth.—Female: Edith Jane Henderston.

Leavesden.—Males: Robert Watson, Stephen John Constable.

Friend's Retreat, York.—Females: Jessie Maria Pearson, Margaret Gibbon, Christian William Gordon, Sara Christine Hearder, Edith Emily Parker, Lucy Foster Swain, Dora Cole, Eleanor Alice Wood, Annie Eliza Naylor, Hannah Mary Iveson.

Camberwell House.—Females: Elizabeth E. Brazebridge, Florence Jessie Cheal, Alice C. Graham, Minnie A. Vinicombe. Males: John Henry Moore, John Lewis, Sam Hedgland Blake.

Holloway Sanatorium.—Females: Millicent Hannah Strong, Emily Lonsdale McMaster.

Redlands.—Male: Adolphus William Pulman.

St. Luke's Hospital.—Females: Violetta Bidgood, Elizabeth Potter. Males: John Barnard, William Heslop.

Haydock Lodge.—Male: William Waterhouse Cromack.

WALES.

Abergavenny County.—Females: Mary Hannah Davies, Nellie Oakley, Edith Price, Eleanor Williams, Margaret Ann Williams. Males: Michael Doolan,

William Henry Jones, John Preece, Alfred Price, George Richard William Rosser Edward Williams.

Glamorgan County.—Females: Elizabeth James, Clara May Jones, Edith Maud Poyntz, Martha Ann Rowlands, Mary Ann Waldin, Hannah Elizabeth Wherritt, Elizabeth Tarr. Males: Rees John Davies, John Edmunds, William Hopkins, John Bevan Preece, David Price, William R. Rogers, George Perry, John Thomas.

SCOTLAND.

Argyle and Bute District.—Female: Nellie Sherrie.

Aberdeen Royal Asylum.—Females: Elsie Carr Wilson, Helen Wilson, Bella Valentine McDonald, Georgina Black. Males: Peter Duncan, George Skene.

Dundee Royal.—Females: Margaret Crocket McKenzie, Jane Hay.

Edinburgh Royal Asylum.—Females: Annie McLarty, Maggie Campbell, Isabella Nicol, Janet Smith, Margaret McDonald, Jane Malcolm Ashton.

Gartnavel Royal.—Females: Ellen Mary Hawkins, Elizabeth Mearns, Isa Craig Brown, Mary Bissett. Males: William Ingram, William Duncan.

Gartloch Asylum.—Females: Marie Walker, Grace Thomson, Annie McBride, Elizabeth Eleanor McPhillips, Martha Henry, Anne Clare Brennan. Males: James Gibson, John Findlay.

Inverness District Asylum.—Females: Ella Munro, Katherine Shaw Mackay Cecilia Elizabeth Curran. Male: Alexander Macquarrie.

Lanark District.—Females: Fanny Dawson, Marjory Lindsay, Elizabeth H. Lowe, Mary Bleakley, Agnes S. Murray, Mabel N. Matheson, Lizzie Tait, Mary S. Muir. Males: Thomas Johnston, Hector MacPhail, Andrew Adam.

James Murray's Royal.—Females: Margaret Sutherland, Elizabeth Corbett. Male: James Forbes Stalker.

Perth District Asylum.—Females: Thomasina Cramb, Annie Thomson.

Roxburgh District Asylum.—Female: Elizabeth Anne Telfer. Males: Alexander Cameron Grant, James Marr.

Smithston Asylum.—Female: Sara Morrison. Males: James M'Kaig, John Frew, David Skelton.

Stirling District Asylum.—Female: Mary Elizabeth Smith.

Woodilee Lensie Asylum.—Females: Isa Allen Stewart, Anna Elizabeth Hay, Elizabeth Stevenson MacIntyre, Bessie Dick Marshall, Mary Barnwell Young, Jane Gemmell Brennan. Male: George Watt.

IRELAND.

Armagh District Asylum.—Females: Bridget McMahon, Sarah Mullan, Adelaide Hewitt, Ellen Hughes. Males: John McMahon, John Molloy, Robert Baird, James Devlin, John O'Farrell.

Cork District.—Females: Kate Coghlan, Hester Murphy, Mary Rearden, Kate Walsh, Maud Leyne, Katherine M. Reynolds. Males: John O'Callaghan, Cornelius Reardon.

Clonmel District.—Male: William O'Gorman.

Down District.—Females: Mary Harkin, Elizabeth Wilson. Males: William John McComb, William Conway.

Limerick District.—Female: Helena McEvoy. Males: Joseph Slattery, Richard Galligan.

Londonderry District.—Female: Matilda McConnell. Males: James Kyle, Hugh Henry, Hugh Margay.

Richmond District Asylum.—Females: Ellen Kelly, Teresa Pollock, Kate Kinsella, Bridget Rowan, Bridget Connell, Julia Howell, Annie Elizabeth Doran, Elizabeth R. McGee, Lizzie Johnston, Susette Edith Herd, Bridget Boland, Lizzie Mary Higgins, Emily Alice Fogartey, Margaret Owens, Margaret Lynch, Mary Jane Qooney. Males: James Napier, Peter Donnelly, Peter O'Loughlin, Thomas Barry, Stephen Maher.

Waterford District.—Females: Kate Quinlan, Mary Burke.

St. Patrick's Hospital, Dublin.—Female: Agnes Bailey. Males: John Joseph Piggott, Patrick John Fagan, John O'Neill.

St. Edmunsbury.—Females: Dorothy Kent, Mary Bridget Pender.
Dr. Dawson's, Maryville.—Females: Jennie Hewitt, Margaret Vaughan, Margaret Cullen.

ENGLAND.

Somerset and Bath.—Females: Louisa Ivy Hancock, Annie Bickell. Male: William Charles Hawkins.
City of London.—Males: Edward James Thorp, Walter John Figg.
West Sussex.—Males: James Hayward Strudwick, James F. Cragg, Arthur Turner.
London County, Claybury.—Female: Jennie Anderson King.

The following is a list of the questions which appeared on the paper: 1. What do you understand by fresh air? What is its composition? What impurities are found in air which has been respired? 2. What is the pelvis? Name the bones forming it. What organs does it contain? What are their relative positions? 3. What should be noted about the urine of patients? What are the different conditions which may lead to incompetence of the bladder? 4. In what cases may suicidal attempts be made? What are the most frequent modes in which patients attempt suicide, and how do you guard against it? 5. To what special risks of injury are epileptic patients liable? How would you guard against these risks? 6. How are bedsores caused? In what cases are they liable to occur? How would you prevent their occurrence? 7. How would you treat an attack of (*a*) apoplexy; (*b*) syncope (fainting); (*c*) choking? 8. What are the special points to be attended to in feeding paralytic and helpless patients? 9. State briefly how you would guard against and discover escapes; what precautions would you take aganist homicidal impulses; and what do you understand by special observation. 10. Into how many classes may poisons be roughly divided? Name them, give examples of each, and state what steps you would take in cases of suspected poisoning directly the doctor had been called, but before his arrival.

Examination for Nursing Certificate.

The next examination will be held on Monday, November 3rd, 1902.
Note.—As the names of some of the persons to whom the Nursing Certificate has been granted have been removed from the register, employers are requested to refer to the Registrar in order to ascertain if a particular name is still on the roll of the Association. In all inquiries the number of the certificate should be given.

Examination for the Professional Certificate.

The next examination for the Certificate in Psychological Medicine will be held on Thursday, July 17th, 1902.

Gaskell Prize.

The next examination for the Gaskell Prize will be held on Friday, July 18th, 1902.

NOTICES OF MEETINGS.

Medico-Psychological Association.

The Sixty-first Annual Meeting of the Association will be held at the Medical Institution, Hope Street (corner of Mount Pleasant), Liverpool, on Thursday and Friday, July 24th and 25th, 1902, under the Presidency of Dr. J. Wiglesworth. There will be a meeting of Committees as follows on Thursday, July 24th, before the Annual Meeting: Educational Committee 9 a.m., Rules Committee 9.30 a.m., Parliamentary Committee 9.45 a.m., Council Meeting 10 a.m.
The Annual Meeting commences at 11 a.m. on Thursday, when the usual business of the Association will be transacted.

2 p.m.—The President's Address.

About 3.15 p.m.—Mr. DAMER HARRISON will read a paper upon "Some Remarks upon the Surgical Treatment of Insanity."

About 4 p.m.—Dr. MERCIER will propose the following resolution, upon which Mr. PERCY BECHER, Solicitor, of Bedford Row, London, and others will speak:—"That in the opinion of this Association further legislative measures are needed to protect the property of those who, without being certifiably insane, are yet, by reason of disorder of mind, unable to administer their affairs with ordinary prudence."

Friday, July 25th, 1902, 10 a.m.—F. W. MOTT, M.D., F.R.S., will read a paper entitled "Stimulus in Relation to Decay and Repair of the Nervous System." The paper will be illustrated by lantern slides and diagrams. PROFESSOR SHERRINGTON, F.R.S., Dr. W. B. WARRINGTON, and others will take part in the discussion. A. W. CAMPBELL, M.D., will give a lantern demonstration on the "Medullated Nerve-fibres of the Cerebal Cortex." DAVID ORR, M.D., will give a lantern demonstration on "Nerve-cell and Medullated Fibre Changes in Acute Insanity."

2 p.m.—T. S. CLOUSTON, M.D., will introduce a discussion upon "The Possibility of providing Suitable Means of Treatment for Incipient and Transient Mental Diseases in our Great General Hospitals." The PRESIDENT, SIR JOHN SIBBALD, LEWIS C. BRUCE, T. B. HYSLOP, T. W. MACDOWALL, C. MERCIER, H. HAYES NEWINGTON, N. RAW, H. RAYNER, G. M. ROBERTSON, G. H SAVAGE, PERCY SMITH, URQUHART, YELLOWLEES, and others will take part in the discussion; after which the following papers will be read: HUBERT C. BOND, M.D., "Medico-Psychological Statistics—the Desirability of Correlation with a View to Collective Study." A. R. URQUHART, M.D., and G. FORD ROBERTSON, M.D., will read a "Clinical Report on a Case of Epilepsy." W. R. DAWSON, M.D., will read "Notes on the Pathology of Diabetic Insanity."

The Annual Dinner will take place at the Adelphi Hotel, Liverpool, on Thursday, July 24th, at 7 o'clock; tickets £1 1s. each.

The PRESIDENT, Dr. J. WIGLESWORTH, and Mrs. WIGLESWORTH, invite members to a Garden Party on Saturday, July 26th, at the Rainhill Asylum, near Liverpool.

Belgium.—An International Congress for the care of the Insane will be held at Anvers from the 1st till the 7th of September, 1902.

South-Eastern Division.—The Autumn Meeting will be held at Chiswick House in October.

South-Western Division.—The Autumn Meeting will be held at the Devon County Asylum, near Exeter, about the end of October.

Northern and Midland Division.—The Autumn Meeting will be held at Clevedon County and Borough Asylum, near Middlesbrough, on Wednesday, October 8th 1902.

APPOINTMENTS.

Browne, T. R. Beale, M.R.C.S., L.R.C.P., appointed Junior Assistant Medical Officer to the Northampton County Asylum.

Cassells, A.H., M.B., Ch.B.Glasg., appointed Assistant Medical Superintendent of the Sunnyside Asylum, Montrose.

Dodgson, H., M.B.. Ch.B.Edin., appointed Senior Assistant Medical Officer to the Cumberland and Westmorland Asylum.

Easterbrook, C. C., M.A., M.D., M.R.C.P.Edin., appointed Medical Superintendent to the Ayr District Asylum.

Elder, J. B., M.D., Ch.B.Aberd., appointed Junior Assistant Medical Officer to the Cumberland and Westmorland Asylum.

Harding, Norman, E., M.B., Ch.B.Edin., appointed *locum* Assistant Medical Officer to the Durham County Asylum.

Heffernan, P., L.R.C.P., L.R.C.S.Edin., appointed Assistant Medical Officer to the Clonmel Asylum.

Hunter, Miss Jessie, S.B., M.B., appointed Assistant Medical Officer of the Lawn Hospital for Insane, Lincoln.

Jones, W. E., M.R.C.S., L.R.C.P., appointed Medical Superintendent to Brecon and Radnor Joint Counties Asylum.

McCutchan, William A., L.R.C.P. and S.Edin., appointed Assistant Medical Officer to the Cambridgeshire Asylum.

Pasmore, Edwin Stephen, M.D.Lond., appointed Medical Superintendent to the Croydon Borough Lunatic Asylum, Warlingham.

Reid, W. H., M.B., Ch.M.Syd., appointed junior Medical Officer in the Department of Lunacy of New South Wales.

Baba, M. Singh Sodhi, M.B., Ch.B., Edin., Junior Assistant Medical Officer, appointed Senior Assistant Medical Officer, Portsmouth Asylum.

Stuart, F. J., M.R.C.S., L.R.C.P.Lond., appointed Senior Assistant Medical Officer to the Northampton County Asylum.

THE

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Part I.—Original Articles.

The Presidential Address, delivered at the Sixty-first Annual Meeting of the Medico-Psychological Association, held at Liverpool on July 24th, 1902. By J. WIGLESWORTH, M.D., F.R.C.P.Lond.

THE honourable position which your courtesy rather than any merit on my part has placed me in, carries with it the privilege of addressing you, and in offering you a few remarks on some of the problems of heredity, more especially with reference to their bearing upon insanity and allied conditions, I am fully conscious how inadequate my knowledge is to treat with satisfaction so important a theme. I venture to hope, however, that a few facts and theories bearing on this subject may not be devoid of interest, and may possibly serve as a stimulus to additional inquiries in this direction.

The activity of biological research, more particularly during the past two decades, into the intimate nature of the processes involved in the act of fertilisation has resulted in many important additions to our knowledge, and in what may almost be described as a revolution in our views with respect to the essential meaning of this process. It used to be thought that the respective shares which the sperm-cell and the germ-cell contributed to the act of fertilisation were of a different order, the germ-cell furnishing the matter, and the sperm-cell supply-

ing the force which animated that matter, and started it upon its career of development. But this view can no longer be held in the light of modern research. We now know that by far the greater portion of the germ-cell with its relatively large mass takes no part whatever in the construction of the offspring, but that the portion of matter which is to develop into the offspring—the hereditary substance—is entirely confined to the nucleus of the cell; and it is to the union of the nucleus of this germ-cell with the nucleus of the sperm-cell that the development of the new individual is solely due, the two nuclei contributing equal shares to the process. It would appear, indeed, that not even the whole of the nucleus is of importance in this respect, but that the chromatin rods contained within the nucleus are the only essential elements; and it is these which we must regard as constituting the actual hereditary substance which contains within itself all the qualities which go to make up the new individual. Furthermore, there is every reason to believe that this chromatin substance is itself composed of innumerable minute particles, which are the actual bearers of the qualities of the cells which constitute the organism, and control their development. It matters not whether, following Darwin, we call these particles "gemmules," or, in the language of de Vries, style them "pangenes," or, adopting the nomenclature of Weismann, label them "biophors;" there seems no escape from the conclusion that the actual germ substance is composed of an enormous number of minute material particles, which, singly or in groups, control the development of every portion of the organism. Very remarkable changes are undergone by this chromatin substance in the course of its development preparatory to the process of fertilisation. The nuclear chromatin rods are in the first place doubled, and then are divided into halves by two successive processes of division, so that the final result is that the nucleus of each egg-cell comes to contain exactly one half the number of chromatin rods which were contained in the original egg-cell. The chromatin substance which is separated off in these processes of division is expelled from the egg-cell, and forms the so-called "polar bodies." Precisely analogous changes also occur in the process of development of the spermatozoon, the number of chromatin rods in the nucleus of the primitive sperm-cell being first doubled and then halved twice over, so that the nuclei of the sperm-cells come to contain

exactly one half the number of chromatin rods contained in the nucleus of the primitive sperm-cell ; the chief difference between this process and that which goes on in the egg-cell being; that whereas in the latter case the separated nuclear rods are expelled from the cell in the form of "polar bodies," in the case of the former they are retained in the daughter- and grand-daughter-cells formed by the subdivision of the primitive sperm-cell. Although the precise interpretation of the different steps of this process is still obscure, the final result of these "reducing divisions," as they are called, is obviously to diminish by one half the chromatin substance contained both in the germ-cell and in the sperm-cell. And it seems clear that the chief object of this process is to prevent indefinite increase in the mass of nuclear substance. If the nuclear rods of the primitive egg-cell simply united with the corresponding rods of the primitive sperm-cell without going through any process of reduction, the result of course would be to double the number of these rods ; in other words, to double the mass of germ substance, and as the same process would be gone through at each fertilisation, the resulting mass would soon become altogether unwieldy. But the preliminary reduction of the nuclear rods by one half previous to the union of the germ- and sperm-cells, prevents such an increase, and preserves uniformity in the mass of nuclear substance. But the "reducing division" is not merely a process for keeping the mass of nuclear substance uniform in size. This result might clearly have been attained without any previous increase. As already indicated, however, prior to the operation of the "reducing divisions," the nuclear rods are doubled by a process of longitudinal splitting, the object of which is not immediately apparent. Weismann,[1] whose monumental work has done so much to illumine the intricate problems of heredity, believes that the object of this primary doubling of the nuclear rods is to increase the possible number of combinations of the germ plasm ; and he has calculated that in the case, say, of an organism, the germ-cells of which contain eight nuclear rods, this number would, without any preliminary doubling, produce seventy different combinations of germ plasm which, if multiplied by the same possible number of combinations from the sperm-cell, would produce no less than 4900 possible varieties or combinations of germ plasm in the fertilised ovum ; whilst

with the preliminary doubling the number of possible combinations would be vastly greater (266 × 266). But whether Weismann be right or wrong in his interpretation of the meaning of the preliminary doubling of the nuclear rods, there can be no doubt that one object, and that probably the chief one, of the union of two somewhat different elements, the germ-cell and the sperm-cell, which takes place in bisexual reproduction, is to produce the above result. This is clearly a factor of immense importance in phyletic development. Natural selection acts always and everywhere by seizing upon and fixing favourable varieties, and the greater the number of variations which it has to work upon, the greater is the chance of a type being developed adapted to any particular environment. There can be no doubt that only a fraction of the countless variations which are being continually produced become permanently fixed, the remainder being silently quenched by the operation of this great natural law. Hence the vast importance of obtaining the greatest possible diversity in the minute structure of the germ plasm, as furnishing an abundant material for natural selection to work upon. *Amphimixis* is the term employed by Weismann to signify the mingling of the two parental idioplasms in the process of fertilisation, and the term is a convenient one to adopt.

With these few prefatory remarks, which may serve to direct attention to the enormous complexity of the ultimate nature of the problems awaiting solution, I turn to the main subject of this address.

Although much work has been done and a vast number of facts have been accumulated bearing on the question of the hereditary transmission of qualities, we are still very much in the dark as regards the laws which govern the processes of heredity, and the subject is one which is very far indeed from having attained to the dignity of an exact science. The subject is of interest to everybody, but to us, as psychologists, the interest is peculiarly great, for in our daily work we are continually reminded that mental qualities, no less than physical ones, descend from parent to child, and that the aberrant mental traits of one generation are the logical sequence of the mental abnormalities of preceding generations, following the one from the other in accordance with natural laws, which indubitably exist, however much they may have

hitherto eluded our ken. And how many problems crowd upon us when we come to consider this question! What proportion of our patients owe their insanity to definite hereditary taint, and in how many can the insanity be said, in the strictest sense, to have been acquired in the course of the individual life? Is one sex more prone to hereditary insanity than the other? Is one parent more potent than the other in transmitting the disease to his or her descendants; and are the male and female children affected in different numerical proportions, according as their insanity is derived from the father or the mother? Do the different forms of insanity differ from one another in the degree with which they tend to be inherited? Can any character or disease acquired by a parent in the course of his or her individual life be handed on to the offspring, and appear in them as one of the manifold manifestations of the insane diathesis? Is there any condition or diathesis other than insanity occurring in one parent which, when associated with the insane diathesis innate in the other parent, might tend to neutralise the latter, so that the offspring might escape unharmed? and, conversely, is there any diathesis which tends to reinforce the insane one, and to add therefore to the dangers? These are but a few of the questions with which we are confronted, and many of them are far from being the most complicated ones. Yet I fear that even to the most simple of these it is not yet possible to give definite and exact replies. It is not, indeed, that no attention has been paid to these matters. Many observers have already interested themselves in these and allied problems, and have published the results of their investigations; but the conclusions drawn from their statistics do not always harmonise with one another, and hence scientific precision is far from having been attained to. I have thought, therefore, that an inquiry into the family histories of a series of cases of insanity which I have had under my care might present some points of interest, and serve as a small contribution to a subject for the full elucidation of which a vastly greater amount of material is required. It would obviously take me far beyond the limits of this address to attempt a detailed analysis of all the literature of the subject, but I shall quote a few of the more important publications. My statistics deal with a series of 3445 insane patients who have been admitted

into Rainhill Asylum under my care during a period of twelve years, 1693 of these patients being males and 1752 females. It has not been practicable to include all cases that have passed through the asylum in the course of that period, as many patients come in of whose antecedents it is impossible to obtain any trace, but every patient has been included of whose family history any details whatever were obtainable. In not a few cases, indeed, the information supplied has been meagre, and doubtless in many cases fuller information would have resulted in the transfer of the case from the negative to the positive side, but I have thought it best to take all cases without selection, whether the information supplied has been full or the reverse; this course, at any rate, avoiding the possibility of overstating the case as regards heredity. I have also thought it advisable to exclude from the returns cases which exhibited an hereditary taint in cousins only. These have been included by many observers, and there can be no doubt that they do in many cases afford valuable evidence of the existence of a tainted family stock. Nevertheless it is clear that there is an equal chance of such taint having been introduced by marriage from an entirely different family, and we have, I think, no right to assume without further proof that such taint belonged to the family of any individual patient. I think, therefore, that for the purposes of statistics it is wiser to exclude them altogether, and this has been done in the statistics which follow. I have, however, in some cases worked out a series of comparative figures, in one of which cousins were included and in the other left out, and I do not find that their inclusion or the reverse in any way affects the general results, though naturally, when added to the general total, a slightly higher percentage of hereditary taint is obtained. Brothers and sisters have, however, been included, as the occurrence of insanity in more than one of these members of a family is strong presumptive proof of a faulty family stock, although even here the evidence is not wholly free from objection, for both brothers and sisters may owe their insanity to like causes of an acquired character. Although occasionally a more remote ancestor has been included, the inquiry has practically resolved itself into finding evidence of insanity in the grandparents, parents, uncles and aunts and brothers and sisters of the patient. Out of the

whole series of 3445 patients, a definite hereditary taint of insanity, epilepsy, or a marked degree of eccentricity or peculiarity, either direct or collateral, was found in 965 cases, a percentage on the whole number of 28·01. This figure is somewhat below that which has been obtained by many observers, and there can be no doubt that it errs on the side of deficiency, for we all know how difficult it is to get trustworthy information as to the family history of our patients, especially when they belong to the pauper class, from which class the patients dealt with in my statistics have almost exclusively been drawn; this is particularly the case when dealing with the more remote ancestry of the patients, the history of whom it is comparatively seldom possible to obtain in any detail. Farquharson,(2) a recent observer, dealing with a large number of patients of a similar class to my own, obtained a percentage of hereditary taint of 30·7. Statistics drawn from private institutions usually give appreciably higher results; thus Grainger Stewart (3) found a percentage of 49·6 amongst the patients admitted into the Crichton Institution. Scarcely any two observers, however, agree precisely as to what they include under the term "hereditary taint," and hence the statistics they give are not exactly comparable. The percentage from my own cases, of 28·01, which I have just given, of course refers to the whole series of cases, males and females combined. But when we come to separate the two sexes we find a distinct difference. Thus, of the total number of patients, 965, showing heredity, 419 were males and 546 females; which figures, calculated on the total number of cases treated of, give a percentage of hereditary taint of 24·74 for the male patients, and 31·16 for the females. This is a striking difference, and its interest is enhanced by the fact that it harmonises with the records of previous investigators. Almost all observers have found a higher percentage of hereditary taint amongst the female patients than amongst the male. To name a few of the records, Thurnam (4) gives a percentage of 32·82 for the males and 35·48 for the females; Grainger Stewart (3) 48·56 for males and 51·05 for females. Farquharson's (2) figures are respectively 27·4 and 34·16. The conclusion has hence been drawn that the female sex has a greater liability to suffer from hereditary insanity than the male, and the figures given certainly seem to bear out that

opinion. The reason for this is not at first sight very evident, but an explanation may perhaps be found, as suggested by Turner,(6) in the fact that the female organisation is less resistive to stress than the male, and that the physiological crises through which the female sex has mostly to pass constitute periods of danger which the male sex may be said to be free from after the period of puberty is past. It would appear, however, as I shall show later on, that certain forms of insanity are more often acquired in the lifetime of the individual in the male sex than in the female, and when these are excluded the difference between the sexes as regards the hereditary incidence of insanity is not so marked.

The question as to the greater potency of one or other parent in transmitting what we may briefly style the insane diathesis is one of much interest, but one on which, unfortunately, the observations of different investigators are not altogether in accord. The opinion of Esquirol that insanity derived from the mother was more liable to be transmitted tc the offspring than that coming from the father, has been confirmed by Baillarger (5) and others, and has very generally been assumed to be correct. The statistics of the Crichton cases, however, given by Grainger Stewart (3) point in the opposite direction, whilst other observers have found the proportion of the paternal and maternal influence nearly equal. Thurnam (4) found that, calculated on the total number of cases treated of, insanity inherited through the father amounted to 8·3 per cent., and that through the mother to 8·5 per cent. Grainger Stewart found in his cases that the paternal influence was 9·1 per cent., and the maternal 7·5 per cent. Turner's (6) cases show a greater preponderance of the maternal element. Farquharson,(2) from a large series of cases, gives a percentage of 8·1 for the paternal and 8·2 for the maternal, which may be regarded as equal. My own statistics closely correspond with those of Farquharson. Thus, in 620 cases out of the total number treated of, in which the relative influence of the two sexes was ascertained with some approach to exactness, I find that in 306 the paternal element predominated, and in 314 the maternal; which figures, calculated on the total number of cases (3445), give for the former a percentage of 8·88 and for the latter one of 9·11. This difference, ·23 per cent., is so small, especially having regard to the comparatively

large number of cases treated of, that I hardly think that any importance can be attached to it. If, indeed, we take insane fathers and mothers only, excluding all collateral and reversional cases, unless these were associated with insanity in the father or mother, my figures give an actual preponderance of the paternal element. Thus, out of 350 insane patients in which this point was worked out, I find that the father was insane in 185 instances and the mother in 165. I incline, therefore, to the opinion that the female sex, as such, has little if any greater power of transmitting insanity than the male, but that the relative potency of either parent in handing down the insane diathesis is governed by the same laws as those which regulate prepotency in general, laws of which we are still profoundly ignorant, and which stand in urgent need of elucidation.

Another point of great interest is whether the insanity of the parent bears any relation to the sex of the child,—that is to say, whether either parent has a greater tendency to transmit the disease to the children of his or her own sex. Here, again, statistics are unfortunately somewhat at variance. The older writers, *e.g.*, Baillarger,(5) asserted that the father's insanity was somewhat more liable to be transmitted to the sons, whilst the mother showed a markedly greater tendency to hand the disease on to her daughters; and the statistics of Thurnam,(4) Brigham,(7) Grainger Stewart,(3) and Farquharson,(2) all point in this direction. Turner,(6) however, found that whichever parent was insane, the daughters were more often affected, though they were attacked in a considerably higher proportion when the mother was insane rather than the father. Thus, in 186 cases where the father was insane, the male insane children numbered 117 and the female 138; whilst from 236 insane mothers 295 insane children were born, of whom 113 were males and 182 females. My own statistics harmonise with those of Turner in the fact that the female children were more numerously affected whichever parent or parental relative was insane, though a proportionately greater number were attacked when the mother was insane than when the father was so. Thus in my cases, out of a total number of 306 in which the paternal influence was paramount, 130 of the patients were males and 176 females; whilst in 314 instances in which the maternal

influence was paramount the males numbered only 124 and the females 190. I have thrown these figures into percentages calculated on the total number of cases treated of, and have tabulated them in a similar manner to those of the other observers indicated, so as to enable them to be compared at a glance. Turner's cases do not permit of being presented in similar form.

Author.	Paternal influence.		Maternal influence.	
	Males.	Females.	Males.	Females.
Thurnam	19 8·5 per cent.	20 8·1 per cent.	17 7·6 per cent.	23 9·3 per cent.
Brigham	42 7·07 per cent.	37 6·3 per cent.	35 5·9 per cent.	56 9·5 per cent.
Stewart	49 9·4 per cent.	33 8·7 per cent.	37 7·1 per cent.	31 8·1 per cent.
Farquharson	170 8·4 per cent.	147 7·7 per cent.	136 6·7 per cent.	185 9·8 per cent.
Wiglesworth	130 7·6 per cent.	176 10·0 per cent.	124 7·3 per cent.	190 10·8 per cent.

It will be seen from the above statement that whilst observers are somewhat divided as to whether the paternal influence acts more powerfully on the male children of the family than on the female, there is a unanimous consensus of opinion as to the greater influence of the mother in transmitting insanity to the daughters rather than the sons, the excess of female members of the family affected from the maternal influence as compared with male members varying from 1 per cent. in Grainger Stewart's cases up to as much as 3·5 per cent. in my own. It would seem, therefore, to be an actual fact that the mother has a greater tendency to transmit insanity to her female rather than to her male offspring, and this fact is not only one of considerable scientific interest, but it has a practical bearing of some value. The varying statistics as to the relative potency of the paternal influence upon the children of the respective sexes do not at present permit us to draw any definite conclusions on this point. Turner(6) has suggested that the relative influence of either

parent upon the children of the corresponding sex could be best ascertained by putting on one side all cases of insanity commencing in adult life, and confining our inquiries to congenitals and adolescents only, so as to eliminate as far as practicable all extraneous causes of the disease; and he found when this was done in his cases that more imbecile sons than daughters were born to insane fathers, and more imbecile daughters than sons to insane mothers. If the inquiry were confined to congenital cases only, it would have still more weight, and the point is worth the attention of those who are connected with our large idiot establishments, whence alone could sufficient material be collected to justify an authoritative pronouncement. It would of course be necessary to carefully exclude all cases, such as might be styled "accidental idiots," in which the idiocy has been the result of difficulties or accident associated with the process of parturition, etc.

Do the different forms of insanity differ from one another in the degree with which they tend to be inherited? Put in this way, the question is a very difficult one to answer, as it is comparatively seldom possible to obtain with the required precision the exact nature of the mental disorder from which a progenitor has suffered, and hence sufficient data are not available to enable a definite conclusion to be drawn. We know, however, that though the form of insanity occurring in the child may in some cases be identical with that in the parent, there is no necessary connection of this kind between them, but that the insane diathesis may manifest itself in very different ways in different generations. An allied question, however, as to the relative incidence of the different forms of mental disorder in those who have inherited a predisposition to insanity is one which several investigators have endeavoured to answer, and different percentages have been given, showing the relative frequency of occurrence of mania, melancholia, dementia, and so forth. But before we can get results of value from such an inquiry we must first of all satisfy ourselves that our classification is a correct one, and that none but cases of a like character are included under one head. I fear, however, that the charmingly simple system of classification which has so long received official sanction, and upon which so many of our returns are founded, is one that from this point of view will not stand the test of criticism. For, whilst it is an undoubted

fact that many cases of melancholia, as also of mania, are as well-defined clinical entities as any diseases we are ever called upon to treat, there is, I think, equally little doubt that other forms of insanity, many of which are somewhat vague and ill-defined, are included under the above heads which assuredly have no strict claim to be so designated; hence these terms come to include a somewhat heterogeneous assemblage of cases which hang together by a very elastic thread. In fact, the different forms of mental disorder are forced to fit the classification, instead of the classification adapting itself to the manifold manifestations of the disorder. To take but a single example. To include, as has often been done, under the general term "mania" such a thoroughly distinct group of symptoms as that which goes to make up the affection known as "monomania of persecution" is at once to vitiate any comparative statistics founded thereupon. Moreover the terms are not mutually exclusive, as the same case might be classified under different headings, according to the stage it has reached when first observed. Instead, therefore, of attempting to work out the hereditary frequency of the different forms of mental disorder as set forth in the time-honoured classification already quoted, I shall content myself, for the purposes of this inquiry, with simply dividing all forms of insanity into congenital cases (idiocy and imbecility) and non-congenital cases, and after dividing off from the latter the two clearly defined sections of epilepsy and general paralysis, I shall group together all remaining forms of insanity under one head.

The number of cases of congenital insanity admitted into Rainhill Asylum is a small one, due in part to the fact that, the asylum having been overcrowded for many years past, a restriction has been put upon the admission of this class of cases. In all only 68 congenital cases, with or without epilepsy, are included in the 3445 cases treated of, and these were nearly equally divided between the two sexes, 35 of them being males and 33 females. A definite hereditary taint was traced in no less than 30 of these cases, a percentage on the total number of congenital cases of 44·11. As in the whole series of cases treated of, the proportion of hereditary taint is appreciably higher amongst the females than the males; thus the percentage of the male congenitals (13 cases) works out at 37·14, and that of the females (17 cases) at 51·51. These cases have, however,

been taken indiscriminately, and no endeavour has been made to exclude "accidental" idiots from the list, whose idiocy may have been occasioned by accidents occurring during the process of birth. On account of the superior size of the male head, it is probable that there are more cases of this class amongst males than amongst females, and if all these cases (in which one might expect an absence of hereditary taint) were excluded, it would tend to make the difference between the two sexes somewhat less pronounced.

Insanity associated with epilepsy furnishes a well-defined group of cases which lends itself to statistical examination. Excluding all cases associated with idiocy or imbecility (which have been treated of in the previous class), the number of cases of epileptic insanity which I have collected amounts to 120, of which number 77 were males and 43 females. The proportion of these cases showing hereditary taint works out at 31·66 per cent. of the total number; but there is a remarkable difference between the sexes as regards the relative incidence of the heredity—the male epileptics with heredity, 15 in number, giving a percentage of only 19·48, whilst in the females, 23 cases, the percentage works out at 53·48. One cannot but think that this great difference must in part be due to accidental causes, and that if larger numbers were taken, the real disparity would be found not so great. Still, the figures certainly lead one to suppose that epilepsy in the male is far more of an acquired affection than it is in the female.

I now come to general paralysis, which is in some respects the most satisfactory of all mental diseases to treat of statistically, on account of the clearly defined character of the affection, and the improbability of many cases being erroneously included under this heading, such errors of diagnosis as may creep in being too small to affect the general result when large numbers are considered.

Great difference of opinion has existed as to the extent to which this disease is hereditary, some observers saying that the number of cases showing hereditary taint is so small that the disease may be removed out of the hereditary category altogether; whilst others regard it as almost as hereditary as ordinary insanity. Thus a recent observer—Revington ([8])—found that out of 145 male general paralytics there was a family history of drink or insanity in 51 per cent. Excluding

the alcoholic factor when this occurred by itself, and taking a history of insanity only (which in my opinion is the more correct way of regarding the question), the percentage of hereditary taint in Revington's cases still works out at the comparatively high figure of 31·7, and this, be it observed, in male general paralytics only. On the other hand, Farquharson (²) found in 231 cases of this disease, males and females combined, a percentage of hereditary cases of 18·6 only. My own statistics, based on a larger number of cases, closely agree with those of Farquharson. There are included in my figures 433 cases of general paralysis, 363 of which were males and 70 females, and out of these 82 (60 males and 22 females) showed a definite family history of insanity, which gives a percentage on the total number of 18·93. The incidence of heredity is, however, very unequally divided between the two sexes, the female cases being nearly twice as hereditary as the male; thus the percentage of the female cases works out at 31·42, and that of the male cases at 16·52 only. It would appear, therefore, from these figures that general paralysis is less hereditary than other forms of insanity, but that hereditary tendency is nevertheless a factor of considerable importance in the disease. Or, to put the matter in another form, general paralysis is a disease which is to a large extent acquired, but that its exciting causes are distinctly more prone to eventuate in the disease when the cerebral resistive capacity to morbific agencies is lowered by an inherited weakness. The different incidence of heredity in the two sexes points to the disease being much more of an acquired affection in men than in women, and is of interest in connection with syphilitic infection, which we now regard as such an important factor in the production of the disease.

I pass now to the remaining forms of insanity other than congenital, epileptics and general paralytics being deducted. This class embraces all forms of ordinary insanity—mania, melancholia, dementia, and so forth,—for the inclusion of which under one head I have already given my reasons. The total number of cases included under this head amounts to 2824, of which 1218 were males and 1606 females. Out of this total the number showing hereditary taint amounted to 815, which gives a percentage of hereditary cases on the total number of 28·85. Separating the sexes, we find that the males (331 cases) give a percentage of heredity of 27·17 and the females

(484 cases) one of 30·13. It is interesting to compare these figures with those obtained by the analysis of the whole series of cases treated of, for whilst the percentage of hereditary taint is only slightly higher (·84 per cent.) when insanity is considered from the above-named more restricted standpoint than when the calculation is made on the total number of cases, the difference between the sexes as regards the incidence of heredity is very much less, this difference amounting to only 2·96 per cent. when ordinary insanity (as above defined) is considered, as against a difference of no less than 6·42 per cent. when all cases are taken. This result is mainly due to the exclusion of epileptics and general paralytics, which, according to my figures, as already pointed out, are much less hereditary in the male than in the female.

The foregoing results are shown at a glance in the following table:

Form of insanity.	Number of cases.			Number of these showing heredity.			Percentage of hereditary cases on total numbers.		
	M.	F.	Tl.	M.	F.	Tl.	M.	F.	Tl.
Congenital insanity (idiocy and imbecility) with or without epilepsy	35	33	68	13	17	30	37·14	51·51	44·11
Epileptic insanity .	77	43	120	15	23	38	19·48	53·48	31·66
General paralysis .	363	70	433	60	22	82	16·52	31·42	18·93
Ordinary insanity (non-congenital) — mania, melancholia, dementia, etc.	1218	1606	2824	331	484	815	27·17	30·13	28·85
All cases together .	1693	1752	3445	419	546	965	24·74	31·16	28·01

I now come to a question of a very important character. Can any modification of the structure of the body, or any constitutional condition acquired by an individual in the course of his or her life, be handed on to the offspring of such individual, and appear in them in a similar or allied form? Here we are face to face with one of the great biological problems of the day, viz., the possibility or otherwise of the transmission of acquired characters. A question of such vast magnitude can, of course, only briefly be touched upon here, but it is one of a fundamental character, upon the answer to

which depends the correct interpretation of a whole host of hereditary phenomena.

Nearly two decades have now elapsed since Weismann's views were first placed prominently before the world, and yet the fierce controversies which have thickened round the subject during that period have failed to prove that author to be wrong in his main contention. As to the non-transmission of mutilations, we are probably nearly all agreed, for no properly authenticated cases of this nature appear to exist. And as regards the transmission of acquired characters themselves, many facts which were formerly relied on as evidence of this have been shown to be capable of explanation upon different principles.

Here I shall merely refer to one or two acquired constitutional states which have special reference to mental disorders. I think that those of us who have much to do with the insane look upon alcoholism in the progenitors as a fruitful cause of the manifold mental disorders from which our patients suffer. Alcoholism is, of course, frequently associated with mental disease in the family histories of our patients, but for the purpose of this inquiry it is necessary to take only those cases in which alcoholic excess stands by itself, uncomplicated with recognised mental disease. It is not possible, within the limits at my disposal, to do more than give the results of my own statistics. Out of the 3445 cases which form the basis of the foregoing analysis, a definite history of alcoholic excess unassociated with insanity, in one or both parents (I have excluded more remote relatives) was found in 578 instances, a percentage on the whole number of 16·77. Separating the sexes, we find that the male patients show the higher figures, these amounting to 327, giving a percentage on the total number of males of 19·31, whilst the females (251 cases) give a percentage of 14·32. Doubtless some few of these cases of alcoholic excess may have been veritable examples of dipsomania, which may be regarded as itself constituting a neurosis allied to insanity; but as most of such cases usually show definite mental disorders at some period or other of their course, the majority of them will have been included in the foregoing tables of hereditary insanity. These figures do not give so high a percentage of alcoholic excess in parents as has been published by some observers, and, in my opinion, they undoubtedly under-

state the case as regards alcohol, for excessive indulgence in this way by the parents of patients is frequently denied when collateral evidence has proved it incontestably. Moreover, opinions differ so much as to what constitutes "excess," that only gross and palpable instances of it are here included. I think, however, that, excluding insane heredity, it would be difficult to find any single antecedent in the parents of our patients which would in frequency reach the figures here set forth, which are certainly such as to strongly suggest some causative relation between the two. Whilst on the one hand, therefore, our experience leads us to believe that there is a causal relation between alcoholism in the parents and insanity in the children, we have been told in the controversy that has arisen on the subject that it is impossible that this should be so, since acquired characters are not inherited. If this were indeed the right way of presenting the facts, those of us who adopt the Weismannian position might find it a difficult matter to reconcile theory and practice. But in truth, in my opinion, the particular case we are now considering has nothing whatever to do with the inheritance or otherwise of acquired characters. What we are here concerned with is a direct poisoning of the germ plasm itself by means of the alcohol circulating in the blood, and consequent direct injury to the delicate cells of which this structure is composed, which by virtue of this injury are thereby prevented from developing into a stable organism. I think that perhaps we do not sufficiently realise the extraordinary active growth displayed by the germ plasm during the whole sexual life of the individual. Continually being shed and again formed anew, the delicate cells of the germ plasm are in process of perpetual growth and development, and are consequently exposed when in a very susceptible condition to all nutritional influences which affect the soma generally. But what are the conditions prevailing in the system of the person who indulges in alcohol to excess? The blood and lymph become more or less charged with this agent, which is thus conveyed into every tissue and organ of the body. The germ plasm offers no exception. The nutrient fluid which bathes the cells of this tissue, and conveys to them the nourishment by which alone their active growth and development becomes possible, carries also with it the alcohol which is circulating in the blood. It may be said, indeed, that

the development of these cells takes place in a weak solution of alcohol. It might, indeed, be argued that the alcohol is too much diluted to be capable of doing much harm ; but I do not take that view. Very dilute solutions of this agent have been shown by Ridge (9) and others to be inimical to protoplasmic growth, whether vegetable or animal, and when cells are in process of development they are, of course, more susceptible to morbific agents than when fully formed. A general agent of this kind, acting indiscriminately, might be expected to affect most the molecules of the cells which control the development of the nervous system, and more particularly those latest formed portions of it which, being the last to be developed in the course of evolution, are on this account the most unstable and the most liable to give way or to exhibit defects and abnormalities when the nutritional environment is adverse. A morbid character may thus become stamped on the germ- or sperm-cell before the union of these two elements, which, if not counteracted by a healthy condition of the other of these two, will cause the organism to develop on certain lines from which there is no escape. If the alcoholic poisoning has reached a certain degree of intensity, idiocy or imbecility may be expected to result ; whilst if of less degree, the injury may manifest itself in the various forms of adolescent or other insanity when adult life is developing or has been attained to. Of course, if the mother be alcoholic, whatever injury may have been done to the germ will be added to and reinforced by chronic alcoholic poisoning of the nervous centres of the embryo during the whole period of intra-uterine life. I think, therefore, that to this toxic agent acting on the idioplasm of the sperm- or germ-cells, especially during the susceptible period of development, can be traced in not a few instances the mental disorders from which our patients suffer.

Somewhat similar considerations will help us with regard to a clear understanding of the part played by so-called "inherited syphilis" in producing mental disorders. Here, again, we have an acquired constitutional condition, the effects of which are handed on to the offspring, but in which the variations which result are in all probability largely due to the direct action of a poison upon the molecules of the germ plasm itself. We have doubtless here to do in many cases with a specific infection of the germ or of the developing

embryo with the syphilitic virus, though in the majority of these cases the embryo is probably thereby rendered incapable of full development, and perishes prematurely. But I do not think that the doctrine of a specific infection will explain all the cases which occur. Speaking of the nervous system, I would rather say that a morbid influence of a non-specific character, albeit dependent upon antecedent syphilis, has been exerted on the germ- or sperm-cell, which has so modified the nutrition of the groups of molecules or biophors contained therein which preside over the development of those centres which subserve the function of mind, that these either have their development arrested, in which case idiocy results, or else have their resistive capacity greatly weakened, and break down prematurely in consequence. We have, indeed, to deal with the effects of a direct injury sustained by the germ plasm. The process is probably similar to that which underlies the development of general paralysis in adult life. We recognise more and more the important *rôle* played by acquired syphilis in the causation of this disease, and yet we know that the lesions of general paralysis are not those of syphilis, and that in these cases true syphilitic lesions of the brain are virtually non-existent. We incline therefore to the view which has been so ably advocated in this country by Mott, that in this disease the toxines produced by the syphilitic virus circulating in the blood have so modified the molecular constitution of the cerebral neurons, that the resistive capacity of these to stress of all kinds has become greatly lowered, and a premature decay has set in. We therefore, following Fournier, style the lesion a "parasyphilitic" one, although we do not fully understand how the change in question has been brought about. Now if, as outlined above, we transfer our conceptions as to the *modus operandi* of the syphilitic virus in the formation of adult general paralysis to the germ- or sperm-cell, we can form an idea as to how the poison acts in the development of juvenile general paralysis, which we have good reason to suppose is determined, at any rate in most cases, by the existence of syphilis in the parent.

In a considerable proportion of the recorded cases of juvenile general paralysis, though by no means in all, definite stigmata of congenital syphilis have been present on the person

of the patient, and where these have been absent the history has often strongly suggested parental syphilis.

I agree, therefore, with the conclusions of the majority of observers, that, in most cases at any rate (it has not yet been proved that the connection holds good universally), juvenile general paralysis owes its origin to antecedent parental syphilis; but I consider that the relationship between the two is not one of direct infection, but that a nutritional change of a parasyphilitic nature has been exerted upon the groups of molecules of the germ-cells which preside over the evolution of the cerebral neurons, the result being that these neurons have their store of vital energy greatly weakened; and hence, though they may develop normally for a time, they break down prematurely under the influence of the first physiological crisis to which they are subjected. And it seems to me not altogether improbable, as has, indeed, already been suggested by Mott ([10]) and Percy Smith, ([11]) that certain cases of adult general paralysis may have a similar origin. For the nutritional vice which causes some individuals to break down at puberty might, if exerted in a milder form, permit of adult development, and yet leave its possessor unfit for the ordinary stresses and physiological crises of life. In this connection I may refer to the case of a young married woman, æt. 24, who was under my care some years ago. When admitted to the asylum she was suffering from general paralysis in the first stage, and was at the time pregnant with her first child, of which she was confined nearly four months after admission. The case ran a perfectly typical but unusually prolonged course—eight years,—and after death the usual cerebral lesions were found well marked. There is, of course, the possibility that this woman might have been infected with syphilis prior to her marriage, which took place about a year previous to her admission; but against this view may be set the facts that her husband had known her for about four years previous to marriage, and testified that she had always been a very steady girl; also that her child, which was born at full term, was a healthy one, and showed no signs of constitutional syphilis; whilst, in addition, the woman herself, though she was under observation for the long period of eight years, never at any time showed any signs of that disease. The family history obtained was too meagre to be of much value, the only point

of importance being the fact that the patient's father had drunk heavily all his life. Whilst, therefore, this case is far from furnishing proof of a direct causal relation between the patient's general paralysis and parental syphilis, it is, I think, very suggestive of the possibility of such a connection, the patient having escaped the dangers of puberty only to break down at the next physiological crisis of pregnancy.

If the view outlined above with respect to the relation between parental syphilis and juvenile general paralysis be a correct way of presenting the facts, it is clear that these cases cannot be regarded as examples of the transmission of acquired characters in the sense in which Weismann defines that phrase, since they are instances not of inheritance of modifications of the soma, but of a vice of nutrition exerted directly on the germ plasm itself. The direct action upon the germ-cells of the parent of poisons circulating in the blood or of faulty conditions of nutrition, however produced, is indeed doubtless a potent cause of unfavourable variations in the germ plasm, or, in other words, of degeneration in the offspring. I conclude, then, that the condition of the soma, regarded from the point of view of nutritive host to the germ plasm, has a definite influence upon germinal variation, which will by degrees become more precisely recognised, although there is no evidence to prove that specialised modifications of that soma have any influence in this direction.

Hitherto we have regarded the question from the point of view of the inheritance, either direct or collateral, of insanity and allied conditions. The fact that like engenders like is a well-known law or principle of heredity, and surprise may be felt, not that we find this law in continual operation, but that its effects are so often traversed and concealed by the operation of other laws which are less fully understood. The familiar phenomena of atavism merely place the inheritance a little further back, and do not affect the principle of direct descent. But however we may define the taint, which may be briefly styled the insane diathesis, and whatever conditions we may include under that term (and different observers, as before remarked, interpret the term with different degrees of elasticity), and even in cases where the completeness of the family histories give an assurance of accuracy to our statistics which less complete records fail to do, there always remains, at any rate, a

considerable minority of our patients in which an antecedent family taint of this sort cannot be recognised. Furthermore, cases are continually presented to us where a strong direct taint of insanity exists in a family, and yet some at least of the offspring entirely escape. We have on the one hand, then, to deal with numerous cases of insanity which apparently arise *de novo* where, the family records being good, we should not expect to meet with cases of this affection, and, on the other hand, we frequently fail to find the disease when the family antecedents of the individuals concerned might lead us strongly to anticipate its presence. We can perhaps more readily frame to ourselves a conception as to how the latter cases come about than as to how the former are developed.

When both parents are affected with insanity, it might be supposed that few or none of the children of such parents would escape the disease. This, however, as above indicated, is not the case, for though statistics show that when both parents are affected a higher proportion of children are attacked than when only one parent is so, still a considerable proportion escape altogether. Doubtless in many of these cases the variations in the germ plasm which have culminated in the insanity of the parents have been of recent development, and hence, being, as it were, variations of an individual character, would be less likely to be handed down in all their fulness than if they had gathered strength by transmission through a long line of ancestors. We have an illustration in such cases of that regression towards the mean standard of the race which Galton([12]) has called our attention to, and which he has worked out with such conspicuous ability and clearness with respect to the stature of the population. As Galton says, "the law of regression tells heavily against the full hereditary transmission of any gift." And this law, of course, applies equally to the handing on of bad qualities as well as good ones, and by virtue of it—that is, in consequence of the fact that racial characters are more persistent than individual ones—many a child escapes the insanity of its parents who would otherwise inevitably succumb to it. Certain it is that the children of the same parents do differ much among themselves, and this dissimilarity is explained by Weismann([1]) as the result of the halving of the germ plasm in the process of the "reducing divisions," which, taking place in a different manner each time, gives rise

to numerous different combinations of the primary constituents of the germ plasm. A recent variation, whether in a good or a bad direction, would be represented in the germ plasm by a smaller number of modified elements ("ids," as Weismann terms them) than if the variation dated back for several generations. And therefore, even though the modified elements may exist in the germ plasm of both parents, they may still be in insufficient numbers to preponderate absolutely over those elements of the ancestral germ plasm which make for a stable condition of the nervous system, which are implicitly, if not explicitly, present in both parental idioplasms. Hence, in some of the "reducing divisions" that take place, these unstable elements will either be eliminated altogether, or be controlled by stronger or more numerous elements of a stable character, derived from more remote ancestors, and the offspring thus conditioned will escape the insanity of their parents. If, however, the variations in the germ plasm which produce that unstable condition of the nervous system which eventuates in insanity be present not merely in the individual parents but also in several members of their ancestors, the number of elements of the idioplasms which will be modified in the direction of instability will be considerably greater, and there will therefore be less likelihood of these being eliminated in any of the "reducing divisions" that take place when fresh organisms are being formed; in which case few if any of the children would escape. Although Weismann's views as to the importance of the "reducing divisions" in producing dissimilarity of offspring are worthy of all consideration, it cannot be doubted that, even if they be correct, other factors are at work which operate in this direction.

But though, as already indicated, direct inheritance and reversion to earlier types are factors of paramount importance in the consideration of the phenomena of heredity, they do not cover the very important groups of cases in which new characters appear in the offspring, which are present neither in the parents nor in the more remote ancestors. New combinations of the elements of the germ plasm, or variations in these elements, have arisen, which result in the development of an organism differing from any which have preceded it. Such variations are of course of the highest importance in phyletic development, as furnishing the material which is seized upon

by natural selection for the production of new and favourable varieties; they are therefore at the root of all progress. But we are here concerned only with unfavourable variations, which eventuate in some manifestation of the insane diathesis. It is a fact that we not infrequently meet with cases of insanity arising in families which, so far as can be judged, are free from neurotic taint, and in whom the deleterious effects of such toxic agents as alcohol acting directly upon the germ plasm of the parents can likewise be, to all appearance, excluded. Some such cases are without doubt examples of insanity which has, in the strictest sense, been acquired in the course of the individual life, with which cases we are not here concerned. But there are others where the occurrence of insanity in several children of the same family points in all probability to the fact that the affection has had its origin in a faulty condition of the germ plasm established at the period of fertilisation. Some interesting cases of this kind have been under my care, of which I will give one or two examples.

I. *K. Family.—Three Cases of Adolescent Mania in the Children of One Family, without Evidence of Neurotic Taint.*

Paternal grandfather died of phthisis, aged 36; paternal grandmother of old age, aged 77. Maternal grandfather died of bronchitis, aged 58; maternal grandmother of old age, aged 75. One paternal uncle and two paternal aunts living and healthy; one paternal aunt died rather suddenly, aged 50, probably from an apoplectic attack. One maternal uncle living and healthy; one died, aged 48, of cancer of stomach. One maternal aunt living and healthy; one died, aged 25, of phthisis. No history of epilepsy, alcoholism, or any nervous disease in any member. Father, a labourer, was a native of the Isle of Man; mother a native of Liverpool and born of Lancashire parents; aged respectively at marriage 28 and 24 years. Both hard-working, steady, and sober people in comfortable circumstances, and both quite strong and healthy.

There were seven children in the family:

1. F., aged 22, healthy.

2. M., aged 21, was an inmate of Rainhill Asylum from August 24th to December 18th, 1897; was 18 years of age

at time of admission. Suffered from simple adolescent mania, from which he made a good recovery, and has remained well since (January, 1902).

3 and 4. Two males (twins), died, aged 1½ years, of scarlatina.

5. F., aged 17 (16 when admitted). Was a patient in Rainhill Asylum from June 26th, 1900, to July 26th, 1901, suffering from simple adolescent mania. Made a good recovery, and remained well at the end of 1901.

6. M., aged 15. An inmate of Rainhill Asylum from August 10th, 1901, to January 25th, 1902, suffering from simple mania. Made a good recovery.

7. F., aged 9.

Thus out of the four children who attained to or passed the period of puberty (the fifth is still below puberty), no less than three developed insanity about the period of puberty and adolescence. The mental symptoms in each case were very similar, and all three children presented considerable physical and facial resemblance to one another; they were all healthy and robust. The family history, which was unusually complete, disclosed no evidence of any mental or nervous disease in any member of it.

II. *W. Family.—Four Cases of Delusional Insanity in the Children of One Family. No History of Insanity in Family, but a Remote History of Alcoholism.*

Paternal grandparents both healthy, and lived to a good age. Maternal grandfather died, aged 65, of erysipelas; he drank a good deal. Maternal grandmother died, aged 45, of "a decline." There were four paternal uncles, all of whom are dead; one of them was a solicitor, and died of a "stroke," aged about 55; the other three all drank, and appear to have led fast lives. There were two paternal aunts, both dead; one was 88 years of age at death. Four maternal uncles, all dead; one died aged 84; one died, aged 30, of "consumption;" the two others were lost at sea. Five maternal aunts, two of whom are living; one died, aged 25, of consumption; one, aged 30, from the effects of parturition; and one, aged 60, was found dead in her room one morning—was supposed to have had an apoplectic fit. Father, a native of Yorkshire, was

a master mariner and part owner of his ship; was drowned at sea, his ship having been lost with all hands. Mother a native of the Isle of Wight. No relationship before marriage. Aged respectively at marriage 24 and 23. Both steady and temperate. Mother living; has stood well the anxiety and worry connected with the insanity of her children. There were six children in the family:

1. M., lost at sea, aged about 23.

2. M., now aged 47; married, two children. Was in a business firm in China up till about the middle of 1901, when, in consequence of the development of symptoms of insanity, he was sent home to England. Had been out in China nineteen years. His present symptoms dated from the latter part of 1900. He developed grandiose ideas as to a great position he was going to have in some new business firm, with a very large salary, for which there was not the slightest ground. He is now in England, and appears to be a case of chronic delusional insanity, but he has not yet come under my personal observation.* His wife informed me by letter that he had always been an abstemious man, and very strong physically.

3. F., aged 35 on admission. Has been an inmate of Rainhill Asylum since November, 1897. A chronic delusional case with ideas of wealth and personal importance, together with some persecutory delusions.

4. F., died, aged 23, of some intestinal trouble (? tuberculosis).

5. M., aged 32 on admission. Has been an inmate of Rainhill Asylum since March, 1897. A very typical case of chronic paranoia; has very vivid hallucinations of hearing, and delusions of persecution and grandeur. Is said to have taken a little drink, but not to excess.

6. F., aged 25 on admission. Has been an inmate of Rainhill Asylum since May, 1893. At the time of admission she was decidedly delusional, with grandiose ideas, but has now become considerably demented.

It is interesting to observe that these four persons became insane in the inverted order of their ages, from the youngest upwards, and their mental symptoms showed a good deal of general similarity.

* I have since seen this man. He is a typical example of paranoia.

It will be noted that there was, as far as could be ascertained, an entire absence of insanity, epilepsy, or any form of nervous disease in any of the known ancestry of the patients. The alcoholic history in some members of the family must not, however, be overlooked, as it may have been a factor in the causation of the insanity, in spite of the fact that the parents were temperate. This factor, however, seems to me inadequate to account for the extraordinarily strong tendency to insanity displayed in the fact of four out of six children in one family (in fact, all the members of it who attained to fully adult life—twenty-five years) becoming permanently insane, one after the other.

It is of course possible that if we could trace the history of such cases far enough back, we might find evidence of insanity in some forgotten ancestor, which might admit of an explanation being supplied on atavistic principles. But we are scarcely entitled to assume without definite proof that such must necessarily be the case. Such examples seem rather to point to the fact that there are cases in which the germ plasm of either parent may itself be healthy and stable, but the combination of the two produces unstable offspring. It is impossible, in the present state of our knowledge, to give a satisfactory explanation of such cases. We may, indeed, say that the male and female elements exhibit a physiological incompatibility for each other, but that is little more than a statement of the results, and helps us nothing towards a solution. We know, indeed, that if the male and female elements exhibit too great a uniformity, such as arises from close interbreeding, the results are apt to be disastrous as regards the mental well-being of the offspring. We know, also, that if these elements show too great dissimilarity in composition, disaster is similarly apt to ensue. But we know little else. And as to the causes of variation in general, we are still very ignorant, although observation and experiment are slowly bringing new facts to light. Professor Cossar Ewart,[18] in his interesting and important address before the Zoological Section of the British Association, has brought forward valuable evidence in support of his contention that not only is age a cause of variation, but that the ripeness or otherwise of the germ-cells at the time of conjugation is also an important

factor in this connection. Professor Ewart, in the course of this address, also refers to the influence which the condition of the soma has in this direction, a factor which I myself regard as of great importance, and which I have previously alluded to. It is clearly, however, a matter of the highest importance that we should attain to more precise knowledge of these matters. There may be diatheses represented in the germ plasm, good in themselves, but which in combination tend to produce an unstable condition of the nervous system, whilst others may tend to oppose the insane diathesis and lead to its extinction. Some years ago, when drawing up a scheme for recording the family histories of patients, I left a column for noting down the family diseases; but the amount of information collected under this head has, I regret to say, been too meagre to be of value. The subject is one much in need of investigation. We are sometimes consulted as to the prudence or otherwise of marriage in cases where insanity has occurred in a family, and a knowledge of what sort of diathesis to oppose thereto would assist us materially in the advice we should give. Or, to take the cases already indicated, where both sides appear to be free from nervous taint, with greater knowledge we might be able to detect physiological incompatibility where such exists, and thus give a warning all the more needed, as the danger is more insidious. To be enabled, indeed, whether in health or disease, to predict the results obtainable from the union of two individuals, would indeed be to be possessed of knowledge which would prove of the highest advantage to the human race. We are, indeed, insensibly led from the consideration of how to combat a family tendency to insanity (or, indeed, to any disease), or to prevent the development of such tendency, to a consideration of the wider question of the general improvement of the race by the union of specially selected individuals. Such a question can, of course, only be touched upon here; but the subject is one of too great importance to be passed over in complete silence. There can be no kind of doubt that an enormous improvement in the human race could be effected by selective breeding, did we but possess the requisite knowledge for that purpose, and did an adequate conception of the importance of the attainable results render possible the application of means for securing that end. It is a question whether, under the haphazard system prevailing, the race is improving to any-

thing like the extent which most people seem to imagine. To take the question of mental endowments only, the commonly accepted view seems to be that the constant use of the brain entailed by modern conditions of life results not merely in an increase in the mental capacity of the individual (of which, indeed, there can be no doubt), but that these constant increments being handed on from generation to generation, a type of brain is being gradually evolved immensely superior to that of the ancient civilised races of which we have any record. All this is open to serious question. If there be no such thing as "use-inheritance"—and I have already stated my belief that in this respect the Weismannian position at present holds the field,—then no such improvement in the intellectual faculties can now be going on in the way above indicated, and the only known way in which the human brain can be undergoing further development is by the constant selection of favourable varieties, a method undoubtedly in operation, but one which the conditions of modern social life tend to obscure, and in some respects to traverse. Is it a fact, moreover, that the intellectual development of the present day is on a higher plane than that attained to by some of the ancient civilised races? I am not at all sure that this question can be answered in the affirmative. Enshrined in literature and embodied in stone, the workings of that intellect are displayed to us, and may well give us pause when we attempt to measure our intellectual strength therewith. We must carefully distinguish between intellectual power and mere increase in knowledge. The latter, of course, multiplies abundantly day by day, and each generation, being able to reap the labours of preceding ones, starts its own career upon a somewhat higher platform. But this is not the same thing as the development of increased intellectual power, and the marvellous industrial triumphs of our own time must not shut our eyes to the fact that in the remote past the star of human intellect shone at least as brightly as it does at the present day. But if a period of time, which must be reckoned by thousands of years, has had no sensible effect in improving the quality of the human brain, it may not be out of place to inquire whether the process might not be accelerated by applying to it the biological knowledge which will attend on the scientific investigator. Whilst the nineteenth century may be said to have witnessed the placing of the science of biology

on a definite scientific basis with the enunciation of the general laws underlying the development of the organic world, so it may well be that the present century may witness not merely an extension of those laws, but the practical application of them to the furtherance of the development of the human race. The world has seen enough of the effects of the defiance of those laws, imperfectly known to us as they are. Times without number have attempts been made to foster artificially the offspring of unphysiological marriages entered into for social or pecuniary reasons; and the legal profession has exhausted its ingenuity in contriving enactments as to the disposition of property, and the retention of this in particular families, to enable such families to survive. But of what avail is all this when the laws of nature are deliberately broken? The results of such artificial efforts are writ large on the page of history—are spread out before us as on a living tableau. Insanity, alcoholism, tuberculosis—to name but some of the great race destroyers—are busy in such families, and hurry them on through the different stages of decay to the final dissolution. But the results which men vainly strive after by artificial means can be obtained by natural means, and the judicious admixture of strains can secure an immortality for a family which the most cunningly devised systems of the legal mind are utterly unable to compass. The time may possibly come when families will be formed and maintained by the natural worth of their members, and when such families only will be considered of any account. Granted that our knowledge of the laws of heredity is not yet sufficiently precise for the purpose, there is no reason to doubt that the patient questioning of Nature by observation and experiment will here, as elsewhere, yield in time abundant fruit. We all of us can do something to further this result, and the minute investigation of the family antecedents of insane persons is a field of inquiry which is very far from being worked out.

But even if an intellectual assent be given as to the importance of the results that may be capable of achievement by the application of such means as those above indicated, the question will very pertinently be asked as to how such means can be put into operation.

Francis Galton,[14] whose luminous researches into the intricate phenomena of heredity we all so much appreciate and

profit by, has recently approached this subject in his Huxleian Lecture delivered before the Anthropological Institute, and he advocates therein, in order to attain the end desired, a system of granting diplomas to young persons of both sexes who show exceptional talent, and encouraging early marriages between them by affording them assistance, pecuniary or otherwise, by means of agencies established for this purpose. Galton's paper, like everything written by him, will repay careful perusal; but though there is much in the position he takes up with which I am quite in accord, I cannot but think that some of the means he advocates have somewhat too artificial a ring about them to make one sanguine as to the stability of the stock fostered in this manner. To what, then, are we to look for the attainment of the results desired? Certainly not to legislation, which of all agencies is the one most incompetent to deal with this question. I should, moreover, be very sorry to advocate anything which would interfere in the least with the part which natural affection plays in regard to unions between the two sexes. But "falling in love," as Maudsley long ago remarked, is much a matter of propinquity, and it might not be difficult for enlightened parents and guardians to bring young people into juxtaposition who were physiologically adapted to each other. And this brings one to the root and kernel of the whole matter. If any advance is to be made in the improvement of the race by means of deliberate selection, it can only be by a full recognition of the vast importance of the subject, not only on the part of parents and guardians, but on that of the young people themselves who are to be the parents of the next generation. Such a result can only be achieved by means of definite education in the direction indicated. But there is no reason in the nature of things why the importance of this question should not be instilled into the minds of young people of both sexes from their youth upwards; why, indeed, they should not be grounded in physiological truths as they are in religious tenets, and taught to regard the one as only second in importance to the other. The enormous power which religious and *quasi*-religious customs can obtain over a community is illustrated by every tribe and nation throughout the four quarters of the globe. And if the vital importance, not only of preserving but of improving the race in its moral, mental, and physical condition was instilled into the minds of

our youth with all the fervour that springs of religious convictions, the social sanction is quite powerful enough to do the rest. But this social sanction has first to be created, and its creation will be all the more easy when scientific men are able to furnish more definite data to work upon than they can do at present, although enough is known even now to enable a vast improvement to be made, were public opinion alive to the great importance of the question.

It may indeed appear Utopian to suppose that such a public opinion can ever be developed, especially in an age when the prevalent ideals of life are of such a different order, and when the tendency is in the direction not of increasing and improving the stock of a community, but in that of having no stock at all to improve on. The persistent and considerable falling off in the birth-rate in this country, which has been so prominent a characteristic of the last quarter of a century, and which is steadily progressing, is silently working a revolution in our social system. Disguised at present by a concomitant fall in the death-rate, the results are nevertheless gradually developing, and cannot but cause grave anxiety as to the future well-being of our race. The question has hitherto been looked on almost, if not entirely, from the statistical standpoint, and the matter considered as if it were an affair of numbers only. That the number of units in any given nation is a factor of vital importance to that nation in the international struggle for existence is not, indeed, to be denied; but there are other factors of a biological character which enter into this question, which to my mind may claim to be of no less importance than the first named. A nation with a virtually stationary population may continue to exist in spite of an absence of increase in its numbers, provided that its stock be sound; but no nation can survive a deterioration in its stock. Nevertheless, that such deterioration must be a concomitant of a stationary population is, I submit, a biological truth which will declare itself in time, however much the conditions of an advanced civilisation may for a time conceal it. The virtual absence of competition which a stationary population would imply would tend to prevent the best work being got out of the individual units of the community; and there would besides be a great falling off in the number of varieties produced in that community, so that natural selection would

have a greatly reduced amount of material upon which to work than would obtain in a vigorous and rapidly growing population. It is a matter of common observation that the human organism does not, as a rule, put forth the best of its powers except under the pressure of some outside stimulus, and in a community where the numbers of a new generation were merely sufficient to fill the niches left vacant by the members of the preceding one, such a stimulus to exertion would be largely removed with the absence of material for competition. A tendency to the deterioration of the individual units of the community would therefore set in. A languor would insensibly steal over the nation, which would make itself felt alike in the routine of individual life as in the control of the affairs of state, which would place that community at an obvious disadvantage in the international struggle for existence everywhere in progress. But the defective amount of material which natural selection would have to work upon would strike at the very root of racial vigour. Everywhere and always throughout the whole length and breadth of the organic world, natural selection acts by seizing upon and fixing favourable varieties, and the members of a human community are not exempt from this universal law. All progress is dependent thereon. The members of any human family differ considerably amongst themselves as regards their capacities and powers; which is only another way of saying that different combinations of the elements of the germ plasm of the two parents have produced variable results. And it is vital to the welfare of the race that these different combinations of the germ elements should be presented to natural selection, in order that those varieties which are most suited to their environment should be given a preferential claim in the struggle for existence, and thus have a better chance of handing down to descendants the inborn germinal variations to which they owed their own success. In this connection it is interesting to note the fact established by Havelock Ellis,([15]) that men of genius tend to belong to unusually large families, and that they are frequently found amongst the youngest children of a family. But this subject is somewhat of a digression, and time will not permit of my elaborating it further. Let me, then, in conclusion, urge a plea for the more vigorous and minute prosecution of the study of heredity. The subject

requires approaching from all points of view—by the minute and exhaustive study of human family histories in health and in disease; by experiments in selective and cross-breeding, both amongst animals and plants; by research in the biological laboratory. The advances in our knowledge which have been made on these lines, more particularly during the last quarter of a century, are very encouraging, and an abundant harvest may, it is to be anticipated, in time crown our efforts. Highly complicated and intricate as the phenomena of heredity are, they are as much governed by laws as the falling of a stone to the earth is regulated by the great principle of gravitation. It is our business to attempt to unravel those laws, however tangled and intricate the skein may be. The ultimate result—the improvement of the human race—is surely an object worthy of the highest and noblest of human efforts.

Dr. CLOUSTON.—I am assured that I speak amid universal approval when I say we return our most cordial thanks to the President for his interesting and most scientific address. There is not one of us who will not be the better for having heard it, who will not be induced by it to think about problems, we have before us in our daily professional work, with higher interest and fuller knowledge. Heredity is one of the problems in the air at present; and we are indebted to Dr. Wiglesworth for having seized upon it, for having used the facts at his disposal, and at the disposal of each of us, in order to elucidate and to give greater interest to our daily practical duties, and to stimulate us to further investigation. We are not here to criticise the views put forward. In very much that he has said I personally agree with our President, particularly with regard to the function of the germ plasm, and to the effect of alcoholic and syphilitic virus. In regard to the transmission of hereditary and acquired characters I do not agree with him. It would be a poor world were the transmission of character to be so limited.

Dr. M'DOWALL.—I second the proposal with great pleasure. I have listened with the deepest interest. The address brought to my mind questions which have troubled me for many years. As intelligent men, we owe our thanks to the President for having brought this subject to our notice, so that in our daily

work we may search further into this great secret of nature which occupies the attention of every man in this room.

The motion was received and passed with applause.

The PRESIDENT.—Dr. Clouston and gentlemen, I thank you sincerely for the kind way in which you have received my address, and for the attention with which you have listened to me. It was difficult to concentrate so wide a field of inquiry into the limited time necessarily allowed.

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A Statistical Contribution to the Pathology of Insanity.

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AN inquiry into the condition of the various organs of those dying insane cannot fail to be of interest to those who believe that mental disease and physical disorders are, in the majority of cases, closely associated.

Every organ of the body, if its functions are perverted, influences the mind to a greater or lesser degree; in some cases the mental affection is only temporary and slight, while in other cases the mind becomes permanently affected, at least so long as the physical condition giving rise to the mental morbid state exists.

The following observations are an attempt, on a small scale, to sift the information obtained from 232 *post-mortem* examinations held in Grahamstown Asylum during the past eleven and a half years. A comparison between the organs of the insane and those of the sane should throw some light on the pathology of insanity. Whether we are going to arrive at the ultimate cause of mental disease by this method may be open to doubt, for latterly scientists have been studying the chemistry rather than the pathology of the tissues in insanity, and their results, more suggestive than conclusive so far, are such as to awaken the keenest interest of all scientific alienists.

As this is purely a pathological contribution, however, I purpose confining my remarks to the naked-eye appearances of the various organs of those dying insane, a considerable proportion of whom were coloured patients, viz., Kaffirs, Hottentots, etc.

TABLE I.—*Showing the Causes of Death in 232 Persons dying Insane.*

Males: E., 78; C., 96. Females: E., 20; C., 38.

	Males.		Females.		Total.		Percentage of total.
	E.	C.	E.	C.	E.	C.	
Diseases of nervous system . .	45	41	6	5	51	46	37·8
Exhaustion from mental disease . .	8	5	8	6	16	11	10·6
Diseases of respiratory system . .	9	17	2	12	11	29	15·6
„ circulatory „ . .	8	8	1	4	9	12	8·2
„ digestive „ . .	6	13	2	9	8	22	11·7
„ genito-urinary „ . .	2	2	—	—	2	2	1·2
Constitutional diseases . . .	4	12	2	7	6	19	9·8
Senile decay	3	6	3	1	6	7	5·1
Totals . .	85	104	24	44	109	148	100·0

The causes of death in those dying insane.—In Table I the causes of death are shown in 232 cases, and it is interesting to note that diseases of the nervous system account for a large proportion of the deaths. In slightly over 8 per cent. of the total, diseases of the circulatory system—chiefly organic heart disease—were the cause of death. The respiratory system accounted for 15½ per cent. of the total, and this after excluding

certain cases of general tuberculosis where the lungs were secondarily affected. Diseases of the digestive system caused death in thirty cases—chiefly among natives,—being at the rate of 11·7 per cent.; death was due in the majority of these cases to affections of the intestinal tract, such as dysentery, etc. As regards the genito-urinary system, it is interesting to note that in no case was death due to lesions, although uterine and ovarian disease existed in a number of cases.

TABLE II.—*Showing the Weights, in ounces, of the various Organs of those dying Insane.*

The organs.	Europeans.		Coloured races.		Average weights in the sane.	
	Males.	Females.	Males.	Females.	Males.	Females.
Brain	48·63	43·58	46·96	39·53	49	44
Right hemisphere	21·59	18·83	21·02	18·84		
Left „	21·55	18·45	21·03	18·71		
Cerebellum, pons, etc.	4·18	4·77	6·03	5·71		
Heart	11·12	8·09	10·67	7·22	11	9
Right lung	22·60	13·64	22·44	22·33	24	17
Left „	23·81	12·78	20·16	10·98	21	15
Liver	49·70	34·71	47·18	40·22	53	44
Spleen	5·24	3·06	4·04	2·87	6	5½
Right kidney	5·21	3·72	4·94	3·79	5¼	4¾
Left „	5·46	3·83	4·99	3·83	5½	5

The various organs will now be considered in their proper order, beginning with—

The Brain.—As is usual in persons dying insane, we both look for, and usually find, gross lesions affecting the brain or its membranes (*vide* Table III).

TABLE III.—*Showing the Situation of the Lesions affecting the Brain in those dying Insane.*

Site of lesion.	Males.		Females.		Total.		Percentage on total No. examined.
	E.	C.	E.	C.	E.	C.	
Dura mater	49	54	9	14	58	64	62·5
Pia mater	51	59	10	12	61	71	67·6
Cerebral cortex	39	33	3	8	42	41	47·6

The dura mater was thicker than normal, or adherent to the skull or meninges of the brain, or inflamed on its visceral surface, in 122 cases, being 62·5 per cent. of the total number examined. One or other of these conditions occurs very frequently among the insane, irrespective of other pathological conditions of the brain and mental state. It is generally supposed, however, that thickening of the dura is most frequently found in long-standing cases of insanity, but I have found an abnormally thickened dura in children, as well as in persons in whom the mental disorder had only existed for a few days before death.

The pia mater.—Pathological changes in the pia arachnoid are by no means rare in the insane. In 132 cases I found thickening, or opacity, or adhesions, more or less extensive, to the subjacent cortex. In general paralysis, as well as in alcoholic insanity, if chronic, and also in cases of secondary dementia, adhesion of the pia mater to the brain substance was common. A thickening of the membrane and a milky, cloudy opacity is frequently found in long-standing cases of chronic mental disease, as well as in cases of senile decay. According to the extent of this thickening there is consequent atrophy of the brain.

Pachymeningitis hæmorrhagica was found in thirteen cases, in one case traumatic in origin. In the majority of my cases it presented the appearance of an organised clot. As regards its frequency in the insane, Wiglesworth found it in 8·47 per cent., Crichton-Browne in 5 per cent., Bevan Lewis in 5·2 per cent., and I found it in 5·6 per cent. of all my cases.

The cerebral cortex.—Cortical softening was found in eighty-three cases, being 47·6 per cent. of the total. The *frontal* lobes were affected in twelve cases,—in three the right, and four the left, and in five both lobes were affected. The *parietal* lobes alone were softened in twelve cases,—five on the right side and five on the left, and in two cases the cortex of both parietal lobes was affected. Six cases showed softening of the occipital lobes,—one occurring in an epileptic ; in seven cases the *temporal* lobes were affected,—in one the right side alone, and in six the left side. Cortical softening was general, or not specifically defined as to area affected, in forty-six of my cases. It might be surmised that, as the frontal lobes are considered the seat of the mental and intellectual faculties, in the insane lesions of these regions should be found with greater frequency than in other

portions of the cerebral cortex. My statistics do not bear out this idea, and cortical softening does not occur more frequently in the "intellectual areas" than in those areas more concerned in motor and organic functions.

Abnormal hardening of the cortical tissue, amounting almost to a sclerosis, and occurring in local patches, is a rare condition as found in the insane; it has been noted in cases of epilepsy as affecting the occipital lobes, but in the majority of cases it is evidently the result of old hæmorrhage. Among the rarer forms of brain disease I have noted were the following:—cysts in five cases, one being an example of hydatid cyst; extensive hæmorrhage, old or recent, was found in four cases; one case each of cerebral abscess, atrophy of the olfactory bulb and left optic nerve; and four cases of cerebral tumour.

Cerebral tumours.—These four cases are of such interest that a few extracts from the *post-mortem* register may not be out of place here.

CASE 1.—M—, æt. 77, reg. No. 965, an old male native, suffering from senile dementia, died June 25th, 1893. Examination of the meninges revealed an extensive "false membrane" (pachymeningitis hæmorrhagica). Occupying the supra-orbital fossa on the left side and growing from the left frontal lobe was found a tumour about the size of a walnut. It appeared to grow from the white cerebral matrix, and was encapsuled so that it could be easily removed, leaving behind a cavity the walls of which were in part formed by the thinned cortex. In structure the neoplasm was soft and pulpy, apparently breaking down, and stained with effused blood. Microscopically its structure was that of a round-celled sarcoma.

CASE 2.—C. R—, æt. 35, a male European, suffering from epileptic dementia, died on September 10th, 1893. At the autopsy, on exposing the brain, a tumour the size of a small orange was found occupying the mesial line, with its greater bulk, however, more to the left than to the right side, and connected with the inferior surface of the frontal lobe, the brain in this situation being firmly adherent to the skull. On separating the hemispheres two thirds of the tumour were found to occupy the position of the left inferior frontal convolution, while the remainder of the neoplasm implicated the corre-

sponding gyrus on the right side. Immediately behind and above the new growth the left frontal lobe was excavated by a large abscess-like cavity, containing gelatinous material. In structure the tumour was hard and almost cartilaginous on section, and it presented no definite limiting membrane.

CASE 3.—B. F—, æt. 73, reg. No. 1271, a male European, suffering from senile dementia, died on July 3rd, 1895. No tumour was noticeable until the brain was removed, but on cutting through the crura a tumour about the size of a Kei-apple (*i. e.*, a little larger than a cherry) was discovered, occupying a position posterior to the crura and implicating both hemispheres. On separating the hemispheres the tumour, which was rounded posteriorly, was found to pass forwards, in the middle line, to a point implicating the inferior and posterior portions of the corpus callosum and the posterior two thirds of the septum lucidum. Anteriorly the tumour was pyriform in shape, extending one inch into the white matter, and posteriorly it embraced both occipital lobes. To the naked eye its structure appeared to be angiogliomatous, and microscopically numerous large multinucleated cells, as well as blood-corpuscles and cholesterin crystals, were found.

CASE 4.—F. I. M—, æt. 47, reg. No. 1848, a male European, suffering from mania merging into dementia, died on September 5th, 1900. When the cerebral hemispheres were separated a small tumour, about the size of a split pea, was observed in the middle of the optic thalamus. A closer inspection disclosed the fact that it was pyriform in shape, on section dark in colour, and penetrated about two lines into the cerebral tissue. The optic nerves on both sides were softened and in a shrivelled condition. This man had been blind for years, and it is possible the blindness was originally due to the new growth, the softening of the optic tract being secondary in point of time.

The weight of the brain (Tables II and IV).—A study of the condition of the brain as found in the insane would not be complete without some reference to its weight, as observed in different races, different sexes, and different forms of mental disease.

TABLE IV.—*Showing the Average Weight, in ounces, of the Brain in the various forms of Insanity.*

Form of insanity.	Total No. examined.	Males.		Females.		Average of totals.
		E.	C.	E.	C.	
Mania . . .	67	50·30	46·52	44·62	39·95	45·35
Melancholia . .	15	52·50	51·75	44·00	42·00	47·56
Epileptic insanity .	22	50·50	48·69	45·33	39·62	46·03
General paralysis .	34	48·20	44·20	41·33	37·00	42·68
Dementia . . .	55	46·95	45·58	42·62	39·50	43·66
Imbecility and idiocy .	11	43·33	45·00	—	38·12	42·15
Totals and averages .	204	48·63	46·96	43·58	39·53	44·67

A reference to Table II will show that the brain, taken as a whole, is heavier among European insane than among native insane by an average of about 2 oz. Further, the brain of the European female exceeds that of the native female by over 4 oz. These facts are of interest, although increase in mere weight of an organ does not necessarily imply increased functional activity; or, to put it conversely, elaboration of the cerebral organisation apparently does not influence the gross weight to any appreciable extent. While we can show philosophers with brains of enormous weight, on the other hand cases are not infrequently found in idiot institutions of brains just as heavy.

Again, it is interesting to note the influence, if any, race has on the weight of the brain among white patients, and to ascertain this the weights of the brains of fourteen British subjects, born in England, were taken, and also the weights of the brains of a similar number of Dutch patients. These cases were taken in sequence, and without any picking or choosing, and I found the average weight of the "British" brain to be 42·32 oz., while that of the "Dutch" brain was 43·21 oz.! I would again emphasise the fact that it is not quantity but quality of brain tissue that influences the intellectual capacity of any individual person or race. I further noted, in ten consecutive cases of each, that the brain of the British-born subject exceeded that of the colonial-born by no less than 4 oz. on an average.

The left hemisphere is generally considered to be the most active half of the brain, at all events in right-handed persons, and it might be reasonable to assume that this half exceeded the right in weight; but I found in a large series of observations that the hemispheres were almost exactly equal in weight, the right, as a matter of fact, exceeding by a trifle the left hemisphere. These observations confirm those of Dr. Clapham, who examined the brains of 449 persons dying insane.

The heaviest brain in my series weighed 58 oz., and the lightest, occurring in an adult male native, only weighed 36 oz. Among the male natives the weights ranged from 36 oz. to 56 oz., the average being 46·96 oz.; and among the female natives the weights varied from 36 oz. to 47½ oz., the average being 39·53 oz.

Generally speaking, my observations agree with those of Dr. Thurnam, who showed that the average weight of the "insane" brain was less than that of the "sane" brain; and yet it is important to note that in my series I have three brains whose average weight was 58 oz., an average higher than that of the brains of ten distinguished men, among whom were Abercrombie (63 oz.), Cuvier (64½ oz.), and Spurzheim (55·06 oz.).

As regards the weight of the brain in the various forms of insanity, attention is directed to Table IV, where several interesting facts are disclosed. We note that the brain is very light in general paralysis, a disease which generally attacks men in the prime of life, at a time when the intellectual faculties might be supposed to be keenest. Further, the brain is heaviest in cases of melancholia, and here again an interesting explanation may be offered. While mania is considered a disease of undeveloped brain, melancholia may be regarded as one of developed brain; the intellectual strata that are highest are the latest developed, and are therefore most ready to break down, as occurs in cases of melancholia; whereas in cases of mania the higher mental layers are not yet formed, and here the mental break-down takes place in, intellectually speaking, an undeveloped mental organisation.

These theories help to explain why mania should be so much more common among savage tribes than melancholia. In South Africa, while simple mania is extremely common, melancholia is very rare, and is usually found only in "educated" natives.

In the epileptic insanities the mean weight of the brain is high. The presence of epilepsy, when acquired, very frequently indicates high mental powers. We have but to refer to the many distinguished men in history who were epileptics to prove this point; and it would seem that while epilepsy, if long continued, materially damages the minute structure of the brain, it does not appreciably affect its gross weight.

The Circulatory System.—In a previous number of this JOURNAL and in an unpublished thesis I have treated fully of diseases of the heart and blood-vessels in insanity, and it will suffice if a brief *résumé* of my work is given here.

As a cause of death among the insane, heart disease occupies a most important position, being third in point of frequency, cerebral and pulmonary diseases being first and second respectively. In English asylums, out of 101,296 deaths, extending over a period of five years, diseases of the circulatory system accounted for 12·41 per cent. of the total, while in Grahamstown Asylum, during the past ten years, heart disease was the cause of death in 10 per cent.

Forms of heart disease.—1. *Hypertrophy*, most frequently of the left ventricle, was found oftener among Europeans than natives; it was common in cases of mania, rare in melancholia; common in general paralysis, seldom noted in epileptic insanity; frequently found in dementia, but rare in cases of congenital mental defect.

2. *Atrophy* of the heart is a rare condition among the insane, being found in only 5·3 per cent. of the total autopsies. It was most frequently found associated with fatty degeneration, and in cases of wasting disease, such as phthisis pulmonalis. The smallest heart in my series belonged to a Hottentot woman, suffering from secondary dementia, and weighed only 4 oz., but this was undoubtedly a congenitally small heart, and can hardly be considered as a true example of atrophy of the heart. Further, Hottentots are a small race, and all their organs are smaller than exist among Europeans or Kaffirs.

3. *Fatty degeneration of the heart.*—The myocardium is here pale or flabby, or even greasy to the touch; this condition was found in 26 per cent. of my cases, and was likewise found most frequently associated with exhausting diseases.

4. *Pericarditis* was found in 13·7 per cent., and was

generally found co-existing with considerable hypertrophy of the heart itself.

5. *Valvular disease* was found in 25 per cent. of my cases; the aortic valve is the most frequently affected, and when the mitral valve is diseased, as a rule the aortic cusps are likewise affected, and consequently left-sided hypertrophy was common in these conditions.

6. *Arterial disease.*—Thickening of the walls or calcareous deposits, as found (*a*) in the main arteries of the body, and (*b*) in the cerebral arteries, were conditions frequently noted. Hypertrophy of the arterial muscular coat, and atheromatous deposit in the vessel, are conditions common to old age, even in the sane; but it is interesting to note that in general paralysis, and this in cases dying at a comparatively early age, one or other of these conditions was commonly found affecting not only the general arterial system, but also the cerebral arteries. This condition of the arteries in general paralysis no doubt led the older authorities to the belief that this disease was essentially in its nature a premature old age, and it has an important bearing on the sequelæ of the disease.

While arterial disease was found in 20 per cent. of cases of mania, it occurred in 60 per cent. of my cases of general paralysis; in the former disease it was only found in cases of long-standing disease, whereas the average duration of the latter disease is only about three years.

7. *The weight of the heart.*—The average weight of the heart of those dying insane exceeds slightly that of those dying sane. The average weight of the native insane is less than that of the European sane, although the heaviest hearts in my series were found in two natives, viz., 38 oz. and 18 oz. Hearts weighing 26 oz. and 22½ oz. were noted in two male Europeans.

The Respiratory System.—Diseases of the respiratory system, as might be expected, are very common among the insane. A general lowering of the vital processes, from inhibited nerve function, especially in cases of dementia, tends to induce acute pulmonary complaints, and the same condition reduces the power of resistance to disease, so that death results in the insane more readily than it does in the sane, suffering from apparently the same condition.

In addition to this factor in the causation of pulmonary

disease, over-crowding and defective ventilation, such as are found too frequently in our asylums, explain the frequency of phthisis pulmonalis in the insane, a fact which Dr. Clouston pointed out many years ago. In point of frequency phthisis pulmonalis alone accounts for more deaths in our asylums than any other one disease, except those of the nervous system; and in England, of 8133 deaths in asylums, 1169, or 14·4 per cent., were due to this disease.

We will here briefly refer to the three chief diseases affecting the respiratory system, viz., phthisis pulmonalis, pneumonia, and pleurisy.

1. *Phthisis pulmonalis.*—The lungs presented tubercular deposits apart from the condition named "pneumonic phthisis," which will be referred to later, in fifty cases of my series. The right lung alone was affected in nine cases, the left in six, and both organs in thirty-five cases. Thirty-nine were natives, and only eleven were Europeans. Of the natives, twenty-four were men and fifteen women; of the Europeans, nine were men and two females. The percentage of cases of male Europeans with tubercular deposits in their lungs was 18, and among male natives it was 36 per cent.

That phthisis pulmonalis should be a frequent and fatal disease among the native insane of this country is not to be wondered at; coming, as these patients generally do, from districts up country, where they have been accustomed to an open-air existence and the simplest of diets, to an institution where they are called upon to wear clothes like any European, where they have to live and sleep in over-crowded day-rooms and dormitories, and where they have to partake of food more suited for highly organised beings, is it surprising that their vital powers become depressed, and that they are unable to offer any resistance to the tubercle bacillus? On the other hand, it is interesting to note the rarity of tubercular disease among the European inmates of our local asylum, where it is only 11·2 per cent., as against 14·4 per cent. in English asylums.

2. *Pneumonia* was found in thirty-seven cases; the right lung was affected in twelve, the left lung in nine, and both lungs were diseased in fifteen cases. Pneumonia existed in 27 per cent. of the cases examined, and in English asylums it was the cause of death in 7·1 per cent. In Grahamstown Asylum.

pneumonia occurs most frequently among the natives, and is more common among men than among women. The tendency of pneumonia, as it occurs among the natives, is to break down into vomicæ, and in the majority of the cases examined the lungs presented all the stages through which pneumonia is known to pass ; thus congestion, red hepatisation, grey hepatisation, and broken-down lung tissue were all frequently found in the one organ, the condition being in the majority of cases most advanced at the bases.

3. *Pleurisy.*—(*a*) *Adhesions* of the lungs to the chest walls occurred in eighty-eight cases—64·2 per cent. of the cases examined. Adhesions were found on the right side in thirty-four cases, on the left side in twenty-two, and on both sides in thirty-two cases. These adhesions in sixty-four of the cases examined were apparently of old date, consisting of tough fibrous bands ; and in twenty-four cases were evidently of recent formation, consisting of lymph deposit gluing the visceral and parietal layers of the pleura together. Pleuritic adhesions were found in twenty-eight Europeans and sixty natives, and old adhesions were relatively more frequent among the latter than among the former.

(*b*) *Pleurisy with effusion*, either purulent or serous, was present in only sixteen cases ; in four the right side was affected ; in one the left ; and in eleven fluid was found in both pleural cavities. Here, again, the condition would appear to be more frequent among the natives than among the Europeans, being present in twelve of the former and only four of the latter.

While as a cause of death pleurisy may be comparatively rare, it is important to note the frequency with which it is found in the deadhouse, and this points to the fact that very few insane die without having had at one time or other of their lives suffered from this disease. Combined with pneumonia, it is relatively frequent as a pathological condition ; but alone, with the lungs in a healthy state, it is decidedly rare. Pleurisy caused death in thirty-five cases out of 8133 in English asylums—0·43 per cent.

In only one case—a female European—were the lungs found infiltrated with cancerous deposit, and this was secondary to scirrhus of the mammæ.

With the exception of pulmonary phthisis as found in the

insane, I am unable to trace any statistical information relative to the frequency with which other lung diseases—either pleurisy or pneumonia—exist among the insane.

According to the Reports of the English Commissioners in Lunacy it would appear that, *as a cause of death*, pneumonia accounts for one out of every fourteen cases, pleurisy one out of every 233, and phthisis one of every seven deaths. In Grahamstown Asylum I found pneumonia to exist in one out of every six autopsies, pleurisy in one of every three, pleuritic effusion in one of every thirteen, and pulmonary phthisis in one of every four cases.

Weight of the lungs in the insane.—(*a*) *Right lung.*—Among male Europeans I found the average weight of the right lung to be 22·60 oz., which is lighter than the same organ in the sane. In ten cases this lung weighed 30 oz. and upwards, in three it exceeded 40 oz., and in one case it weighed 56 oz. Among female Europeans the right lung averaged 13·64 oz., being less likewise than the "female sane right lung."

Of sixty-five male natives the average weight was 22·44 oz., in seventeen it exceeded 30 oz., in five it exceeded 40 oz., and in one case this lung weighed 51½ oz. The average weight of the right lung among female natives was 22·33 oz.; the heaviest of this series weighed 53 oz., while ten exceeded 20 oz. in weight.

(*b*) *Left lung.*—The average weight of the left lung among male Europeans was 23·81 oz.; the heaviest in the series weighed 72 oz., thirty weighed 20 oz. or upwards, twelve exceeded 30 oz., and three exceeded 40 oz. The lightest male European left lung weighed only 8½ oz. Among female Europeans this lung averaged 12·78 oz., or, excluding the case of a girl whose lung only weighed 3 oz., then the average of the remainder would be 14·41 oz. The heaviest lung in this series was 26 oz. The average weight of the left lung among male natives was 20·16 oz., and the heaviest weighed 46 oz.; three exceeded 40 oz., eleven exceeded 30 oz., and the lightest of the series was only 6 oz. in weight. Among female natives this lung weighed, on an average, 10·98 oz.; only one exceeded 30 oz.; and the lightest, occurring in an adult female, weighed 5 oz.

Comparing these figures with the average weight of the lungs of persons dying sane in England, it is noted that the

"colonial" lungs weigh less. If pulmonary disease, with its consequent consolidation, tends to increase the weight of the lungs, then we may boast of a comparative immunity from lung disease in this country.

Diseases of the liver in the insane.—From time immemorial functional derangements of the liver have been considered as closely associated with mental disorders,—the circulation of "black bile" in the blood being, among the ancients, the supposed cause of melancholia. In spite of this apparently most ancient theory as to the cause of insanity, it would seem as if little real scientific attention has hitherto been paid to the condition of the liver in the insane.

It is curious to note the difference of opinion expressed by various authors regarding the relationship that is supposed to exist between somatic disease and insanity. On the one hand, some take the extreme view that observation has failed in eliciting any connection between the two, or that the former can, *ipso facto*, produce the latter; while others maintain that so intimate is the relationship that exists between the body and the mind that all and every disease of the body *may* cause insanity, and that, as a matter of fact, many of them do.

Given a neurotic diathesis, I affirm that disease of any organ of the body may induce mental disease that may be of so marked a type as to constitute "certifiable" insanity. Who, for example, is going to draw the line of distinction between the depression associated with biliousness and the melancholia which is certifiable? The conditions are identical, and differ only in degree. In both the origin is the same, and the results depend very much on whether the patient is one of a neurotic tendency or not; for in all these cases, before we can have psychic manifestations, there must be some predisposing tendency pre-existing,—in this case an unstable nervous or mental system.

While vague statements have been published from time to time referring to the influence of liver disease in inducing insanity, I have been unable to discover any published record bearing upon the actual condition of this organ in mental disease. This is strange, for one would naturally expect that some attention should have been given to an organ upon whose healthy functions so much of our happiness and peace of mind depends.

Regis casually refers to the relationship existing between liver disease and insanity, but declines to be as emphatic as Hammond, who maintained that all cases of melancholia were due to hepatic disease!

During the past eleven years the livers of 199 cases dying in Grahamstown Asylum were examined, and in only 35 cases was this organ noted as "healthy" (*vide* Table V).

TABLE V.—*Showing the Diseases of the Liver found in those dying Insane.*

Disease.	Males.		Females.		Total.		Percentage of cases examined.	
	E.	C.	E.	C.	E.	C.	E.	C.
Simple congestion of liver . .	26	28	7	11	33	39	38·38	31·70
Cirrhosis—general or local, fine or coarse	6	1	—	1	6	2	6·97	1·62
Fatty degeneration of liver . .	8	4	1	1	9	5	10·46	4·06
Perihepatitis	1	4	—	4	1	8	1·16	6·50

Among the morbid conditions more frequently observed were the following:

1. *Congestion* or engorgement of the liver was noted in 72 cases, being 36·2 per cent. of the total.

2. *Cirrhosis*, fine or coarse, was present in only 8 cases, 4 per cent. In only one—a male European—did I find "hobnail" liver.

3. *Fatty degeneration* existed in 24 cases, 12 per cent., and the liver was described as "large, yellow, and fatty" in three natives.

4. *Perihepatitis* was found in 9 cases, 8 of whom were natives, and the—

5. *Gall-bladder* was full or distended in 46 cases; males, E. 16, N. 17; females, E. 6, N. 7.

Among the rarer pathological conditions found were 4 cases of biliary calculi; 11 cases with caseous or tubercular deposits; a calcareous nodule in the substance of the liver in a male native; a total absence of lobulation in another. A large abscess was found in a male, and hydatid cysts existed in the liver of a female, in both cases natives.

The weight of the liver (Table II) in health is said to be about 48 oz. (for men 53 oz., and for women 44 oz.). These averages are considerably above those I show in my series, and may indicate that the "sane" liver is a heavier organ than the "insane," in spite of the theory that the latter may probably have been the most active functionally so as to produce the mental disease. One would certainly have expected higher average weights than are here shown, especially among male Europeans, in a hot country where social habits tend to throw extra labour on this organ. The heaviest liver in my series weighed 69 oz., and belonged to a male European; in 9 cases it exceeded 60 oz.; in 17 it ranged from 50 oz. to 60 oz., and the smallest liver weighed only 22 oz.

A liver which weighed 73 oz. was found in a male native, and one weighing 58 oz. in a female native. The lightest liver found among natives weighed only 15 oz., and this occurred in an adult female.

TABLE VI.—*Showing the Diseases of the Spleen found in those dying Insane.*

Disease.	Males.		Females.		Total.		Percentage on cases examined.	
	E.	C.	E	C.	E.	C.	E.	C.
Capsule diseased—thickened, etc.	3	3	1	—	4	3	5·12	2·67
Simple congestion of spleen	9	15	1	5	10	20	12·83	17·85
Spleen markedly friable	15	17	1	4	16	21	20·51	18·75
Spleen abnormally pale in colour	7	8	2	3	9	11	11·53	9·82
Tubercular disease of spleen	—	7	—	1	—	8	—	7·84
Supernumerary organ	1	3	1	1	2	4	2·56	3·57

Diseases of the Spleen in the Insane (Table VI).—The spleen is an organ one would naturally expect to see diseased in patients dying in an asylum in this country, especially among Europeans. My records, however, show that the spleen is rarely affected in the insane; and, for the most part, the morbid conditions noted were of a trivial and unimportant character. In 61 per cent. of all the cases examined the spleen was described as perfectly healthy; in six cases of

these, however, a supernumerary spleen existed. Of the "diseased" cases, thirty were noted as being simply congested, twenty were pale and anæmic-looking; in seventy-one the organ is noted as being very friable, and in seventeen cases the capsule was thickened or even cartilaginous in consistence. Tubercular disease existed in eight cases—all natives,—and was found only where tubercle existed in other organs as well.

As regards the *weight* of the spleen (Table II), text-books inform us a broad margin is allowed within the limits of health,—that, in fact, anything between 3 oz. and 10 oz. need not be considered as abnormal, while 6 oz. for men and 5½ oz. for women may be regarded as representing the average weights of this organ in health.

If this statement can be taken as correct, then, according to my observations, the spleen of the insane weighs less than it does in the sane.

The largest spleen in my series occurred in a male European, and it weighed 11 oz.; and the smallest was found in a male native, weighing only ½ oz., being just the size of a florin.

TABLE VII.—*Showing the Diseases of the Kidneys found in those dying Insane.*

Disease.	Males.		Females.		Total.		Percentage on No. of cases examined.	
	E.	C.	E.	C.	E.	C.	E.	C.
Capsules adherent to renal cortex .	15	18	4	4	19	22	24·36	21·57
Congestion of kidneys . . .	19	19	2	2	21	21	26·92	20·58
Cirrhosis of kidneys—fine or coarse	8	6	2	2	10	8	12·82	7·84
Fatty degeneration—large, pale or yellow	7	16	7	4	14	20	17·97	19·60
Tubercular disease of kidneys .	4	4	—	—	4	4	5·13	3·92
Cystic degeneration—chiefly cortical	5	3	1	—	6	3	7·69	2·92
Lobulation of kidneys . . .	3	1	—	—	3	1	3·84	0·98

Diseases of the Kidneys in the Insane (Table VII).—Disease of the kidneys is very frequently accompanied by psychic phenomena, so that the insanity of Bright's disease forms one of the subdivisions in all classifications of mental disease. The circulation of effete products normally excreted by the kidneys acts as a direct poison on the protoplasm of the

cerebral cells, perverting their functions, and producing the delirium of renal disease. Further, if we recognise Bright's disease as of the nature of a general arterio-sclerosis, then such an affection, occurring within the cerebral arteries, must necessarily interfere with the supply of blood to the tissues, and produce actual starvation of the cerebral cells, perverting their functions to a marked extent.

Any slight disease of the kidneys, such as is frequently found in the insane, must, to a greater or lesser extent, impede the excretory powers of the kidneys, so that the cerebral functions are consequently affected by retained excretions To what extent interference with the function of any excretory organ acts as a direct contributory cause to the mental disease we cannot yet say. The arrest of the cutaneous secretions in many cases of melancholia, and the marked concentration of the urine in cases of mania, clearly point to the powerful influence non-elimination has on the mental functions, and the perfect performance of their functions by the kidneys is as essential to mental as it is to physical health.

In my observations I note that the kidneys were found diseased in 59·3 per cent. of all the cases examined. They were most frequently affected among male Europeans, and least so among female natives. Thus—

Male Europeans, kidneys diseased	42 of 64 cases	= 65·62	per cent.
Male natives, ,,	52 of 81 ,,	= 64·19	,,
Female Europeans, ,,	5 of 13 ,,	= 38·46	,,
Female natives, ,,	9 of 24 ,,	= 37·50	,,

As a rule, when disease attacks the kidneys, both organs become affected, although generally one organ is in a more advanced condition than the other. In only one case did I find one kidney healthy while the other was diseased.

In a female native the supra-renal capsule was noted as abnormally large, but no constitutional disturbance existed in the case.

Kidney disease is more common among men than among women in the insane, and I have no reason to doubt, were statistics available, that the same rule would hold good among the sane.

The *capsule* was found adherent to the renal cortex in twenty-one cases; *congestion* was noted in forty-two cases. The organs were described as *large*, *pale*, *yellow*, or *fatty* in

seven male Europeans, sixteen male natives, one female European, and four female natives. Cirrhosis, fine or coarse, existed in both organs of eight male Europeans, six male natives, two female Europeans, and two female natives. *Cysts*, usually cortical in situation, were found in the kidneys of five male Europeans, one male native, and one female European. *Tubercular disease* occurred in four male Europeans and four male natives, but was absent from the kidneys of the females. *Lobulation* of one or both organs was found in three male Europeans, one of whom was an idiot, one female European, one male native, and two coloured females.

In only one case, that of a male European, a solitary organ —the right kidney—existed, and a floating kidney—the right also—was found in a female native.

As regards the *weight* (Table II) of the kidneys in the insane, it is noted that the weight of the "insane" male kidney closely approximates that of the male "sane" organ, while the average weight of the female "insane" kidney is exactly 1 oz. less than that of her sane sister.

Further, my observations bear out those of previous writers that the left kidney is heavier than the right, and this holds good in both sexes, and among natives as well as among Europeans.

Right kidney.—Among male Europeans the heaviest organ weighed 8 oz., while the smallest only weighed 3 oz.

Left kidney.—The largest weighed 9½ oz. and the smallest only 1½ oz., these representing the two extremes in my series.

Natives are not distinguished for large kidneys; in none did the weight exceed 8 oz., and among women, both native and European, the average weight was approximately the same.

Diseases of the Gastro-intestinal Tract in Insanity.—Diseases affecting the digestive tract exercise a marked influence upon the mental system, many delusions being referable to diseased or disordered conditions of these organs. For example, the gnawing caused by a gastric cancer is often referred to by the patient as rats eating away the stomach,—an example of a delusion having a direct material origin.

In Grahamstown Asylum lesions of the stomach and intestines were of frequent occurrence, and were in many cases the cause of death.

Among the male Europeans we note that in nine cases the intestinal tract was affected; of these in five the large bowel was inflamed, and in two it was ulcerated as well. In one of these cases this inflammation was due to the presence of tape-worm. The pylorus was thickened and its lumen diminished in one, while pyloric cancer was found in another case.

Of the female Europeans only two presented inflammation of the mucous membrane of the bowel. In one of these cancerous nodules also existed, and in the other evidences of old peritonitis were found.

Among male natives nineteen cases presented lesions of the stomach or intestines; of these thirteen had inflammation or ulceration of the bowel; seven were cases of peritonitis—mostly tubercular in character,—and one was a case of secondary peritonitis and dropsy in a cardiac case.

Nine female natives had colitis or enteritis,—in one due to the presence of *Ascaris lumbricoides*, with which the entire bowel was packed. In one case cicatrices of old rectal ulcers were found, and in five peritonitis existed, being tubercular in origin in three.

The prevalence of dysentery and tuberculosis in the natives of this country is well known, and fully borne out by the statistics of Grahamstown Asylum.

Diseases of the Genito-urinary System in the Insane.—In only three females—all natives—were lesions of the internal genital organs discovered. Congestion of the left ovary, cystic degeneration of both ovaries, and atrophy were the conditions noted.

In this connection it may be of interest to refer to the case of *hermaphroditism* occurring in a native, admitted under my care as a male, and who was exhibited to the Medical Congress several years ago. Death took place from tuberculosis, and a careful examination of the genital organs was made.

She was admitted as a male, and insisted on being treated as such, but there was little doubt as to the prominence of female organs of generation over those of the male sex. She was married to a woman, who, however, refused to live with her for obvious reasons, and while in the asylum she refused to live in the female wards. She menstruated regularly, and on these occasions it was considered advisable to keep her in a

room by herself. She knew there was something the matter with her genital organs, and exposed herself readily enough for examination,—not from immodesty so much as from a real desire that operative interference might be attempted to "make her a better man."

The following is a description of the *post-mortem* appearances:

"Body of an adult native; no hair on face; the configuration of body that of a female, the mammæ being large and glandular structure evident; nipples large and prominent. Pelvis capacious and female in character; external dimensions:

"Diameter between external spines . 8½ inches.
" " iliac crests . . 10¼ "
" " great trochanters . 12¼ "

"*External genitals.*—The penis was rudimentary, about two inches long, and was bound down inferiorly to the body of the vulva by a frænum. It was not perforated by a urethra; the glans and prepuce were normal, although very small in size. The urethral orifice occupied the usual female position. No external orifice corresponding to the vagina existed, but there was some sanious fluid coming from the urethral orifice.

"*Internal genitals.*—In the right pelvis there was an organ of ovarian structure, with the usual appendages and Wolffian remains. On dissection it was noted that the channel which communicated with the uterus and bladder was single for about half an inch from the urethral orifice, then it divided into two passages communicating respectively with the uterus and bladder. The uterine opening to the Fallopian tube existed on the right, but no corresponding opening was discovered on the left side. The uterus was of fair size and virgin-like; the cervix was soft and pulpy to the sense of touch, and contained grumous fluid; and the uterine mucous membrane was slightly inflamed, presenting indications that the menstrual function was active at the time of death."

I am informed that hermaphroditism is by no means unknown among the natives of this country, but this is the first case that has come under my notice.

In no case did I find lesions affecting the male genital organs.

Lesions of the Bladder in the Insane.—Diseases of the bladder or the presence of calculi are so rare among the insane as only to require a passing reference. In some cases of general

paralysis paresis of even non-striated muscular fibre takes place, so that the bladder fails to act and catheterisation is required ; after death the bladder is often found in these cases distended, its walls having apparently lost their contractile powers.

Cystitis occurred in a few females, and the walls of the bladder were found much thickened in several cases, but in none were the conditions such as to be the direct cause of death, and in no case were other lesions or diseases noted.

Remarks.—The figures upon which these observations are based are hardly such as to justify dogmatic statements as to the prevalence of physical diseases in insanity ; they do, however, indicate, even in a small way, the direction in which such investigations should be carried out, and the character of the results were similar inquiries made, but on a larger scale.

With the figures at the disposal of the Collective Investigations Committee of the Association, referring to all the asylums with which they will have to deal, some definite statements should accumulate to throw more light on this, as yet, the most obscure of all diseases.

Whether the insanities are the outcome of altered metabolism in one or other of the organs of the body, or whether they originate in delicate changes in the constitution of the protoplasm of the cerebral cells, due perhaps to toxic influences, science has not yet enlightened us. The tendency of modern thought is that there is a physical basis to all types of mental alienation.

It may be taken as an axiom that although an insane mind may exist in a sound body, much more frequently do we find the unsound mind in the unsound body, and, recognising this fact, we are guided in our treatment of our insane patients, searching for, in every case, a physical cause for the mental symptoms, and devoting our knowledge towards the alleviation of the bodily ailment in the reasonable expectation of consequent improvement in the mental symptoms.

Importance of Stimulus in Repair and Decay of the Nervous System. By F. W. MOTT, F.R.S., M.D.

THE title of my paper is almost a platitude, for we all know from experience that stimulus is essential for the generation and regeneration of nerve structures and function; and that the importance of stress (excess of stimulus) incidental to modern civilisation and town life in the production of nervous diseases and insanity is beyond dispute; yet when we are asked to give precise data to prove these premises, the matter is not so easy.

The nature of stimulus.—Nerve stimulus is a molecular vibration travelling at a definite rate (30—33 metres a second) along a nerve; the amount of energy liberated by the stimulus is not necessarily proportional to the exciting stimulus; in fact, it is usually disproportional. The passage of a stimulus along a nerve does not cause fatigue; if a neuron ceases to function from excessive stimulation, it is due to the effects of fatigue products upon its terminal arborisations at the periphery or in the central grey matter. The whole nervous system may be considered to be composed of physiologically correlated nervous units, each of which has a nutritional independence, a *vita propria*. The vulnerable parts of the neuron are the terminal expansions of the essential fibrillary conductile substance which is continuous through the body of the cell on the one side with the axon and its terminal arborisation or end organ; on the other with the branching processes of the dendrons in the central grey matter. Delay to the passage of stimulus takes place at the neuronic threshold, that is at the point of junction of the terminal arborisation of the fibrils of one neuron with the next in the series; it is here in the delicate gossamer of the grey matter that ingoing stimulus is reflected to outgoing channels; it is here that it may spread and cause the liberation of stored energy, or redistribution of active energy; it is here that the blood-supply is most abundant and oxygen is continually used up, and carbon dioxide and heat produced.

Currents which represent nervous energy are continually flowing in all directions in the central nervous system. They

flow with the greatest readiness along systems of neurons which have by habit and use been most functionally correlated; and then less *potential* is used and less fatigue experienced than when new paths have to be opened up by attention.

A stimulus has been defined by Sir William Gowers ("Dynamics of Life") as a process which causes another process greater in degree, *e. g.* tickling the sole of the foot with a feather; but, as he points out, unless there is *conscious attention* you do not get the successive series of violent muscular discharges. But what is this attention? a concentration of consciousness upon the stimulus from without; the seat of consciousness is in the cerebral cortex, the arrival and departure platforms of all afferent and efferent stimuli. The muscular discharge is partly spinal reflex, but also cortical reflex. Bubnoff and Heidenhain showed experimentally that stimulation of the skin by stroking increased the excitability of the cortex to faradic excitation, and probably each successive excitation of the skin, in addition to the stimulus provided by excitation of the peripheral afferent nerve-endings, increases the excitability and diminishes the resistance to the passage of stimulus in the spinal and cortical circles of neurons (*vide* figure, p. 671). But we believe that inhibitory impulses are continually flowing from the cerebral cortex to the spinal centres, which inhibitory impulses antagonise both cortical and spinal reflex discharges. Experiments of Sherrington and Hering support the view that these impulses are conducted by the pyramidal systems. We could then explain the successive series of violent muscular discharges in tickling by arrest of this inhibitory controlling function of the cortex. Now, if we suppose that there is normally a correlative localised and specialised antagonism between augmentor and inhibitory impulses flowing from the cerebral cortex, when once the balance between the two is turned and effectual control lost, the outgoing flow of nervous energy is along the lines of least resistance, and becomes semi-automatic, and incapable of control by attention, although consciousness obtains. Does attention, then, mean concentration of potential and liberation of nervous energy? If so, in this case the distribution would be along particular efferent systems of neurons; and can we thus explain the phenomenon of conscious attention being

necessary in order that tickling may produce the successive series of violent muscular discharges, and thus support Sir William Gowers' proposition that the stimulus in this case causes another process enormously greater in degree? Or should we adopt the view that stimulus in semi-automatic and subconscious movements may flow in and flow out without using up comparatively any potential? In fact, there may be even a storage of energy by a bio-chemical transforming process, especially in those structures which have been latest developed, and which form the great bulk of the central nervous system, viz. the association neurons. Resistance to the passage of impulses occurs where delay is greatest, viz. at the junctions of the dendrons of one neuron with the terminal arborisations of the axon of another; but, as Von Monakow points out, no sensory neurons are in direct relation with motor neurons, and the delay therefore occurs especially where intercalary association neurons (which even in the grey matter of the spinal cord are much more numerous than the motor neurons) intervene. The great bulk of the brain is made up of association neurons, and their numbers in the cerebral cortex are infinite. Yet we must suppose that every *conscious* sensation, however simple, affects the whole cerebral cortex, leaving traces of its passage in the form of molecular changes, which facilitate more and more up to a certain point the passage of the same excitation the oftener it is repeated. These molecular changes may be bio-chemical or bio-physical in the substance of the neurons or their synapses. I should incline to the opinion of Sir William Gowers that the changes occur at the synapses, which are the innumerable anatomical or physiological junctions of the neurons. It is even possible to conceive a hypothetical substance representing latent nervous energy in these synapses.

Is nervous energy derived directly from the transformation of chemical energy incidental to the life of the neurons? or are we to accept the entirely opposite view of Professor Gotch, who maintained in a recent paper read before the Psychological Society at Oxford that all nervous energy comes from without, there is no storage or accumulation of energy, *only* redistribution; there is a greater amount of ingoing than outgoing stimulus, the balance being converted into chemical and thermal equivalents? This hypothesis was mainly supported

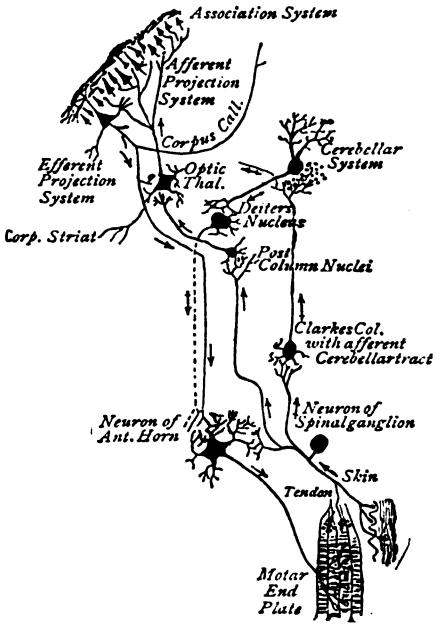
by various experimental observations by him on the lower animals.

I would agree with Gotch that there is no spontaneous discharge from the spinal motor neurons, directly or indirectly; a present stimulus is necessary. Again, I would agree with him that there is possibly a greater total amount of ingoing than outgoing energy, but I disagree with him entirely in not allowing the possibility of storage or accumulation of energy by a process of transformation of bio-physical into bio-chemical energy.

Every thought, feeling, and emotion has its particular muscular concomitant; it may not be sufficiently intense to rise into consciousness—indeed, we can only be made aware of its existence by the concentration of consciousness upon ingoing impressions from the muscles, especially those depending upon the minute alterations in the tensions of the eye muscles and the muscles of expression. Darwin showed the intimate relation of the emotions to their muscular concomitants. Even the patient suffering with auditory hallucinations probably is affected simultaneously with a particular motor attitude of attention with its corresponding ingoing stimuli, both kinæsthetic and auditory sensations being fused in consciousness. There is, however, no proportional relationship between the mental effort involved in attention and the muscular mass moved—and therefore the consequent incoming kinæsthetic impressions; just as there is no proportional relationship between the area of cortex representing specific movements and the mass of muscles moved. Eye, face, and hand movements represent the great bulk of the excitable area of the cortex.

Attention, we may suppose, represents a liberation of nervous energy in the cortex cerebri, either due to a direct bio-chemical generation in the neurons, or to accumulated energy transformed. The sense of nervous fatigue is distinct from muscular fatigue; it is the result of the lowering of nervous potential which especially is used up in processes involving attention of a constantly varied nature; for continuous attention to one thing, no matter how complex, leads to the nervous process becoming more or less subconscious and semi-automatic; the discharge of nervous energy becomes diminished, and less fatigue is experienced in connection there-

with. Professor James remarks that in action grown habitual, what instigates each new muscular contraction to take place is not a thought or a perception, but the sensation occasioned by the muscular contraction just finished. A glance at the diagram representing the three nervous circles which are in



continuous molecular vibration will indicate how, when once habitual movement has been started by a signal from the brain, stimulus will flow in and flow out. The volitional signal as a result of experience and associative memory has arranged a correlation of subcortical afferent, efferent, and association neurons in such a way that stimuli flow in from sentient structures, and flow out to synergic groups of agonist and antagonist muscles in co-ordinate and orderly sequence, so that the most perfect precision of movement is accomplished with the least expenditure of nervous and muscular energy. In locomotor ataxy the ingoing sensory channels are abolished, and co-ordination has to be effected by new paths (visual and vestibular) involving attention. Practice makes perfect, and habit diminishes the constant attention with which our daily

acts of life are performed; but habit, or this tendency of stimulus to flow along lines of established least resistance (Bahnung), not only allows us to do the right thing at the right time, but often compels us to do the wrong thing at the wrong time. The oftener a wrong thing is done, just as a right thing, the more likely is the establishment of loss of control and establishment of lessened resistance along the wrong neurons to become permanently installed; and it seems probable that many neuroses and psychoses keep themselves going simply because they happen once to have begun, *e.g.* epilepsy, hysterical contracture, catalepsy. Again, the commonest subjective symptoms of insanity, delusions, illusions, and hallucinations may be explained thus. Auditory hallucinations, so frequent a symptom in the insane, often commence as *simple* noises; these are followed by "voices," which eventually become so distinct and real that the greater part of the patient's psychical existence is determined by and concentrated upon this abnormal stimulus from within, indicating progressive strengthening and fixation of the perverted functions of the mind, and progressive weakening and dissolution of the normal functions. If we suppose that the total nervous potential (stored nervous energy) is at the disposal of the whole nervous system, then in the insane we must suppose that it is constantly being used up in a wrong way. Although there is undoubtedly a trophic independence of the neurons it is doubtful whether there is an anatomical, and there is certainly not a physiological independence. Seeing that the sign of life and the fundamental property of living matter is the capability of transforming energy, it is conceivable not only that incoming energy may be stored, but redistributed.

The effect of stimulus depends not only upon the intensity of the excitation, but also upon the excitability of the neurons stimulated. Thus stimuli which are insufficient to rise into consciousness may do so by attention, and this constitutes what might be termed the subjective attitude of the individual, and is therefore a personal equation. But the personal factor itself may vary according to the health of the individual and the quality and quantity of the blood supplied to the nervous system, especially to the cerebral cortex.

Every day experience shows that alterations in the blood, whether caused by subminimal defects, by poisons engendered

within the body, or poisons derived from without, will change the *subjective attitude* of the individual to the stimuli which are continually flowing into the central nervous system by all the external and internal sensory channels maintaining the normal reflex muscular tonus upon which, in great measure, the sense of well-being depends. The sensations coming from internal structures which we cannot explore by sight or touch are normally of such low intensity as not to rise into consciousness, although with phasic or periodic regularity stimuli continually flow from the viscera into the central nervous system. If they exceed a certain intensity they give rise to ill-defined uneasy sensations, and when intense they may assume the forms of pain which may be referred in consciousness (that is by the cortex cerebri) to morphologically correlated skin areas. But by morbid introspective concentration of consciousness (associated often by the knowledge of the possession of an organ which they believe with reason or not to be delicate or diseased) these normally absent or ill-defined visceral sensations may be intensified into severe pains. The psychopath and neurasthenic hypochondriac may be thus liable to suffer; when his nervous potential is beginning to run down, his higher controlling centres of the cortex are the first affected, and no longer exercise a restraining influence upon incoming stimuli; consequently every peripheral excitation, even those of low intensity, may produce a maximum effect upon consciousness. Many poisons produce similar effects. The question arises, how do the higher centres control consciousness in attention? For attention is both a positive and negative process as regards stimulus. We cannot concentrate consciousness upon stimulus from some external object without shutting out of consciousness all other stimuli. Is this a process of switching off as well as switching on of active potential, or is the negative effect the result of opposition of nervous currents (as in the correlative antagonism of muscles) resulting in the production of thermal and chemical equivalents (heat and CO_2) removed by the blood? The latter hypothesis would explain the fatigue occasioned by concentrated attention, especially upon continuously varied objects. Every stimulus revives the past, and behind the association wave which rises into immediate consciousness is an unseen ocean, which under normal circumstances is kept out of consciousness. In insomnia and delirium of fever, and certain poisons, such as haschisch,

where the higher controlling centres are fatigued or paralysed, the negative process no longer takes place, but mainly the positive in the perceptive and ideation centres. Often because these lower centres are also partially affected, the ideation is grotesque, confused, and abnormal. These mental states are mainly related to visual stimuli, because vision and its associations play by far the most important part in our psychical existence.

But I will now pass from these speculations to the more solid ground of physiological and anatomical facts.

Experiments have shown that nerves are incapable of fatigue, or at least that they continue to conduct impulses without any apparent loss of excitability to electrical stimulation for a long time.

The experiments of Halliburton and Brodie upon the nerves of the spleen show that a non-medullated nerve is just as difficult to fatigue as medullated nerve; and these observers conclude that while fatigue is demonstrable in nerve-cells, it has never yet been shown to occur in nerve-fibres of either the medullated or non-medullated variety. This does not, however, imply that nerve-fibres undergo *no* metabolic changes during the transmission of a nerve impulse. It probably means that the change is slight, and the possibility of repair in the healthy nerve great; and that fatigue in the usual acceptation of the term cannot be demonstrated.

Certainly Dr. Waller's experiments tend to show that during the passage of a current along a nerve some transformation of energy occurs, as evidenced by the electrical variation and the formation of carbon dioxide; (1) and Waller puts forward an ingenious explanation when he says, "I wonder does this carbon dioxide become altogether dissipated? may it not perhaps be re-involved in some storage combination, as the nerve-fat, perhaps, that is so prominent a constituent of fully evolved nerve? Such nerve consists of proteid axis and fatty sheath; the axis, which is the offshoot of a nerve-cell, is the specially conductile part; the sheath is a developmental appendix, not directly connected with any nerve-cell; yet cut nerve and sheath as well as axis undergo Wallerian degeneration, which is evident proof of a functional commerce between sheath and axis. You have seen, further, that such nerve is inexhaustible; yet that it exhibits very clear symptoms of chemical change

after action. All these things, to my mind, reconcile themselves with the notion that the active grey axis both lays down and uses up its own fatty sheath, and that it is inexhaustible, not because there is little or no expenditure, but because there is an ample re-supply."

Although Waller's explanation is not supported by the experiments of Eve, Brodie, and Halliburton on non-medullated nerves, yet to my mind there is much to be said in its favour, which I will show by certain observations.

If we can look upon a nerve impulse as a molecular wave of increasing irritability propagated along its fibres, the electrical variation and the production of carbon dioxide marking its passage are evidences of a discharge of energy in another form, both the added energy of the impulse and the electrical energy must be transformed latent chemical energy of the fibre. The added energy may come from chemical changes in the myelin. If this is inconsiderable in the fibre with its neurilemmal sheath, it may be considerable in the delicate myelin sheath covering the terminal brushwork of fibrils which enter the grey matter, for it is here that the oxygen supply is most abundant; and the relation of the oxygen to the molecular vibration along the fibril is most intimate, for they are only separated by the extremely delicate sheath of myelin, whereas in the peripheral nerve-fibre these intimate relations between the nerve current and the oxygen of the blood do not exist.

That the myelin serves another purpose than an insulator is highly probable for the following reasons:

(1) Impulses transmitted by the non-medullated fibres of visceral and vascular structures are of low intensity as compared with the medullated fibres of somatic structures. It would serve no useful purpose for these impulses to be of high intensity and to rise into consciousness. They only do so when the nerves are in an abnormally irritable state from inflammation or disease; on the other hand, it is essential that we should be aware of the slightest touch of the skin, and it is conceivable that we are aware of these very slight impressions by *added energy*, derived from metabolic changes in the myelin, as the stimulus traverses the neuron. Each internodal segment may act, as Sherrington suggested a little while ago, as an electrolyte.

(2) The metabolic activity of the nervous tissues may be

shown by the examination of the cerebro-spinal fluid and of saline extracts of nervous tissue. The observations of Gumprecht and Gulewitz show that minute traces of choline can be detected in normal cerebro-spinal fluid ; likewise traces can be proved to exist in the saline extract of perfectly fresh nervous tissue, especially in the grey matter, sufficient, indeed, to yield both chemical and physiological tests indicating its presence. Halliburton and I have shown that choline is a product of degeneration of the complex phosphoretted fat of myelin called protagon. It may be supposed that anabolic and katabolic processes continually lead to the recomposition and decomposition of this chemical basis of myelin. Whatever view may be taken as to myelin being a source of nerve energy, there can be no doubt that—

(3) The development of the myelin sheath is related to the passage of stimulus along the axial fibre, for we find the ingoing tracts of the central nervous system are myelinated before the outgoing, and in the cortex cerebri of the new-born child we have each myelinated sensory sphere representing a centre of elemental consciousness unconnected by any myelinated efferent projection or association systems, except some fibres of the corpus callosum which unite the two halves of the brain, and unify these elemental spheres of tactile consciousness of the two halves of the body. As a result of ingoing impressions reflected down the cortical efferent tract to the cord, myelination of this projection system occurs, and with it the development of conscious response to stimulus (or elemental volition) ; later the dawn of intelligence is coincident with the development of function of the association systems as shown by the myelination of the fibres of other parts of the brain, and then a simple sensation limited to a sphere of elemental consciousness is presumably impossible ; for even the simplest sensory stimulus perceived must be accompanied by a spread to association systems, resulting in associative memory.

(4) Again, it is known that the myelin sheath of the optic nerves of an infant born at full term is not so well developed as the myelin sheath of an infant born at eight months, and who has lived a month with its eyes exposed to the light. The experiments of Ambron and Held and Berger upon animals born blind have shown that if the eyelid on one side be stitched up, so that the stimulus of light does not act upon

the retina to the same degree as on the other side, the myelination is more advanced in the optic nerve of the eye exposed to light. We have in this experiment a direct proof of the influence of stimulus in the production of myelin.

(5) The converse is also true; the absence of the inflow of stimulus leads to slow regressive atrophy—first of the protagon in the myelin sheath, next of the axis-cylinder process. This is strikingly shown in the nerves, posterior roots, and their projections in the spinal cord, following the amputation of a limb. In the case of the sensory neurons the posterior spinal ganglion cells are the last to show changes. There is, in fact, an atrophy in inverse order of structural development. The last to come, the first to go. The efferent fibres which supplied the muscles that were removed in the amputated limb also undergo atrophy from lack of stimulus. In intra-uterine amputations, and those in early infancy, atrophy arrests developmeut not only of the spinal afferent and efferent neurons, but of the cortical centre of the limb, as was first shown by Edinger and our president, Dr. Wiglesworth. Again, the atrophy of correlated groups, systems, and communities of neurons which are in physiological, but not necessarily in direct anatomical association, is due to failure of stimulus and disuse. Thus a lesion destroying the thalamus in one half of the brain produces atrophy of the whole cerebral cortex of the same side, of the opposite half of the cerebellum, and of associated structures in the spinal cord. This was shown in a striking manner in a paper published in *Brain* by Dr. Tredgold and myself.

(6) The failure of the formation of myelin, or, at any rate, the normal formation in regenerating nerves when stimulus is diminished or absent. Lately I have been engaged with Professor Halliburton in endeavouring to ascertain if, in the absence of stimulus, nerves regenerate as readily as when stimulus exists. It has long been known that sensation returns before movement, and in some experiments which we made concerning the chemistry of regeneration we were of opinion that the sensory nerves regenerated before the motor, at least small cutaneous branches had a better developed myelinated sheath than the motor nerves obtained from the same limb. Of course this is not a strictly conclusive experiment, for other conditions may have favoured the earlier myelination of the one than the other.

The observations we have lately been engaged in were made with a view of ascertaining the part stimulus plays in regeneration; it is well known that electricity, massage, and passive movements facilitate the return of function. And while not denying that this may be due in great measure to improved lymph and blood supply, it may also be due to stimulus of the nerve structures undergoing regeneration. One would expect that if the limb of an animal were rendered motionless, stimulus produced by every change in position would be wanting; but such a condition must be brought about without interfering with the nutrition of the limb or the connection of the nerves with their trophogenetic centres. Professor Sherrington and I showed that the fore-limb of a monkey can be deprived of voluntary movement by section of the posterior roots of the sensory neurons of the limb. We showed that this loss of movement was not due in any way to affection of the efferent path, for stimulation of the cortex cerebri produced movements equally well on both sides. The immediate effect of the operation, if a sufficient number of roots had been cut, was a very great loss of reflex tonus, and the animal in the majority of cases was unable to perform any voluntary movements. Dr. Warrington has shown that chromolytic changes occur in the posterior and lateral groups of the anterior horn cells as a result of this section of posterior roots; it may be presumed that the withdrawal of the normal stimulus incidental to reflex muscular tonus may be associated with this change. The observations which Halliburton and I have been making are as follows:—A sensory paralysis of the fore-limb of monkeys was produced by section of the posterior roots, then both ulnar nerves were cut at the elbow and sutured; the nerves were examined after different periods of time had elapsed, first by stimulation of the nerves under an anæsthetic; second, by histological investigations. Various difficulties have arisen owing to anastomosis of the ulnar and median nerves, so that our results are as yet inconclusive, although they strongly support the view that stimulus does play an important part in regeneration and myelination of the motor fibres; for in a few successful observations we found that stimulation with the strongest faradic current of the ulnar nerve below the suture on the side in which the posterior roots had been cut was attended

by movement, whereas on the other side a moderate current gave a contraction.

Likewise histological observations, as far as they go, show that the nerves are in a more advanced state of regeneration on the side in which the roots have not been divided than the other. I may say that section of the roots has no effect upon the nerve above the lesion. It therefore looks as if the passage of stimulus incidental to muscular movements plays an important part in the generation of ingoing currents and myelin formation.

The effects of excessive stimulus.—The passage of currents through neurons is attended by katabolic changes, and if the neurons are in a low state of nutritional equilibrium the processes of disintegration are in excess of those of integration. The nutritional state of the neurons depends upon several circumstances: first, the inherent durability or *vis propria;* and secondly, the supply of nutrition, both as regards quantity and quality of the blood and lymph.

The vulnerable part of the neuron is that most remote from the cell body and its nucleus—the terminal arborisations, where the discharge of energy, and presumably the katabolic processes reach their maximum. Thus it is in the primary degenerations we find a number of factors conspiring together to produce degenerative changes, which commence in the fine collaterals and terminals and proceed back towards the cell of origin.

The reason why stress or excessive stimulus can be an important factor in the production of degeneration when the neurons are subjected to the influence of poisons is probably that the nutritional equilibrium cannot be maintained, disintegration processes attended by the discharge of energy being in excess of integration.

The action of poisons in the blood may be selective, affecting certain systems, groups, or communities of neurons; or taken as stimulants to excite to further action the neurons in a low state of nutrition, they blunt the natural safeguards of pain and weariness, which serve as signals for repose and recuperation; for pain, as Sherrington defines it, is a psychical adjunct of a protective reflex. It is the neuropath, psychopath, and neurasthenic who take to alcohol in order to give them fresh nerve energy, who are liable especially to suffer from the effects of the poison.

In my practice at the hospital and in the asylums I have been

struck with the importance of excessive stimulation in determining degenerative lesions in those parts of the nervous system most subject to the stress. This view of the importance of stress in the production of degeneration was emphasised by Edinger and supported by experiments; he found that poisons such as pyridin injected into animals produced a severe anæmia, but degeneration does not result therefrom. If, however, these animals (rats) are put into a wheel cage and made to do excessive work, degeneration of the posterior columns in some respects resembling tabes occurs; also chromolytic changes in the anterior horn cells were found.

These facts, moreover, show that degeneration occurs in the terminals of the posterior spinal neurons, presumably from the fact that the degeneration is shown by the Marchi reaction in the fine myelinated collaterals and the myelinated fibres of the posterior columns, which are without a neurilemmal sheath.

Under the influence of the poison there is a nutritional deficiency of the whole of the nervous system, but the rats placed in a wheeled cage, and made to go on working continuously although fatigued, are unable to get rid of the fatigue products, and the sensory fibres of the reflex arc are continually stimulated and discharging energy under unfavourable nutritional conditions, the result being that the disintegration processes are in excess of integration, and progressive degeneration ensues.

Edinger claims that this experimentally produced degeneration stands in close relationship both as to cause and localisation to the tabetic degeneration of the posterior columns in man.

Observations which I have made on a very large number of tabes cases support Edinger's statement; the syphilitic poison produces a loss of durability, or, as Sir William Gowers terms it, an "abiotrophy," and therefore a nutritional deficiency which interferes with the balance of repair to waste. The great majority of my patients suffering from tabes had led an active life, or followed an occupation involving stress of the legs. In some the disease commenced in the arms; and this is of interest, because one was a mounted policeman, and the pains were first felt in the arm with which he held the reins; two were packing-case makers, and one was a parcels post sorter. As a rule, Charcot's knee-joints are, according to my experience, much commoner in women, and I attribute this in a great

measure to the kneeling which they do; whereas the most marked case of tabo-arthropathy of both knees in a man which I have seen was in a carpet planner. A great many other instances of tabes I could bring forward did time permit, but I will content myself with enumerating some other nervous diseases illustrating the effect of stress in determining the seat of degeneration. A man who suffered with alcoholic dementia, paralysis, and wasting of the muscles of the upper extremities—the lower being unaffected, which is unusual—was shown to me as a case of progressive muscular atrophy, and I found that he was a Covent Garden porter, employed in carrying heavy boxes on his shoulders all day. Two cases of amyotrophic lateral sclerosis have come under my notice, in one of which the disease began in the right hand and arm; the man was a cooper, and wielded all day long a 4-lb. hammer; the other was a waiter who carried his tray on his left hand, and the disease correspondingly began in the left hand and arm. Experience, therefore, shows that in nervous diseases stress plays an important part in determining the seat of degeneration in a system which is subject to poison or inherited or acquired loss of durability.

In seven cases of conjugal tabo-paralysis which have of late come under my observation the history was usually this,—that the wife developed the disease after the husband, probably because she was infected by him with the syphilitic poison, the mental disease arising as a result of this, and of the worry occasioned by her husband's illness. However, it would be absurd for me to point out to an audience of alienists the fact so self-evident that mental stress is an exciting factor in the production of insanity. But I have often thought how little is done in our asylums in the way of applying stimulus or diminishing it by hydrotherapy, massage, and electricity in carefully selected cases.

(1) There is no direct chemical proof that CO_2 is evolved. Waller infers that it takes place because the effect of long-continued activity or the galvanometric response of nerve is the same as that produced by exposing a nerve to a small dose of that gas.

Discussion

At the Annual Meeting of the Medico-Psychological Association, Liverpool, 1902.

The President.—We owe Dr. Mott a very special debt of gratitude for coming among us to-day and giving us an account of these exceedingly interesting

researches, which it is impossible to value too highly. Our asylums we know are full of patients who have come there as the result of over-stimulation of the nervous system. Anything which will put this inquiry on a scientific basis, and show us the physical causes underlying these conditions, is of the utmost value. The other point which Dr. Mott touched upon rather briefly—the repair of the nervous system—is of almost equal importance. We have many cases which we find lapse into stupor. In those stimulus is very important from the point of view of cure. Many are purely cases of over-stimulation and require rest. We have to be careful not to begin our stimulating process too soon. The whole subject is one of extreme interest and value. I will ask Professor Sherrington to address us.

Professor SHERRINGTON.—I must thank you, sir, for the privilege, being a visitor here, of being allowed to listen to the admirable and valuable address by Dr. Mott. I have often heard him before with great advantage to myself, but I doubt if on any occasion I have listened to him with greater profit. Dr. Mott has touched on so many points, and so many are of practical value, that I am incapable of dealing with any beyond some aspects of the questions which appeal to the laboratory man. As physiologists we are particularly grateful for such work on account of the help it gives in a problem which physiologists consider most urgent—the answer, namely, to the question Dr. Mott so frequently referred to, and which he insisted was proved—the intercommunication which must and does occur between the independent units constituting the vast network of the nervous system. To what he has to say on that subject the physiologist listens with confident and attentive expectation of help. The nature of this intercommunication —the view that whatever the functional mode of conjunction, the nervous system is and must be one—is the answer to the question which Dr. Mott told us. I wish Professor Gotch were here. One would like to hear him defend his view, which Dr. Mott mentioned with great reserve, that the nervous system only liberates the same amount of energy as a stimulus communicates to it. I would like to have it examined, and if found unsound rejected as early as possible, because one of the most helpful of the assumptions we can use in dealing with the problems of the nervous system and of diseases of the nervous system is that which regards the nervous system as more or less a reservoir of energy to be discharged, the discharge depending very much on the condition of the reservoir itself; but it is very far from being a rigid system, which simply conveys in various directions within itself the amount of energy conveyed to it by some peripheral stimulation. What Dr. Mott has told us with regard to the nutritional character of the disturbance which use or stress causes seems to me largely bound up with the periodicity, the proportion between exercise and rest. That results very distinctly from what he said, that a certain amount of exercise is extremely favourable. The beautiful and ingeniously devised experiment which he brought before us shows in a conclusive manner the influence which a certain amount, not an abnormal amount, of functional exercise has on the repair of these units of the system. There is evidence of a similar kind which can be ranged alongside of his, that the closure of one eye for some weeks in a newly born animal, complete closure, retards the development of the myelin sheath of the fibres of the optic nerve on that side. Well, this instance shows in the most striking and undeniable way the influence of nerve stimulus upon nutrition. At the same time we have well-known examples of the harmful effect of too great excitation. If, therefore, there are these two results at the extremes of the range, then there must be between them a position, a zero position, of normal nutrition, a position in which nutrition is most beneficial. I presume that the same question underlies the arrangement of hours of work and rest in the schoolroom, which is at present largely occupying the attention of many experimental observers; in other words, there must be a particular apportionment between length of lesson and playground interval which will secure the largest amount of general nutritional welfare to the nervous system of the child. To return to the view which Dr. Mott commented upon in Professor Gotch's argument, there are very strong points to urge against it. I would like to mention one or two of them. That a nerve cell, or still more a chain of nerve cells, gives out the same amount of energy, or rather less energy, than is conveyed to it in the stimulus of the system is hardly borne out by the somewhat analogous case of the nerve cells of the muscles. Regarding the whole

of the organism as made up of units which have the same fundamental qualities, we have the fact that a nerve cell of the muscles multiplies the energy conveyed to it perhaps half a million times. Let us take a laboratory instance which occurred to me while listening to Dr. Mott. We have a number of dogs in which the spinal cord has been completely transected. After a certain time the spinal reflexes beyond the point of transection have been very brisk. We have one of those æsthesiometers, Frey pattern, which can be pressed on the section and used as a stimulator. Adjusting this so that it just suffices to excite sensation when applied to the tip of the forefinger, the amount of mechanical energy used in the application of the bristle at the end of a penholder is not more than enough when measured on a delicate chemical balance to shift the scale; it represents the tenth of a milligramme or less. In these dogs by that means we have elicited reflex action shaking the whole posterior half of the animal, and conveying movement to the anterior half as well. There we have a case in which the multiplication of energy must be many millionfold. I saw in the laboratory of Professor Gould many years ago a dog which by large lesions in the cerebral hemispheres had been reduced practically to the condition of a reflex animal. It was simple enough as the animal walked along to flash a bright light in one eye. That caused it to swerve to the opposite side. The amount of energy conveyed to the nerve in the vibrations of ether as compared with the amount necessary to deflect the course of a heavy animal is an instance of multiplication manifold.

Although the result is more or less an intricate one, controlled and regulated by the condition of the reservoir in which the explosions of energy occur, it is useful to have before us the relation of stimulus to the exertion of nerve force, and it is more and more useful in view of such doctrines as Dr. Mott has exemplified and illustrated. In the light of these doctrines the whole series of phenomena—the processes of disease and of what is akin to disease, exaggerated fatigue—become much more easily explicable. It has been a privilege as well as a pleasure to listen to what Dr. Mott has had to say.

Dr. WARRINGTON.—I should like to associate myself with the concluding remarks of Professor Sherrington. The paper we have heard this morning is extremely suggestive and at the same time very practical, because observations like these we have just heard tend to prevent the routine observation and routine reflection which is so harmful. It is a gratifying feature of research in neurology that it is assuming a practical aspect. I have no new facts to bring forward, but I may say a few words on what the study of the histology of the nerve cell shows. One goes back to the original observation of Mann and Hodge on fatigue, where they have shown that actual morphological alteration takes place. The protoplasm of the nerve cell has been aptly described as consisting of a working material and of a fundamental basis. We know that, for instance, in the salivary glands marked changes of structure occur during hours of fatigue. One thing which strikes me in studying the histology of the nervous system is that there must be an extremely rapid restoration of equilibrium in all kinds of animals. As far as histology goes I do not think we find evidence of chromatolysis in the normal condition. Whatever changes take place in life must be very rapidly repaired. I regard the appearance of cells showing chromatolytic change as distinctly unusual unless there is some morbid process attached to it. The effect of excess of stimulation has been alluded to by Dr. Mott. To his remarks I have little to add. As he has pointed out, the vulnerability of the nervous system in those diseases in which excess of stimulus plays an important part must depend on inherent or acquired want of stability. That, I think, is important, and it appears obvious in many cases. Dr. Mott has brought forward a number of actual clinical examples where excess of stimulus has been connected with degenerative changes in the neuron. I mention the case of a young man of twenty, an expert pianist, who developed what I took to be the symptoms of chronic anterior horn disease. It was limited to the right hand, the hand which he used a good deal in playing. It struck me as a good example. I advised him to drop excessive pianoforte playing. I have watched him now for three years and he has got no worse.

We have Edinger's well-known experiment in which fatigue *plus* a poison produced degeneration of the posterior columns. Similar changes occur where the

stimulus is deficient. Dr. Mott has mentioned the changes which take place when the afferent impulses are cut off. These and like observations, when the axon is divided and chromatolysis results in the cells of the region, show how excess or deficiency of stimulation is connected with nutritional change. Lugaro maintained that after section of the peripheral axon of the posterior spinal ganglion cell that cell did not as a general rule recover. There the resulting alteration of the stimulus must have been, and is, very much larger than occurs when the axon on the cord side of the root-cell is severed. The anterior horn cell may be regarded as part of the arc receiving impulses in a downward direction and in an upward direction, and again as giving them off; and it will be seen that interference with this periodical stimulus is very readily attended by changes in the nerve cell. As a rule, if the efferent axon is cut, the cell after a time repairs and equilibrium is restored; nutrition also becomes normal. But it is an interesting fact that sometimes nutrition is not restored; the cell dies. For some reason, I do not know why, but we do know, that after section of the efferent axon the disturbance may be so great that the nucleus becomes extruded and the cell perishes. I was much struck by the remark Dr. Mott made in emphasising the *vis propria* of individual cells. That is always to be borne in mind in working at these histological changes, and I think it accounts for some of the difference of observations made in regarding the localisation of nuclei of origin.

Dr. Clouston.—As practical men we are much indebted to Dr. Mott for enabling us to breathe the air of science in so pure a form. The first part of the paper we shall probably not feel ourselves qualified to discuss. One point mentioned by Dr. Warrington is the curious independence of neurons in close proximity to each other. Ford Robertson mentioned to me the other day a curious case of general paralysis which had certain mental and motor features, but the lesions were extremely circumscribed. You had certain small groups of neurons completely destroyed, and immediately, in the same field of the microscope, neurons in the most extraordinary state of perfection; it was the most marked localisation I have ever seen. These are things we do not explain, whatever theory of general paralysis we adopt. A burning question with us is whether we should treat some of our patients by bed or by exercise. Dr. Mott's remarks bear on that subject. "If we could devise a drug by which the patients could be put to sleep, if we could suspend the higher neurons for, say, a week, suspend consciousness, and at the same time allow nutrition to go on," one has always been saying. The absurdity of the position is shown at once by Dr. Mott's observations. You suspend the oncoming stimulus, and the patient, instead of getting up better, might get up very much worse. Then as to the use of massage, many people went massage mad. It was used for every kind of disease, and especially in incipient cases of melancholia. A great many of these incipient melancholiacs were greatly aggravated by the course of massage to which they were subjected. Taking the ordinary case of melancholia, you have to establish a nutritional equilibrium. But when you get a case of excited variability have you not rather to establish a kinetic equilibrium? You have to prevent the waste of outgoing energy both in those cases and in cases of mania, but the kinetic equilibrium may not be the same as nutritional equilibrium. That they must have a close relationship to each other I admit, but what we have to prevent is the burning up, the explosion, the waste of the higher energy of the cortex in a useless way. That is a question we have to face every day. In regard to the manner in which we deal with many of the maniacal patients, there is the process of putting the patient in dark seclusion. You remove many of the stimuli; you employ a degree of restraint which prevents a great explosion of muscular energy. A great many cases are much the worse for this treatment. It is one of the most important of clinical questions how much we should allow muscular energy to be expended. Now we see how physiologically important it is that the patient should take a walk in the sunshine. You have the stimuli from the brain and the outward stimulus from the sunlight. Speaking of stimuli, I think Dr. Mott said too much about stimuli of the mechanical kind and too little about stimuli from proper nutrition. If you stimulate without the proper supply of blood there must be loss of energy. It is absurd to say the central nervous system does not bottle up energy; the fact is unbelievable by any practical man. The central nervous

system does bottle up energy as much as if you put wine into a bottle and drink it yourself; the experiments show this strongly. As to warm baths, they exercise a soothing influence. We have not got, however, into the trick of using them rightly. Some of us have cured patients in twenty-four hours with warm baths, others have killed them. Then, again, there is a clinical fact of the utmost interest, that an insane patient is always worse in the morning. By every principle he ought to be better, but he is not. When he is getting better, and has been subjected to stimuli in the sunshine, the first thing we notice is that he has an hour of sanity nearly always in the evening. He has been maniacal in the morning, but turn on the electric light in the evening, and he becomes sane and conscious. This saneness later on disappears. That is a clinical fact in our daily experience, and it is a fact of the greatest importance. I said to the head nurse in the hospital the other day, referring to a woman who had just begun to have an hour's sanity in the evening, "Are you not clever enough to make that two, three, or four hours instead of one?" "If you and I," she replied, "were clever enough to discover that, we should cure 20 per cent. more."

Dr. HYSLOP.—I would like to ask Dr. Mott whether he considers the work done by Flechsig regarding the development of the brain in childhood, which has been described as a development underlying the mental functions of man generally, as sufficient proof that you have development of mind coincidently with these physical developments. I believe Flechsig's work in this direction has been in part misleading. He has described the development of sensorial functions and motor functions, but we want something deeper. In some idiots and imbeciles we have found that there may be these developments physically without coincident development mentally. That Flechsig did not take into account. Dr. Mott showed us a diagram of sensory nerves appearing to come from the muscular substance. I have not been able to trace the evidence which proves that these are in reality sensory nerves. I am inclined to think from the experiments of Goldscheider and others that we have no such thing as pure muscular sensation. We have sensations of pain, but I believe we get our sensation altogether from the cartilages and the skin. As to other organic sensation, I do not believe we get any sensation whatever except from pain. It may be open to argument from a psychological point of view that we can remember a pleasurable sensation such as the appeasement of hunger, but then that is merely the removal of a sense of pain. The sensations we derive from muscles and from viscera are really those sensations of actual pain which it is assumed have a totally different anatomical basis. The point on which one can agree with Dr. Mott and appreciate to the full is that relating to the nerve-cell. We are coming to accept the unit theory of cells in the brain, by which we assume that each cell is discrete, and that function is by contact and not by structural continuity. If we can establish that theory we shall have taken a great step towards the elucidation of various problems of consciousness; many problems of physiology will become more clear, and we shall have a much more definite basis to work upon as explanations of mental phenomena. One point we have got to remember is, that by cutting off sensory stimulation you may cause the death of the cell. Berkeley of Baltimore, who experimented with alcohol on rabbits and other animals, has described the process of cellular degeneration—first the decay of the myelin sheath, and then degeneration of the nucleus constituting the cytoclasis of the cell. To-day we have to thank Dr. Mott for carrying us still further, and for enabling us to recognise that, so long as a current can pass, the nucleus will remain in full life and regeneration is possible.

Dr. MOTT in reply said: First I must thank the members of the Association for kindly giving me their attention, as I fear that I have taken up more time than was intended, and some parts of my paper which were of a speculative nature had to be omitted. I also wish to take the opportunity of thanking the President for his kind allusions to my remarks, and especially I wish to congratulate the Association on having present one of the most distinguished physiologists in Europe, one who has added so much to our knowledge of neurology and experimental psychology, Prof. Sherrington, whom I wish to thank most warmly for his appreciative remarks upon my paper, also for his suggestive criticisms upon certain points therein, which I put forward with the express purpose of raising discussion as to their validity. At this late hour of the

morning, when other important papers are awaiting delivery, I will not trespass long upon your time and patience.

There are a great many points which I should like to touch upon. One in particular is the very remarkable experiment alluded to by Prof. Sherrington, and which is distinctly in favour of the storage of energy and even the formation of nerve energy, which appears to be quite independent of the amount of incoming stimulus. He wishes that Prof. Gotch were here; at the meeting of the Psychological Society at Oxford we were all wishing Prof. Sherrington was there. He seemed in some doubt as to whether I had accepted Gotch's new views. I admit the possibility of all stimulus coming from without, but disagree entirely with the doctrine that there is no storage. It is a remarkable fact that the nervous system does not undergo wasting, and the metabolism, although extremely complex, is not massive in healthy conditions. May it not be that the neurons have the property of converting the molecular vibrations of incoming stimuli into stored nervous energy, which we regard as "potential," and which can be redistributed as from a reservoir? At some future period I hope to bring forward some facts in support of this. Of course this is a mere theory, and I have only advanced it with a view of promoting discussion and, as Dr. Warrington suggests, of avoiding the routine reflections. I was much interested in what he said with regard to the independent *vis propria* of individual nerve-cells, and particularly struck with this in the observations I made on the effects of poisons and experimental anæmia, which are fully related and illustrated in my Croonian Lectures, 1901. I think this will explain the observations of Ford Robertson referred to by Dr. Clouston.

We are all very glad to hear the practical remarks of Dr. Clouston; there is one point, however, to which I should like to call attention. He relates what is well known, that an insane patient is always worse in the morning. We cannot wonder at this, for besides the fact that a patient who is the subject of hallucinations is more troubled in the evening and at night, his whole attention, which I maintain to be a loss of energy, is concentrated upon these abnormal stimuli. It is well known that one form of hallucination will call up another; thus visual hallucinations will occasion auditory hallucinations, and *vice versâ*; and if thus the natural periodic recuperation—and by this I mean physiological and not artificially produced sleep—is interfered with, there is necessarily a lowering of nervous potential. Again, in the early morning, when the temperature is lowest, the nutritional exchange and the vitality of the organism is at its lowest ebb. At such a time death frequently takes place.

Dr. Clouston also alluded to the influence of light. I had a striking example the other day of the effect of shutting out the light in the production of symptoms of insanity. When testing an insane tabetic I covered up his eyes in order to test the skin sensibility of the chest; he immediately began to hear voices, and he told me that he invariably heard the voices at night. An interesting fact which is very difficult to explain is the abeyance in the symptoms of ataxy and progress of the disease in patients who are afflicted with optic atrophy. Is it because the stimuli which enter the nervous system by the visual sense are cut off, and with them a great part of the excitation which leads to the using up of nerve potential, thereby conserving tissues which have a lowered durability, but are able under these conditions to maintain nutritional equilibrium?

Dr. Hyslop's remarks touch upon many points in anatomy, physiology, and psychology; it is always well to have criticism, for that purpose my paper was written, and I am much obliged to him for taking an opposite view, but I am sorry that time does not permit me to enter the arena with Dr. Hyslop, except to touch upon the following. He denies the existence of the muscular sense, and considers that I have no right to make the diagram which shows fibres proceeding from muscle to the central nervous system. I always thought Prof. Sherrington had, by the most conclusive and beautiful experiments, shown that from one third to half of the fibres entering muscle came from the posterior spinal ganglia and were sensory in function. The kinæsthetic sense is in my opinion a fundamental principle in psychology, and depends upon a complex of sensations in which the alteration in the tension of the muscles is the principal factor by virtue of stimulus of the sensory fibres proceeding from muscle and tendon. I would request Dr. Hyslop to argue this point with Prof. Sherrington.

(Prof. SHERRINGTON.—I think I can do that better at luncheon.)

Dr. Hyslop has taken exception to Flechsig's work. I admit that much of it has been disputed and some of it refuted, but on the main points I touched upon he has undoubtedly shown the correlation between the development of the elemental functions of mind and the formation of the myelin. With regard to the myelination of imbeciles and idiots I cannot see any reason to throw doubt there on Flechsig's work, for in proportion to the grade of amentia there is a failure of development of the later developed and more superficial myelinated fibres of the cortex. With regard to Berkeley's work, I believe it mainly rested upon observations made by the Golgi method; I do not like to dispute the labours of such an eminent man, but I am convinced from experience that this method is not reliable for pathological changes, especially if they be acute.

This reply was curtailed owing to pressure of time, but has by the courtesy of the Editors now been slightly extended.

Some Remarks on the Surgical Treatment of Insanity.

By DAMER HARRISON, F.R.C.S.Edin.(1)

MR. PRESIDENT AND GENTLEMEN,—While recognising the undoubted fact that what may be called ordinary insanity has no demonstrable lesion, the disorder being in the "subtle chemistry of the nerve-cells, and that no surgical procedure can correct aberration in tissue chemistry," I still think there are a small number of cases, not only of traumatic but also of non-traumatic origin, in which surgical treatment may have beneficial results.

There is reason for believing that mental impairment much more frequently follows head injuries than is generally admitted. Within a comparatively recent experience I have met with four such cases following fractures of the base, one following bullet wound of the brain, and four cases of decided insanity following fracture or blows upon the vault. The number of cases of insanity due to head injury appears to be about 2 per cent. of all cases, and it is only a limited proportion of these which are open to relief by operation; for it is essential that some localising indication of a lesion should exist which can readily be reached, to justify surgical interference.

The actual lesions found at operations are very variable: Depressed bone, with or without osteophytes or splinters from the inner table; thickened bone arising from a circumscribed inflammation of the vault; cysts of hæmorrhagic origin, either upon or beneath the dura or cortex; diseased bone; foreign body within the cranium (bullet); adhesions of the cortex

to the dura from circumscribed meningitis of chronic character; adhesion of dura or pericranium to the bone; tumours. The locality of the lesion has sometimes been in the frontal, occipital, temporal, and fronto-parietal regions. In three cases of my own, the lesion was in the frontal, fronto-parietal, and occipital regions.

CASE 1.—F. W—, æt. 50, received a severe blow from the revolving handle of a windlass upon the right frontal region, causing a wound down to the bone, and fissure of the skull. There was weakness in the grasp of the hand. The wound suppurated, and there was a small exfoliation of bone from the outer table. From the time of injury in 1886 to October, 1888, the history was as follows:—First, giddiness upon lying down or standing up, or any sudden movement of his head. These symptoms became worse, and on three or four occasions he lost consciousness for a moment. During these attacks he would frequently fall to the ground. During the second year after the injury he became very restless, had fits of great depression, and noticed that after the attacks of giddiness he was very irritable and bad-tempered. During this time he became troubled with strange delusions, thought people were following him, saw grotesque faces looking at him through the windows at night, and would go out to drive them away. His eyesight since the accident was not so good. During September, 1888, he had two attacks of homicidal impulse, and became very melancholic, with attacks of increased irritability. On October 1st, 1888, Dr. Craigmile sent the case to the Liverpool Northern Hospital. Upon examination I found a slightly depressed cicatrix, one inch in length, in the right frontal area, antero-posterior in direction, and two and a half inches perpendicularly above the external angular process, corresponding to second frontal convolution. I determined upon an exploratory operation over the site of the frontal cicatrix, and proceeded to do this on October 2nd, 1888. A semicircular flap was reflected downwards, and an opening in the skull was made with an inch trephine at both ends of the depression in the bone, cutting away the intervening bridge of bone with a chisel. The bone was found to be nearly an inch in thickness. The dura mater bulged into the opening, but there was no brain pulsation to be observed. Upon opening the dura mater a subdural cyst

was opened, from which escaped about three teaspoonfuls of serum. The brain bulged into the opening, and still showed no pulsation. A fine trocar and cannula was then pushed into the brain, in a direction vertical to the cortex, and about three quarters of an inch deep a cavity was opened, from which about half an ounce of serum was removed. The pulsation of the brain having become normal, the dura mater was closed with a continuous catgut suture. The inner table of the bone removed was chiselled from the outer table and replaced. The bone removed being so enormously thick, I thought it advisable not to replace the whole of the fragments. The wound healed by first intention, without any rise of temperature, except on the night of the operation, when it only reached 99·4°. The patient left the hospital on the sixteenth day after the operation, with eyesight much improved, power restored to the left hand, and entire freedom from all mental symptoms. I have been able to keep this case under observation from year to year since October, 1888, and have seen him quite recently and am glad to say that he remains perfectly well.

CASE 2.—The second case I have to report is that of a young man æt. 26, whom I first saw in November, 1896, in consultation with Dr. Blair, of Wigan, and Dr. Street, of Haydock Lodge Asylum. I was then told the history of a severe blow which he had received on the left frontal region four years previously, which had rendered him unconscious for several days, and kept him in bed for several weeks. From the time of this accident until the beginning of 1897 he had been subject to occasional attacks of severe headache, which became increasingly frequent. These attacks would last for a day, and were accompanied by delirium and talking nonsense, and followed by complete loss of memory for all the events of the days when these attacks occurred. In the spring of this year, 1897, he gradually became insane. Among other symptoms, he became suspicious of all his friends; would occasionally run out into the street, and create a considerable disturbance. On one occasion ran several miles, arriving home in a very exhausted condition, thinking he was being pursued by imaginary enemies. Sometimes he would keep his wife up all night and into the next day, making her sing, while he lay in bed, etc., etc. He at last became so troublesome at home

that the question of removing him to an asylum had to be considered, and Dr. Street was asked to see the case in consultation with Dr. Blair. I saw the case a few days afterwards.

Upon examination the only objective symptoms I could observe were as follows :—There was distinct weakness in the grasp of the right hand. A small scar upon the left frontal region, well in front of the motor area. Slight percussion with one finger upon the scar, but particularly a little to the median line adjoining the scar, gave rise to pain, and evidently a startling sensation in the brain. This appeared to indicate some lesion involving the dura mater, and therefore a cortical lesion, and this was further suggested by the weakness in the grasp of the right hand. The patient had become steadily worse for some time, both mentally and physically, and, when I first saw him, looked very emaciated and ill. I advised an exploratory operation in the left frontal region, which should take the area of tenderness for its centre.

The case was admitted into the Northern Hospital on September 17th, and I operated upon him the next day. A piece of bone was removed in one piece with the chisel, two inches in its antero-posterior, and one and three-quarter inches in its vertical diameter. The posterior margin of the opening was three-quarters of an inch in front of the fissure of Rolando, the upper margin two inches from the median line, the lower margin of the opening two and a quarter inches perpendicularly above the external angular process. The pulsation of the brain could hardly be seen through the dura mater. Upon opening the dura the pulsation was still hardly to be seen. There were no adhesions to be found until the dural elevator was passed backwards beneath the margin of the bony opening, and also below. Adhesions, which were extensive in character, were then separated over the base of the second frontal convolution, and over the base and anterior to the base of the third frontal convolution, the dura sutured, and the flap of scalp replaced; but it was considered wiser not to put back the bone, considering the nature of the lesion. The wound healed by first intention. On the day after the operation he was found to be suffering from slight motor aphasia and paralysis of the right side of his face. All signs of his previous insanity had, however, quite disappeared. On the fourth day he had a slight fit,

without loss of consciousness, limited to the lower jaw. For the next thirteen days he had a large number of Jacksonian attacks, once or twice losing consciousness. During this time there was considerable bulging from a collection of serum beneath the dura, which I made no effort to drain, as I considered this might be left to be reabsorbed, and in the meantime might prevent further adhesions forming between the brain and the dura mater. As this collection of serum became less, the paralysis of the right side of the face and right hand became less, together with a rapid improvement in the aphasia.

For a considerable time after being convalescent, he had complete hemianæsthesia of the right side of the body, with a loss of the muscular sense in the right arm. For instance, with his eyes closed, when 5 lbs. were placed in one hand and one penny in the left, he thought the weights were equal. The anæsthesia first disappeared from the foot, and in the course of two or three hours disappeared from the rest of the right side excepting the arm. This remained anæsthetic when he left the hospital on October 24th. He forgets where he puts his hand last, and has to look for it. There was also some improvement in the muscular sense. The mental condition since the operation has been perfectly normal. The patient is quite above the average intellectually, and it is interesting to talk to him about his previous mental condition. He remembers nothing of his life for the four months preceding the day after the operation, with the exception of one event—the breaking of a bicycle.

The question arises as to the way in which the adhesions gave rise to the mental symptoms. Was it from the dragging action exerted upon the cortex only, or was the action also causing a disturbance of the circulation to certain centres?

An interesting point in this case is the fact that the point of extreme tenderness on the scalp was at some distance from the lesion, and shows the importance of making a large opening in the bone. If this practice had not been followed in this case, the lesion would not have been discovered. This patient remains perfectly well five years and eight months after the operation. He still has loss of the muscular sense, and some anæsthesia in the right arm and hand, but can do good work as a cabinet maker.

My third and last case of operation for traumatic insanity

was one that I saw in consultation with Dr. Wiglesworth, of the Rainhill County Asylum, in November, 1897.

The patient was a male attendant in the Asylum, who, four and a half months previously, while in special attendance upon a dangerously suicidal case, was struck by the patient a very heavy blow on the back of the head, a little to the left of the centre, and at a point corresponding to the second occipital convolution. The resulting scalp wound extended to the bone, but there was no fracture of the skull observable.

The man was kept in bed for from ten days to a fortnight, and, when sufficiently recovered, was sent home for a month's holiday. During the month at home the patient's relations noticed a change of manner, the man becoming strangely quiet, and hardly speaking to any one. He eventually returned to his duties at Rainhill Asylum, where the change in manner was noticed by his fellow-attendants. About two months later he began to suffer from hallucinations with regard to the man who had struck him; he frequently thought that he saw him in the room, and threw things at the apparition. The site of the cicatrix corresponding with the second occipital convolution is interesting in relation to the hallucinations as to vision. Two or three days later, and nearly four months after the injury was inflicted, an acute attack of suicidal mania suddenly came on, and for a week to ten days it required the combined efforts of several attendants to restrain him. I saw the case with Dr. Wiglesworth about the eighteenth day from the beginning of this outbreak. The patient was then quite quiet and rational, and explained to me that, although at that moment he was only suffering from a feeling of depression, he had during the previous night been seized by an almost irresistible impulse to commit suicide by smashing his head against the wall. Dr. Wiglesworth at this time considered it necessary to have the patient watched night and day. It was decided that an exploratory operation should be performed, the scar in the occipital region being taken as the guide. This was done two days later. A semicircular flap was made to reflect downwards in the usual manner, and a piece of bone was removed, one and a half inches by two inches in diameter. The only abnormal condition found was *adhesion between the cicatrix and the bone*, it being questionable as to whether the bone removed was thickened to some slight extent or not. The bone was

not replaced. The wound healed up by first intention, with a normal temperature throughout; the patient recovered mentally from the date of the operation. As Dr. Wiglesworth considered that this man was not fitted to continue his occupation as an asylum attendant, the governing committee granted him some compensation, and he returned to his home. He remained quite well until last heard of, and there is good reason to believe that no relapse has taken place since, from the fact that no relapse has been reported to Rainhill Asylum.

My next case is also of traumatic origin, and one which I have now under observation in the Northern Hospital, and is here to-day for this meeting to see.

The case is that of a boy æt. 13 years, with the following history:—He is the only child of six births born alive. At eighteen months old a squint was observed which was sometimes absent and sometimes present. Nystagmus has always been present. At three years looked at things with his head on one side. At about five years went to school, and learnt to read and write, and reached the third standard, and was considered of fair average intelligence. Between eight and nine years had a bad fall upon his forehead down some steps, due to defective eyesight. Had two bad falls last year, due to the same cause—one in September, the other in November,—and in each case cutting his forehead at the site of the original cicatrix. Up to this time he was quite normal in speech, gait, etc., and his eyesight was still good enough (although defective) to allow of him being educated at an ordinary board school.

You will observe now that he has a peculiar gait in walking, and is quite abnormal in the movements and power of his hands; he speaks with a staccato delivery, suffers from frontal headache, is very sensitive over the site of the frontal cicatrix; his eyesight has become much more defective, with optic atrophy, and his mental condition has markedly changed during the last two or three months. He will continually talk to himself, and when at the school for the blind, to which he was sent by the Liverpool School Board, could be taught nothing; sometimes will sit for considerable periods laughing and clapping his hands; he will, however, answer questions with apparent intelligence. It appears to me that an exploratory operation at the site of the frontal cicatrix is advisable, and I should like to have the opinion of gentlemen present upon the case.

The next case is one which, I hope, will be of special interest to this meeting, as it is a case of non-traumatic origin.

It is that of a gentleman æt. 46, who held an important Government appointment, who was admitted into the Haydock Lodge Asylum under the care of Dr. Street on June 4th, 1896. His sufferings were then of a year's standing, and the special point about the case was that he never himself believed in his delusions, and was always perfectly clear as to their fictitious character. The delusions consisted in the constant hearing of voices, night and day. They were, however, always voices which he recognised as those of people he had known, chiefly near relations and friends. The voices were generally disparaging and threatening.

He became deeply depressed, agitated, and emotional, and would frequently burst into tears.

He did not believe in these hallucinations, except when worn out from want of sleep; he would give way so far as to say that "he was afraid there must be something in them."

Under these depressing influences, he inflicted a severe wound upon his throat with a razor, and was afterwards taken to Haydock Lodge Asylum. The only points in his physical history requiring notice are that there was a scar on the penis, dating from 1883, which was followed by constitutional symptoms, and that he had also acquired the alcoholic habit. Dr. Street and Dr. Davidson, after close observation, considered this case of such an unusual character that it was considered advisable to ask me to see the patient.

From all the subjective symptoms, the view arrived at was that there might be an irritative lesion influencing the auditory centre for speech. The fact that the patient was a right-handed man, and that I detected two tender spots in the region of the auditory centre on the left side, determined the side upon which to operate. A large opening in the bone was made almost semicircular in shape, being three inches in the antero-posterior diameter and two and a half inches in the vertical.

The bone appeared to be unusually brittle, and the dura mater, on exposure over the central portion of the opening, had a slightly abnormal yellowish appearance.

The brain, covered by dura mater, bulged into the opening of the bone, the pulsation being so slight as to hardly be perceptible. The dura was then opened.

The brain surface in the centre of the opening presented a somewhat cloudy appearance, and at a point corresponding to a point on the lower aspect of the superior temporo-sphenoidal convolution there was a small elevation in the cortex, somewhat transparent in appearance, as if due to a thinning of the cortex from deep pressure. This gave way upon palpation, and a small current of serum escaped, which at first spurted vertically into the air. This flow of serum continued for several minutes, the cortex gradually assuming a concave, instead of a convex, bulging surface. At the same time, the pulsations of the brain became quite normal. A few strands of horsehair were used as an intra-dural drain, the dura being closed by a continuous catgut suture. The wound healed by first intention.

For the further notes of this case I am indebted to the late Dr. Cheetham.

The day after operation.—The patient said that unless he pays especial attention, what were voices of yesterday are now simply a jumble of noises, and far more distant than formerly.

Four days after operation.—His opinion about the voices is very vague; he thinks he hears them at times, but says that he has not been so peaceful and comfortable for eighteen months. His general mental aspect has undergone a marked change; instead of being entirely wrapped up in his own misery, silent, and often in tears, he watches what is going on in the room, is inclined to talk, his manner is bright, and he frequently expresses his thanks for all that has been done for him. He chats with his nurses, and is anxious as to their comforts, walks, hours of sleep, etc.

All this shows a complete change in the man as we have known him during the past seven months.

Five days after operation.—Sounds very indistinct and uncertain, and cannot identify them as voices.

Seven days after operation.—Hears no abnormal sounds.

Ten days after operation.—All traces of depression have left him.

Twelve days after operation.—No voices or abnormal sounds; sleeping well without sedatives.

Twenty-four days after the operation.—Discharged from the asylum in quite a normal condition. I saw the case three months later, and there had been no relapse.

This case is of such a unique character that one cannot base any generalisation upon it, but it appears to me that it does establish the fact that here and there a case may be met with of a non-traumatic character which may be treated surgically with success, if the mental specialist is prepared to consider such a possibility.

Was the cause of the symptoms in this case due to a circumscribed molecular disturbance or altered circulation arising from the presence and pressure of the cyst?

I understand that some physicians (such as Sir Wm. Broadbent) are of opinion that epilepsy and some other excitable conditions of the nerve-centres is largely caused by an anæmic condition, and it has occurred to me that such might be the cause in this case.

Two recent cases that I have met with I think may be considered examples of this.

In one case the patient suffered from symmetrical fracture of both femurs high in the upper third, which necessitated the suspension of both lower extremities above his head for several weeks. When they were brought to the general level of his body, he became, for a time, mentally deranged, but soon recovered, and I attributed this disturbance of function to lowered blood-pressure.

A second case was that of a woman who, after severe injury to the skull, acquired a cerebral hernia, and during this time suffered from delusional insanity, but promptly recovered when the hernia was reduced by elastic pressure.

All the cases in which the dura is principally involved would appear to be caused by reflex irritation.

In conclusion, I hope this meeting will forgive me for the very fragmentary way I have dealt with this subject, but I thought it better to keep this paper within the small limits of my own practical experience.

Appendix.

Since the foregoing paper was written the boy who was shown to the meeting has been operated upon.

An opening in the skull was made over the site of the frontal cicatrix, and was eventually extended until it was three inches in diameter. Little or no pulsation could be observed. The

dura, which was dark in colour, was opened, and the cortex was found to be covered by what appeared to be a very thick membrane of a plum-juice colour. This was followed backwards until it apparently became continuous with a thickened yellow membrane. At this point a large cavity was opened, which had for its boundaries the dura and the thickened yellow membrane already described. This was filled with a yellow gelatinous material, the remains of an old blood-clot. The brain had evidently been subjected to long-continued pressure, and the whole of the parieto-occipital region presented a concave surface. The cavity was cleaned out with a spoon and irrigation; egg-shell membrane was placed over the frontal cortex, and the dura was then closed by continuous suture. The wound healed up by first intention and without temperature, and during the next few weeks the boy showed great mental improvement. He became "clean in his habits" for the first time, and his general intellectual condition became that of a normal child of about half his age. He remembered more or less all that he had learnt at school, and what was left of his eyesight had sufficiently improved to enable him to pick out from a number of photographs of distinguished people the one you might ask for. This remarkable improvement has, however, only lasted for a short time, and during the last fortnight he appears to be losing ground and lapsing into the condition which obtained before operation.

(1) Read at the Annual Meeting of the Medico-Psychological Association at Liverpool, July, 1902.

The Possibility of providing Suitable Means of Treatment for Incipient and Transient Mental Diseases in our Great General Hospitals. A Discussion opened by T. S. CLOUSTON, M.D., at the Annual Meeting of the Medico-Psychological Association, Liverpool, July 25th, 1902.

DR. CLOUSTON said: I shall endeavour to keep in mind that my duty is to initiate discussion, and not to attempt to read anything like an exhaustive paper. Since my friend Sir John Sibbald has treated this subject in a full and careful manner

from the historical and other points of view, I shall put it in the form of a series of questions and short answers.

The discussion on this subject should at least cover the following points:

1. Does any adequate provision exist at present for the right treatment of the early stages of such diseases as have mental disorders for their chief symptoms, or for the slighter and more transient insanities, among the class who come to our general hospitals for advice and treatment?

The answer must be "no." Our hospitals for the insane treat the developed cases in the best way known to modern science, but such cases as I have indicated cannot be sent to them in the present state of the law, and should not be sent. Most cases, as we know, require some treatment. Many cases require at least removal from home or change of environment in addition.

2. Is it desirable to supply this want?

The whole history of modern hospitals and the whole trend of philanthropic efforts to cure disease have of late years been in the direction of providing for the poor every means of treatment for diseases of every class. In regard to mental disease, it is in the early and incipient stage that it is most curable. Every case of mental disease has an early and incipient stage. During that stage it is not a case of technical legal insanity. It is a condition where you require to make the patients realise that there is something wrong with them. Dr. Mott has told us to-day the extreme importance from the purely scientific point of view of any form of bad brain habit. It will be admitted that men on the point of insanity add daily to the risk of what I may call the organisation of the morbid process, and every day adds to the difficulty of getting the case off the morbid and on to the normal mode of working. That, as neurologists and physiologists, none of us will deny. The rich can and do have such means of treatment; the poor at present cannot. This does not apply to any other class of disease. Mental disease is the most pitiable of all. To allow such mental symptoms to run to such a degree of disturbance that they can be officially certified as technical insanity seems a cruel neglect, as well as an expensive dereliction of duty on the part of society. For the man so afflicted ceases to be a producer, and becomes incurable.

At present insanity costs the British public about £5,000,000 a year, and increases—largely by accumulation—to the extent of thousands of patients annually, so that now there are 145,000 registered insane persons in the United Kingdom, of whom 133,000 are paid for out of the rates by the industrious portion of the community; and this class of insane persons is increasing at a far greater ratio than the private and richer class.

3. Why should not an extension of the present asylum accommodation fulfil this purpose?

The answer is that it cannot fully do so just because it is asylum accommodation, and therefore has attached to it the unfortunate and cruel prejudices and repulsions which would prevent patients from voluntarily taking advantage of it when they need it most, and when it would do them most good. Many mental cases, too, are certifiable which should not be certified, and still more are not certifiable and yet need definite treatment.

4. What advantages would the present general hospitals have over asylums or any other mode of treatment?

Firstly, any one may go to seek advice at a hospital, or to be treated in one, without losing any of his self-respect, injuring his prospects in life, or going counter to any special prejudice in his mind. Secondly, the treatment of this class of disease—I attach enormous importance to this argument—would educate our poorer population, and, indeed, the whole population into entertaining the belief that mental disease is on all-fours with other classes of disease, and that it in no way implies shame or repulsion. If this education could take place to any degree it would sweeten life to every family in which mental disease has occurred, and that would probably comprise every fourth or fifth family connection in the land. Besides, it would diminish one of the most poignant terrors in the lives of those who have suffered from the disease or fear its occurrence. The absence of this prejudice and fear would of itself greatly aid recovery.

In the Copenhagen General Hospital, where, since 1863, mental patients have been treated, the following result has occurred. Professor Pontoppidon, the Professor of Psychiatry there, says, "The adding of the pavilion as an integral part of a hospital for general somatic diseases has influenced public opinion in modern and scientific directions, and has done away with much of the

mysticism which, in public opinion, too often clings to mental disorder. Patients and relations as well as doctors seldom hesitate to make use of the insane ward of the Commune Hospital in the hope that the patient will soon recover, knowing that he will here be at once placed under rational treatment, which so often greatly improves the prognosis." We cannot set aside these weighty words of a man who has already tried this particular mode of making provision for insanity. A great advance would be made towards removing the reproach of insanity by educating the public as to its true nature.

5. Would not this provision simply be an extension of the recent specialisations in medicine and in surgery which have been provided for in the modern hospital with such admirable results in the past fifty years? It would also prove of great benefit to other branches of medicine and surgery.

6. Would not the cost of such provision be too great?

At present each occupied bed in the general hospitals of the United Kingdom costs from £50 to £100 a year. I have no hesitation in saying—and in this I am fully confirmed by competent alienists, one of whose chief functions is to know and count the cost of such things—that the cost of a psychiatric bed would not exceed by any considerable sum that of a medical bed, and would scarcely come up to the average of a surgical bed.

7. Would it imply extensive structural alterations in the present style of hospital ward?

Our modern experience in the treatment of insanity enables us confidently to answer this question in the negative. A few simple alterations, and the addition of one or two single bedrooms to each ward, with special baths, and a small amount of day-room space, would suffice. A very large number of such hospital-treated cases would be kept in bed most of the time they were in hospital. Dr. Macpherson, Sir John Sibbald, and I went carefully into this question with regard to one of the ordinary medical wards of the Royal Infirmary, Edinburgh, and we satisfied ourselves that few structural alterations in that ward would be needed to make it an efficient mental ward.

8. Would the treatment of such cases not be attended by risk of disturbing other patients in the hospital?

This, if the patients suitable for this mode of treatment were carefully selected, could be avoided. The success of the

scheme would depend on the careful examination of such cases before admission by a physician acquainted with mental diseases, their diagnosis, and their ordinary course, and it would have to be the duty of such physician to exclude all unsuitable cases. Probably, to begin with, and while the ward was somewhat of an experiment, this exclusion would have to be rather on the rigid side.

9. Would the general administration of such ward be so different from the administration of ordinary hospitals that it would complicate and upset the whole internal working of the institution?

To this I think we can answer "no" with some confidence. Modern experience on this point is most valuable. It is well known that some asylums in the north have such public annexes, and call them hospitals. These are run by ordinary nurses. The male patients at some places—Larbert, for instance—are nursed entirely by a female staff. This gives us an experience which becomes very valuable in the discussion of this question. In the light of that experience there would be no such risk of disturbing the general administration. At Morningside we started two such hospitals, with female nurses in each, and these, with open doors, have been run for twenty years. We have never had a serious accident in them, and the Scottish Commissioners in Lunacy have been almost urgent in their recommendations that such hospitals should be attached to every asylum.

10. Would not such wards need special staffs?

Certainly, and they will have no chance of a full success unless staffed by physicians of special training and experience, who will bring to the treatment of the patients all that modern psychiatry can teach them, just as general hospitals need trained and experienced ophthalmologists and gynæcologists. Who would propose that gynæcology should be taken charge of by general surgeons? All we ask is that the same principle should be applied to mental disease. The nurses, too, would require special experience and training; but the system of examination and training put into force by this Association of late years provides us with a ready-made staff for that purpose.

11. Assuming that there would need to be a time limit, say six weeks or two months, to the stay of those patients in such

wards, just as there is in the case of most ordinary medical and surgical patients, would such comparatively short period be sufficient for effective treatment? In a large number of cases this period would be sufficient. In the cases of those who got worse, or in whom the symptoms were prolonged, we have the asylum to fall back upon. We have the means, therefore, of continuous special treatment where needed. I have found that out of the ordinary certified patients 10 per cent. recover, and are discharged within six weeks; 20 per cent. within two months. A much larger number treated in the earlier stage for the milder form of disease would recover; and many could safely leave the hospital to complete their recovery at home. If you have broken the bad brain habit, if you have successfully contended by proper treatment with the worst symptoms, the patients would with safety go home to complete their convalesence.

12. Are there actually in existence so many patients in any community whose mental condition makes this treatment, apart from asylum treatment, urgently needed, and would such patients come to hospitals to be so treated?

Those who have had much experience in mental consultation practice will say "yes" to these two questions, with, no doubt, some reservations, but "yes" in the main. The poor cannot be so different from the better off that they will not take advantage as a free gift of what others are willing to pay for. I have no doubt there will be in many cases some degree of moral pressure on the part of the relations. I know, for instance, that only about 20 per cent. of the patients about whom I have been consulted in private practice were in such a condition that they needed to go to an asylum for treatment; but, of course, such people can afford skilled nursing, and special private accommodation in villas—equivalent, in fact, to what the poor would get in hospitals if such provision as I am advocating was made. The education of the public, to which I have referred, would have the effect of making the patients know the value of taking things in time; for most cases have a preliminary stage in which the patient realises that he is ill.

13. How would such provision affect the knowledge and experience of treating mental diseases possessed by the medical profession? It would be an enormous gain to our profession

and therefore an equal gain to the public. It would supplement and complete the clinical instruction now given to all students in asylums, by enabling them to see, to diagnose, and to treat rightly the early symptoms of the disease—those symptoms which they do not sufficiently see in asylums, which the general practitioner has to treat, and which for the patient's good should be recognised and treated at once. It is probably of more importance to the patient to have early symptoms in mental disease properly treated than is the case in almost any other disease.

14. It is possible to take too sanguine a view of the effect of this provision, but I believe it would sensibly diminish the amount of mental disease in the country; but even if there were an element of doubt on that point, are not the advantages I have endeavoured to point out in themselves so great that it would be worth while to make the experiment in the public interest?

15. Why did the mental wards in the old hospitals fail?

We know that a great many hospitals in the old days provided for the treatment of mental cases. They failed because the worst cases were sent to them, and they had to treat unsuitable cases with the exceedingly limited means at their command, and with unscientific nursing.

16. What would be an ideal provision for treating mental diseases among the poor?

In my judgment we should require four provisions. First, a mental ward in the hospital for incipient, transient, and suitable cases. Second, a reception hospital for certifiable cases of an acute character situated near a large town, with plenty of nurses and plenty of medical attention. Third, an ordinary asylum for cases which run on month after month. Fourth, a boarding-out system for the really quiet and manageable cases, who could be restored in a modified degree to family life.

Sir JOHN SIBBALD.—I shall detain you with very few words, because in the first place I have said already in print, perhaps to tediousness, what I have to state on this subject; and secondly, because I shall speak on the question at Manchester next week to some of the gentlemen I see present. Dr. Clouston has stated exceedingly well many points which are not in my paper. With his views I very cordially agree. There is one point I would like to refer to, however,—Dr. Clouston perhaps put the absence of provision for the treatment of cases with mental symptoms a little more strongly than the facts quite warrant. It is true that such patients are as a rule excluded from general hospitals, but it is also true that in some hospitals they are admitted pretty freely. It is necessary to refer to this because I have heard that put forward as a reason why such wards as Dr.

Clouston recommends should not be established. That is a point which ought to be clearly understood. We say that where a general hospital excludes mental patients these wards are obviously and urgently required; but we contend that they are required even where there is no rule against receiving such patients, because ordinary medical wards are not equipped for the treatment of every kind of mental case, and therefore they cannot receive many of the patients who ought to be provided for. We have also to keep in view that although the physicians to ordinary medical wards are sometimes admirably qualified to undertake the treatment of mental disorder, this is not always the case, while in the wards we propose the physician would necessarily have devoted special attention to psychiatry. The same would be true of the nursing staff. I think it rather too much to expect of the ordinary nursing staff of a general hospital to deal with patients suffering from mental disease. I feel that, treating of this subject myself, I was rather in the position of a suspected person,—that is to say, that I could not perhaps be recognised, as I should like to be, as a representative of asylum doctors, having, as has sometimes been suggested to me, deserted the asylum doctors some years ago. I did not desert them; I certainly did not desert them in spirit; but the fact that Dr. Clouston, an acknowledged representative of asylum physicians, should come forward and advocate the treatment of mental disease in general hospitals should carry weight, because he is able to do it from a position absolutely free from any kind of disqualification. I am grateful to him for the support he has given to a view which both he and I hold strongly.

Dr. RAYNER.—This is a subject in which I have for many years taken interest. So long ago as 1884-5 I had a correspondence in the *Times* in connection with the establishment of such wards in the London hospitals, and the duty of hospitals to treat the sick insane. Some seven or eight years ago I was able to get an out-patients' department for mental diseases started at St. Thomas's Hospital. It was in the hope and expectation that sooner or later this department would lead to the establishment of wards for such patients as might require treatment in the hospital. I am not without hope that this will even yet be done. The out-patients' department has very strongly confirmed me in the conviction that such an arrangement would be of the greatest advantage to the community. I could quote a number of conditions which I am certain would be cured and saved from going to an asylum by a very short period of such treatment under the conditions so admirably sketched out by Dr. Clouston. There are many whom we now treat as out-patients in absolute need of hospital treatment as in-patients. Seeing patients in this way was to me quite a revelation in regard to insanity, as I had previously seen only fully developed insanity in asylums. My experience of seeing patients under out-patient conditions has convinced me that there are a large number of cases in which, in the earlier stages, the removal of the physical cause, or other alleviation, at once arrests the progress of the mental aberration; but if the case has gone on to a certain point, when the brain has come to react on the body and to affect the bodily health, a much longer time is needed for recovery. The patient is then a case for the asylum. You may at this latter stage take away the physical cause which induced the disorder without at once bringing about any marked improvement in the mental condition, and that is why I, as an asylum superintendent, regarded the removal or alleviation of bodily causes of disease as having profoundly less effect on the mental condition than is in accord with my subsequent experience. There is a great cause of mental disorder which we never see tabled in our statistics. A large number of cases in the incipient stages are associated with indigestion troubles. Again and again have I simply attended to that one cause, and saved the patient from, or got patients better of, marked melancholia and delusions. A considerable amount of observation and experience leads to the conviction that general hospital treatment for the incipient insane is most desirable, and that indeed the provision of it is a pressing public duty.

Dr. NEWINGTON.—Every one of us is ready to support Dr. Clouston in the main principle of his contention. Undoubtedly there are a great number of asylum manufactured cases, but whether we can get this mode of hospital treatment universally established or not is another question. In country districts it would be almost impossible, because in some counties, particularly agricultural ones, there is no town with a hospital big enough to allow the experiment to be tried. That, however, does not apply to London or to large urban areas generally. In large places like

Liverpool we might establish a receiving asylum and get the right cases in, but in counties, where the question of a person having to go to some sort of asylum has to be settled by a medical man without much experience of mental disease it would obviously be difficult to pick out the cases which it would pay best to treat in hospital wards. Dr. Clouston, I think, has taken rather too short a time in fixing six weeks as a limit. For the purpose of settling the size of the acute hospital at Hellingly, we went carefully into the figures of the Haywards Heath Asylum, an institution serving the same population as our own. I found that those who got well did so on an average in about five months or thereabouts. There would be a great risk in fixing too short a limit. What would be the moral effect of taking a patient away from the reception hospital and putting him among the incurable? I should think that three months at least would be a fair time to give a doubtful case before one could say that removal is justified.

Dr. BRUSH (who was invited to speak by the President, and was received with applause) gave an interesting account of his visit to the German clinics, and of the efforts that are being made in the United States to deal with incipient and transient mental disorders.

Dr. SAVAGE.—This is, after all, a reversion. Guy's Hospital had after my time two wards for the reception of lunatics. The late Sir William Gull was superintendent. Sir William himself thought it was a mistake that they had been done away with. The wards at Guy's are still open from time to time for the reception of patients of this class, but the patients we see at Guy's had better not be there. Patients suffering from alcoholic or nervous troubles when sent to the strong ward are not being treated in the proper way. I would rather see them in the asylum. This question ought to be considered calmly and coolly. Admittedly there are a number of patients who, in the earlier stages of mental disorder, may be treated in the general hospital or at home. If their homes are not good enough, let them be treated in some hospital attached to the general hospital rather than in the general hospital itself. The advantage to students and to medical science would be very great, but much has to be sacrificed for the good of patients. For many of these patients rest in bed would be very useful, but it should not be rest in the city. I do not think that rest in Smithfield or in the Borough is the best treatment for patients who are emphatically run down and in want of hygienic surroundings. How is the hospital treatment of mental disorders to be carried out? There are three courses: special wards in a general hospital, special hospitals attached to a general hospital, reception hospitals for acute cases. The latter course appeals to me more strongly than wards in a general hospital. One feels that in the reception hospital for acute cases at Morningside these patients are treated in the best possible way. I do not stand in the way of experiment, but in general hospitals such cases would have to be treated with all caution. For instance, if patients break into mania, you must restrain their liberty. Then at once you are beginning to interfere with a very grave principle. If, on the other hand, patients are suicidal, you must take precautions; and precautions turn the hospital ward into an asylum under rather inconvenient conditions. I would therefore watch the experiment with great pleasure; but if asked if I advised it, uncompromisingly I would say no.

Dr. DAVIDSON.—I fully agree with Dr. Clouston that it would be a great advantage to impress upon the public that asylums for the treatment of mental cases are not gaols, but hospitals. I am in favour of the suggestion of a special ward in a general hospital. I do not think that this necessity is limited to the poor. It applies to the middle class who cannot afford a separate house and separate nurses and attendants. Dr. Savage speaks of the proposal as a reversion. I thought the old arrangement in the Royal Infirmary, Liverpool, a very good one. There was a small ward called the "D. T." ward, No. 10. Acute cases were put in there—many of them alcoholic, but others not so. The difficulty at the present day is that the committees of hospitals have no enterprise. They do not want to be bothered with troublesome cases. Personally I would limit the treatment of mental cases in a general hospital to two or three weeks. If they are not going to get well at once, put them into the charge of proper specialists.

Dr. MCDOWALL.—We all seem agreed as to the desirability of having these special wards, but it is evident from the discussion that there is much variety of opinion as to the details. Many years must elapse before what Dr. Clouston has

suggested can be carried out. Meanwhile we ought to do our best to educate the profession and the general public regarding what we consider best both for our patients and for students and medical schools. I have attempted at Newcastle, in connection with the medical school there, what Dr. Rayner has accomplished at St. Thomas's. The managers have opened an out-patients' psychological department. I go every week to Newcastle and see a limited number of people. I have had one or two gratifying cases of melancholia. If we can get men in charge of county asylums to establish psychological departments in adjacent towns and take the trouble to deal with patients in an out-door department, although only a small beginning, it would bring us back to the hospital treatment of disease, and by associating us with the ordinary hospital staff would gradually instil into the professional and public mind the great benefit of having specialists in mental diseases permanently attached to hospitals with special wards for the treatment of these cases.

Dr. MOULD.—For a number of years I have been in the habit of seeing cases among poor people, and of advising them. There is not the slightest doubt that if this could be done in association with the out-patients' department of large hospitals, and suitable cases sent not into hospital, but to places where they could be treated outside asylum life, much good would result. Most of the cases which have come under my notice in this way have been simple melancholia, as a rule suicidal or on the borders of suicidal melancholia. We have a difficulty in recommending a patient who is in that condition to be treated outside an asylum. But we might do it by adopting the German system described by Dr. Brush. Among the richer class we have many cases which place themselves voluntarily under care. One eighth of the patients in our asylum are not certificated at all. You could have little colonies associated with asylums. In an out-patients' department the advice of an able and experienced man at once relieves the pressure of anxiety on patients and their friends. It would be of immense benefit to poor people if they could be sent from an out-patients' department to little colonies in the country. I am convinced you cannot successfully treat these patients in a large general hospital. Anything more dreadful than lying in bed near a high window which you cannot see out of I do not know. Fifty years ago they had these wards in the Manchester Infirmary, but since then the cases were transferred into the country; and the colony has been a flourishing institution ever since. There are between thirty and forty houses. Many of the patients are not certified.

Dr. URQUHART.—It is not easy for us, having not only a professional bias but a specialist bias as well, to detach ourselves from our ordinary asylum functions and ideals. Let us, however, in discussing this question, depart from asylum methods altogether. The proposal is that if a person is in slight degree out of health mentally and physically, he should be immediately skilfully treated and restored without the apparatus of asylums if possible. We had from Dr. Mott to-day a most instructive paper which offers us a scientific basis for our opinions. If you look back over the asylum reports of the last century, you will find their authors continually appealing for early treatment of insanity. They formed their eclectic opinions, which are now reinforced by the acknowledged and recorded effects of fatigue, the effects of toxins, etc. Let us face the fact that people do not want to go to asylums—nobody wants to be certified, nobody wants to be a voluntary patient in an asylum. The proposal is not one to interfere with the appropriate uses of asylums, but to deal with patients whom, granted adequate medical treatment, we never wish to see in asylums. If one cannot make up his mind after six weeks' observation of a patient whether he ought to go into an asylum or not, the specialty has sunk to a low ebb of usefulness. A few days should generally determine the question. The physician who cannot predict with some degree of certainty is of little avail in practice. If these wards are provided in immediate connection with general hospitals, the specialist physician in charge should have every help from the dentist, the ophthalmic surgeon—from everybody working for the amelioration of disease. We want the best that the hospitals can give us, and we want it promptly.

Dr. HYSLOP.—In recent times this subject has been approached in a very different manner. A special committee was some years ago, as the Association may remember, appointed by the London County Council to consider the treatment of acute cases. Of the members of that committee not more than one or two knew

anything about mental diseases, and of those who gave evidence some knew something about mental disease and had visited asylums, others knew little or nothing. As the result of that inquiry a report was printed which, as an example of fatuity, was perfect. On the strength of that report I believe £100,000 was voted by the County Council to build a hospital for the treatment of insanity. Soon afterwards, however, people began to dissect the matter, and they soon recognised that the report was worthless. In the report the *argumentum ad hominem* was resorted to—they attacked the asylum physicians. They first assumed that mental disease was based on physical conditions simply and solely, and that every case had some physical disorder requiring hospital treatment. Of course the venture proved a fiasco. It is to be hoped, however, that, approached as the subject has been to-day, we shall arrive at some definite conclusion backed up by soundness of opinion. When I saw that this subject was to be dealt with I took the liberty of issuing a circular to the hospitals in London and the larger hospitals in the provinces. The circular was as follows:—"A discussion is to be opened by Dr. Clouston on July 25th at the Annual Meeting in Liverpool of the Medico-Psychological Association upon the treatment of transient and incipient insanity in the wards of general hospitals. The question is a burning one in Scotland, and many of our leading authorities are taking part in the discussion. May I venture to ask you to answer the following questions?—(1) Have you an out-patient department for mental diseases at your hospital? (2) Would your hospital authorities be disposed to equip a department for the clinical investigation, care, and treatment of cases of insanity in their early stages and not certifiable as insane? (3) How are your cases of mental disease disposed of at present? (4) Have you on your staff an expert in lunacy to refer to in cases of insanity?" All who have answered appear to me to solicit further information. In two places they say they have the subject under consideration, and if I can furnish them with data, more especially in regard to the discussion, they will consider it at their autumn meetings. If any good is to be done in this matter, it will not be done by condemning the knowledge of general physicians—we seek their help as they ought to seek ours. I think each general hospital in connection with a medical school ought to have an efficient alienist attached to the staff, and each school ought to afford sufficient opportunities for instruction in mental diseases. At Bethlem, which is a hospital for acute cases, we have nearly the ideal condition which Dr. Clouston has indicated. We have not only our own staff, but also the advantages of being able to consult outside physicians. We also have our own dentists, and so on. As to the patients who come to Bethlem, our experience is not quite the same as in the north. Patients are often anxious to go there as voluntary boarders, and we find the only patients we require to send away to general hospitals are those who fear the stigma of a hospital for the insane. These usually turn out to be cases of simple hypochondriasis or simple insomnia. I believe that 80 to 90 per cent. of our cases are cases which have become insane from want of proper treatment in the earlier stages of insomnia. To some of these cases I think general hospitals might be more lenient and open their doors. As a rule they are loth to devote a bed to a patient who simply fails to sleep at nights. They feel that in doing so they would be misapplying their funds, and, as you know, the struggle to get funds is very keen. I believe, however, that if we join hands with the physicians and surgeons in an honest and friendly way, we can conduct the campaign—for it is going to be a campaign—with more success than hitherto; and even though we do not obtain hospitals on the lines laid down by Dr. Clouston, we shall nevertheless have done good and have made an attempt to benefit humanity.

Dr. BRUCE.—The treatment of mental diseases in general hospitals is advisable for three reasons. *Firstly*, the present asylum system is not preventive. The insanity in the country is not decreasing. The system is good as far as it goes, but we want something better. *Secondly*, we want opportunity to observe our patients. *Thirdly*, and probably most important, we must educate the medical profession as to what insanity is before we can educate the public. The more you come into contact with the general physician the more you are convinced that his knowledge of insanity is absolutely *nil*. The teaching of insanity is bad. The men are good enough, the lectures are good enough, the system is altogether wrong. A student listens to most excellent lectures, he is taken to see clinical cases. That is not enough. He ought to see the case from day to day whenever

he likes, just as you see your cases at a general hospital. Until that is done I do not believe you will get the ordinary general practitioner to know what insanity really is. To Dr. Clouston's ideal hospital I would add an out-patients' department, and urge that it is the most important of all, because if we get out-patients' departments, it will not be long before we get wards; but do not lay down any limit of time, leave it altogether to the discretion of the physician. If you wish to make observations, let the patient remain on for two years if necessary.

Dr. GEORGE ROBERTSON.—In this Association there are differences of opinion as to how practical difficulties may best be overcome. Very likely one method will not be found to suit all cases. Dr. Savage has suggested the possibility of a separate receiving hospital, but I think he is slightly mistaken as to the class of cases to which Dr. Clouston desires to apply this special form of treatment. I do not gather that Dr. Clouston wishes to prevent cases going to asylums which would be better for asylum treatment. What he urges is that for cases which can be cured without being sent to asylums there should be a means of treatment outside asylums—that is treatment in the wards of general hospitals. The cases described by Dr. Savage are not cases which ought to be treated in general hospitals. If you had a special hospital for asylum cases, the mental wards in the general hospital would not be likely to be regarded as part of an asylum, and patients would not have the same hesitation in going into them. The treatment of mental cases in general hospitals is, in the first place, very different from the plan followed in asylums. The patients are much more commonly treated in bed, and, in my opinion, rightly so. The next point of difference is that in asylums it has been the custom to have numerous single rooms for special cases. I would say the reason is defective supervision at night. If the night staff was increased to one third the number of the day staff, there would be no necessity for single-room accommodation, so that the treatment in asylums might approximate more closely to the treatment in general hospitals. Only the other day I received a visit from a Commissioner in Lunacy for Scotland who wished to know whether the asylum was free from noise through having all the acute cases in dormitories instead of in single rooms, and he reports that only one patient was talking, and that no patient was making a noise. Thirdly, in general hospitals patients, male and female, are managed by female nurses. That plan is being adopted in certain asylums. There is really no difficulty in managing the vast majority of cases by that means. More than six years ago I appointed a resident matron in the receiving ward of the asylum, and put it entirely in charge of women. All cases passed through that ward, and only a very small percentage were unmanageable. Now, if developed cases can be managed by female nurses, incipient cases can be managed still more easily.

Dr. YELLOWLEES.—I do not believe that a hospital ward is the best place for cases of incipient insanity, or that these are proper cases for a hospital ward. Such cases had far better be sent into the country. When consulted as to private patients we advise that course frequently, and with success. A large number of persons enter asylums as voluntary patients; but this scheme almost seems to suggest that an asylum is a place by all means to be avoided. Have we not been spending our lives in showing that asylums are merely hospitals for the insane? The proper place for truly incipient cases is a hospital for nervous diseases where people could go of their own accord. There would be about such hospitals none of the obloquy which attaches to a "madhouse;" we should have the help of their physicians, and opportunities of study for ourselves and our students. In Glasgow we have that very thing in operation for pauper patients. The parish of Glasgow has a population of 540,000. They have two asylums in the country, and in the city a Reception hospital, which is an ideal arrangement. There the new and incipient cases, unless they are obviously severe, are received and treated for a short period, and the expense of transferring them to an asylum is often saved, for many cases recover in two or three weeks. I am earnestly in favour of that part of Dr. Clouston's proposal, and if county councils knew what was good for their patients and for their rates they would establish such places. I believe that we as an association could do much to promote their establishment.

Dr. URQUHART.—May I ask Dr. Yellowlees one question? Has he not always done his best to keep patients out of asylums?

Dr. YELLOWLEES.—Most certainly, if it was good for them to be kept out.

Dr. NATHAN RAW said that he entirely agreed with what Dr. Yellowlees had said. Referring to this question as it affected Liverpool, he said that he would like to see established a reception house for mental diseases of all forms where patients might be treated and kept under observation for a limited period. He considered that the necessity for such an institution was abundantly proved by the fact that during the last five years in the Mill Road Infirmary in the cases of no less than 1006 patients who had been certified as insane the mental symptoms had quite disappeared in periods under seventeen days.

The PRESIDENT.—I am not in favour of treating cases of insanity in a general hospital, except those acute cases which would get well in four weeks. I would shorten Dr. Clouston's period of six weeks rather than extend it. If the case is not to recover rapidly, it ought to be taken out of town. In that I agree with Dr. Yellowlees. You get far more curative value in the country than in town hospitals. My own idea is the establishment of clinics like those in Germany, only I would have them outside the town not only for mental cases, but for all forms of nervous disease. I would make them places which it would be no stigma to enter, and the superintendent a professor in the university, who should have sufficient assistants to deal with the cases which came in. I think we could do much more good on those lines than by establishing mental departments in our general hospitals. Such clinical hospitals ought not to be far out of town, a few miles at most.

Dr. CLOUSTON.—I desire, sir, merely to add that my object in bringing this question forward has been amply fulfilled by the thorough, kindly, and most vigorous discussion that has taken place. Whatever the issue, I am certain this discussion will do good. I hope that when we meet next year the experiment will be actually at work in the wards of the Royal Infirmary at Edinburgh.

Medico-Psychological Statistics: the Desirability of Definition and Correlation with a View to Collective Study.

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INTRODUCTORY.

IN many, the very word "statistics" rouses a feeling of distinct repugnance or distrust. Repugnance, because not a few people dislike this method of expressing information, which indeed is not to be wondered at, bearing in mind that the study of statistics is now a science in itself, and requires considerable training to appreciate. Distrust, because it must be confessed that deplorably misleading statistics have been frequently and unblushingly set forth; this being either the result of ignorance of certain statistical laws and fallacies, or owing to a proneness possessed by some to be carried away by an apparently happy "working hypothesis," and to then endeavour to make statistics support their theory.

The familiar sentence that "statistics can be made to prove anything" is no doubt an expression of this unfortunate distrust; but no greater libel could be uttered against any science. As a matter of fact, the exact converse is the case. Statistics, framed to give complete and not partial information, whose every head-line is adequately defined, and in whose arrangement the possibility of fallacy has been constantly borne in mind, can only yield *one* thing, and that is TRUTH.

PRELIMINARY CONSIDERATIONS.

A feeling that more might be attempted.—Leaving generalisations, and turning at once to the subject-matter of this paper, it would appear desirable to say a few words with regard to a growing feeling of dissatisfaction as to the present form of the tables of our Association; a dissatisfaction which is probably shared by most here present to-day, which is surely a healthy one, and one that reflects no discredit on the tables themselves or on their original framers. Opportunity, too, is here taken to earnestly disclaim, in the following suggestions and remarks, any intended destructive criticism of the previous efforts of others. Were it necessary to say anything in defence of the twelve tables now in use, a remembrance of the fact that they have not only held their own for well-nigh forty years, but have also received practically universal adoption in every British asylum, would be a weighty enough testimonial on behalf of them and the efforts of those who originated them. Indeed, were the latter here to-day, it is certain that they would be the first to welcome and support any changes or extensions which had progress and the furtherance of truth as their goal. Moreover a reference to vols. xi and xiii of the *Journal of Mental Science* will demonstrate that the system of tables now in use was never intended to be final; indeed, the five tables which follow No. VI were framed at a later date than the first six, at subsequent meetings of the same committee, and were launched largely owing to the favour which their predecessors had found.

The very circumstance that the tables have existed undisturbed for over thirty years—during which time progress in many directions has been made, certain facts have come to be

looked at in new lights, and fresh questions have been constantly demanding elucidation—is almost of itself a mandate that we should at least meet and discuss whether our present means of tabulation are capable of bearing their increased burden. If further plea for the pertinence of this paper be needed, the Editorial in the January number of the current volume of the *Journal of Mental Science* may be cited.

The information at present supplied by the Association Tables.—No doubt we all possess a fairly clear mental picture of the tables as at present annually compiled, but as the points of information they supply number over fifty, a tabulated statement of them will probably facilitate reference.

Points of Information from Tables in their Present Form.

The Movement of the Institution's Population.

A. *During the current year.*

Table I.—

1. Differentiating between "first admissions" and "not first admissions."
2. Total cases under care during the year.
3. Cases discharged—(*a*) recovered; (*b*) relieved; (*c*) not improved.
4. Deaths.
5. In asylum on January 1st and remaining in on December 31st, current year.
6. Average number resident during the year.

B. *From opening of asylum to end of current year.*

Table II.—

7. Total admissions since the opening—differentiating between "persons" admitted and "readmissions."
8. Total cases discharged since the opening—(*a*) recovered; (*b*) relieved; (*c*) not improved.
9. Total deaths since opening.
10. Remaining in on December 31st, current year.

Table III.—

11. Admissions (not differentiated) for each year since the opening, with total.

12. Discharges for each year since the opening, with totals, differentiating between recovered, relieved, and not improved.
13. Deaths for each year since the opening, with totals.
14. Remaining in on December 31st each year since opening.
15. Average number resident during each year, and for whole period since opening.
16. Percentage of recoveries on the admissions for each year for the whole period since opening.
17. Percentage of deaths on the average number resident each year, and for whole period resident since opening.

c. *The current year's history of each year's admissions since the opening of the asylum.*

Table IV.—

18. The admissions during each year, differentiating between "new admissions" and "readmissions."
19. Of each year's admissions the number discharged recovered during current year.
20. Of each year's admissions the number discharged relieved during current year.
21. Of each year's admissions the number discharged not improved during current year.
22. Of each year's admissions the number died during current year.
23. Total discharged recovered, of each year's admissions, on December 31st, current year.
24. Total discharged relieved, of each year's admissions, on December 31st, current year.
25. Total discharged not improved, of each year's admissions, on December 31st, current year.
26. Total died, of each year's admissions, on December 31st, current year.
27. Total remaining of each year's admissions on December 31st, current year.

The Character of the Admissions, Discharges, and Deaths during Current Year, and of Patients remaining in on December 31st.

Table V.—The causes of death for the current year.

28. Causes of death—one cause only ascribed to each case.
29. Ages at death in quinquennial periods.
30. Total number of cases, males and females, in which P.M. examinations were held.

TABLE VI.—

31. The length of residence of those discharged recovered, and of those dying during the current year. Arranged in periods increasing from "under one month" to quinquennial ones.

TABLE VII.—The duration of the mental disorder on admission, first attack cases or otherwise being differentiated.

32. Within three months on admission, and a first attack.	Each in the	1. Admissions.
33. Above three, and within twelve months, and a first attack.		2. Discharged recovered.
34. Less than twelve months, and not a first attack.		3. Discharged relieved or otherwise.
35. Over twelve months, and attack not differentiated.		4. Deaths.
36. Congenital.		

TABLE VIII.—The ages in quinquennial periods of those during current year.

37. Admitted.
38. Discharged recovered.
39. Discharged relieved or otherwise.
40. Died.
41. Remaining in on December 31st.
42. Mean age of—(*a*) admissions; (*b*) recoveries; (*c*) other discharges; (*d*) deaths; (*e*) those remaining in on December 31st.

TABLE IX.—The civil state of the—

43. Admissions during current year.
44. Discharges recovered during current year.
45. Discharges relieved or otherwise during current year.
46. Deaths during current year.
47. Of those remaining in on December 31st.

TABLE X.—

48. The probable causes of insanity in the admissions during the current year.

TABLE XI.—The form of mental disorder—

49. On admission in the admissions.
50. On admission in the recoveries.
51. On admission in the deaths.

52. On December 31st, current year, of those remaining in on that date.

TABLE XII.—

53. The occupations of those admitted during the current year.

The advantage of deleting repetitions.—An examination of the above summary will readily show that several of the fifty odd items occur in more than one table.(1)

It will probably be a profitable subject for consideration, in any contemplated revision of our tables, if some of these repetitions of figures could not with advantage be eliminated. Space might be found for the inclusion of others which experience has shown are of value.

The necessity for adequate definition.—It would be necessary also to carefully consider whether the headings of the above items as they appear in the tables are at all ambiguous; whether more than one interpretation can be placed upon the information expressed by each; in other words, is each properly defined? Failing which, any attempt at collective study of tables from several or every asylum is obviously rendered absolutely futile. That dual interpretation is in several instances unfortunately possible must, it is feared, be confessed. This is clearly demonstrated by consulting the various asylum Annual Reports. From some two dozen of these that happen to be at hand the following table has been compiled. In it are set forth several additional points of statistical information given at certain asylums, together with some important variations in the form of some of the tables.

ADDITIONAL POINTS OF INFORMATION GIVEN IN THE ANNUAL REPORTS OF CERTAIN ASYLUMS.

1. Patients admitted in the current year who had previously been in any asylum.
2. Number of admissions excluding double entries (*e.g.*, criminal to pauper list, lapsed orders, etc.).
3. Number of informal admissions, expiration of order, etc.
4. Admissions differentiated in Table I. into Private, County, and Out-county.
5. Persons, distinct from cases, admitted during the year.
6. Persons, distinct from cases, recovered during the year.

7. Persons, distinct from cases, under care during the year.
8. Transfers from this asylum during the year.
9. Transfers to this asylum during the year.
10. Percentage deaths on total number under treatment during the year.
11. Percentage recoveries on total number under treatment during the year.
12. Percentage recoveries on average number resident during the year.
13. Percentage recoveries on admissions, deducting transfers during the year.
14. History of recovered *persons*—
    a. Admitted since opening of asylum.
    b. Percentage of whom discharged recovered.
    c. Percentage of latter readmitted relapsed.
    d. Leaving recovered not relapsed.
    e. Relapses discharged recovered.
    f. Net recovered *persons*.
    g. Latter expressed as percentage on total admissions since opening.
15. The same as "14," excluding transfers from other asylums.
16. Percentage of persons relapsing during twelve months from recovery to total recoveries since opening or for a period of years.
17. Table of previous attacks:
    a. The number of admissions who have had one, two, three, four, or more attacks.
    b. Number of times these cases had recovered—(1) in this asylum; (2) in any asylum.
18. Length of time after discharge at time of readmission.
19. Age on "first attack" of the admissions, in decennial periods, commencing with congenital.
20. Age on "first attack" of the admissions—"new cases" and "re-admissions" differentiated.
21. Ratio of the admissions per 1000 of the general population, according to parishes.
22. Education of the admissions—good; fair; can read and write; can read only, etc.
23. Religious persuasion.
24. Prognosis on admission.
25. Curable cases on the books on December 31st.
26. Causes of death partially correlated, *e. g.*, "Epilepsy and Phthisis," etc.
27. Length of residence of those remaining in on December 31st.

28. Periods of length of residence diverse from those in Table VI.
29. State of bodily health of the admissions—these sometimes primarily divided into epileptics, general paralytics, and other cases.
30. State of bodily health of the admissions—dividing them primarily into those "in indifferent health" and "in bad health and exhausted," and detailing a list of bodily abnormalities found.
31. Causes of insanity in the recoveries and deaths, as well as admissions.
32. Causes of insanity in the admissions more or less correlated in certain groups.
33. Causes of insanity in the admissions, correlated with "heredity" and "prior attacks."
34. Heredity table—differentiating degree of relationship in detail.
35. Form of mental disorder:
    - *a.* All ætiological varieties omitted.
    - *b.* The word "recent" substituted for "acute," and defined as being within twelve months.
    - *c.* The word "subacute" introduced.
    - *d.* A certain degree of correlation between epilepsy and the symptomatological varieties.
    - *e.* General paralysis and epilepsy omitted from the list of symptomatological terms and correlated in side columns.
36. Table of suicidal propensity:
    - *a.* Attempted.
    - *b.* Meditated.
    - *c.* Forms of insanity in both "*a*" and "*b*."
    - *d.* Means adopted in both "*a*" and "*b*."
37. Record of epileptic fits:
    - *a.* Number of fits each month—males, females, total.
    - *b.* Number of epileptic patients under observation each month.
    - *c.* Proportion of fits to each patient.
    - *d.* Daily mean number of fits.
    - *e.* Greatest number on any day.
    - *f.* Least number on any day.
38. Monthly incidence of admissions, discharges, and deaths.

To cite one or two examples from this list, the first item, "patients admitted who had previously been in *any* asylum," shows that, as regards Table I, there has been a doubt in the minds of some whether "not first admissions" refers to the particular asylum or to any asylum. And in like manner

item 9, "patients transferred from other asylums," is evidently an addition found necessary because the figures representing the year's admissions are not defined as including transfers or not. It would be tedious, and it is needless at the moment, to multiply these examples further. It will suffice to say here that even if no other reforms were agreed upon, it would materially enhance the value of our tables if the scope of the word "admissions," occurring as it does in ten out of twelve, were clearly defined, particularly as to whether or not transfers are included. The number of cases transferred from asylum to asylum at the time the tables were framed was probably not nearly so great as is now the case. From the last annual return of the Lunacy Commission it will be seen that, of the total admissions—using the word in its widest sense—into county and borough asylums of England and Wales, no less than 11 per cent. were transfers. The inclusion of these into the tables dealing with the age on admission, civil state, cause of mental disorder, etc., practically nullifies these for scientific purposes. For instance, their inclusion into the cause table falsely raises the percentage of those causes that are least often followed by recovery, and lowers the percentage of those which are most favourable as regards recovery. It is here suggested that the word "admissions," unqualified by any limitation, be taken as including every case, transferred or otherwise, regularly or irregularly, admitted, and that the admissions be subdivided according to the subjoined table.

ADMISSIONS.

I.—A. *Recent cases*—that is, have not been admitted into any other institution or to single care, on present reception order.

i. *First admissions*—that is, have not been previously certified as insane.

ii. *Not first admissions*—that is, have been previously certified as insane, and have been discharged, recovered, to care of friends or otherwise relieved.

a. Previously in this asylum.

b. Previously in this or any asylum.

B. *Transferred* from other asylums, registered hospitals, licensed houses, or single care.

C. *Due to expiration of Order*, 53 V., c. 5, s. 38.

D. *Informal admissions.* — Transfers from criminal and private class to pauper register, second reception orders necessary through irregularity in first one, etc.

II.—A. *Private cases.*

B. *County cases.*

C. *Out-county cases.*

It would be a point for deliberation as to how many and which of these sub-classes of admissions should be included in any particular table. Some suggestions as to this will be thrown out later. It cannot, however, be too strongly urged, in order to avoid fatal confusion, that, whether or not the recent cases are subdivided into "first" and "not first" admissions, they at least be clearly separated from transfers.

The desirability of correlation.—Before passing to a consideration in detail of each of the twelve tables, there is one other general matter that should be touched upon—one which, if approached on broad lines and with uniformity, may probably yield results of the utmost value. It is the desirability of endeavouring to correlate our channels of information. An example will more quickly render apparent what is meant by this than any extended exposition. Thus to see from Table X that of the female cases, an insane heredity was present in 27 per cent., childbirth was the factor in 6·6 per cent., and 13 per cent. occurred during adolescence, is no doubt a statement of three very important facts in the ætiology of the admissions; but to be able to correlate these three factors, and to further state that there was an insane heredity in 50 per cent. of the childbirth cases, and 34 per cent. in the adolescent cases, and that 38 per cent. of the childbirth cases occurred during the period of adolescence, and so on, is to make a statement that is tenfold more valuable. It is also a mode of dealing with ætiological factors, going far to rob them of a fallacious standard of value, which, from figures one often sees quoted in lay reports and newspapers, is only too often apparently ascribed to them. To give one more example of this aim at correlation, Table XI, setting forth the form of mental disorder (on admission) in the admissions, discharges, and deaths, is no doubt very valuable, as is also the age in quinquennial periods (from Table VIII) of the admissions,

discharges, and deaths; but again their value would be increased tenfold if these two channels could be combined, enabling us, for instance, to make such a statement as that, of the cases of acute mania which ultimately died, so many were aged, say, forty and under forty-five. And if in addition to this we could further indicate in the table that of these cases in this quinquennial period so many were aged twenty and twenty-five on first attack, etc., the value of our statement would surely go up a hundredfold.

The Tables considered seriatim.

The ground has now to be cleared sufficiently to permit of each table being taken up in turn, and a few observations made as to the utility of each, with some suggestions whereby perhaps that may be increased.

Tables I, II, and III.—It will be convenient to refer to these together. They deal chiefly with the annual movement of the institution's population. That for the current year is dealt with in Table I; Table II gives a summary of the annual discharges and deaths since the opening of the asylum. In both the admissions are subdivided, but although corresponding figures are implied, different subdividing words are used, which is unfortunate. Also the terms used—"first admissions," "not first admissions," and "readmissions"—are not defined as to whether they refer to that particular asylum or not. Table III gives much the same points of information, but for each year since the asylum's opening. Each column in it is totalised, so that the totals appearing in Table II are repeated in Table III, with the exception that in the latter the admissions are not subdivided. In neither table is any account taken of transfers; their number cannot be found, nor is it stated whether the figures expressing the admissions include them or not (as a matter of fact they always are included). Table III also gives the percentage for each year of the recoveries on the admissions and of the deaths on the average number resident. With regard to the former percentage, again it is not stated whether transfers are included—obviously a most important fact to define, and one which nearly every asylum does define, or else gives the percentage with and without their inclusion. It is difficult to see the possible value of such a percentage if transfers are

included, therefore it would be well to always exclude them and to say so.

Methods of calculating the recovery rate.—Here is probably the proper place in this paper to say something further upon this method of expressing the recovery rate. The question is a most important one, for what more common question do we have addressed to us by lay persons than "how many of your cases recover?" Many hard things have from time to time been said about this mode of calculating recoveries. Some of them are probably justified, but the Commissioners in Lunacy and most superintendents appear to retain their faith in it, and there does appear to be little doubt but that, given a fairly stable rate of admissions (recent cases), the proportion of recoveries calculated in the above way often remains very constant. There are several circumstances, however, which, if they occur, can easily falsify the resulting percentage. As stated in the above paragraph, transfers are almost invariably excluded from the admissions, but it appears to be usually the practice to include in the total recoveries any which take place among transfers; so that obviously, if the transfers happen to be comparatively recent cases, the recovery rate for purposes of comparison with other institutions will be fictitiously high. The exclusion of transferred cases from both the admissions and recoveries would be the remedy for this source of fallacy. The recovery rate for asylums for districts which happen to have a great centripetal tendency—for instance, London—is apt to be lower than it otherwise would be, owing to the number of cases which are adjudicated and removed before they have time to recover. The difficulty would be met by excluding from the admissions all recent cases adjudicated and removed to their proper parishes within, say, nine months of their certification, and adding to the admissions (recent cases) all transfers whose reception order was less than nine months old at the time of their transfer. Some asylums also give a recovery rate based on the total number of cases under treatment or on the average number resident, sometimes on both of these bases. To clearly grasp the precise value and scientific accuracy of either of these three modes of stating the recovery rate is by no means easy. The whole root of the matter, however, appears to lie in an ability to gauge the character of the population of any individual asylum from a recoverability point of view; the popu-

lation for present purposes being those remaining in on December 31st of last year, and those admitted during the current year, in other words, the total number under care during the year. If the length of residence of those discharged recovered, as given in Table VI, be examined for a large number of asylums (county, borough, and private), and averages of the results be taken, it will be found that roughly, but to a fairly accurate degree, of every 100 recoveries, 5 take place under one month's residence, 20 after one month and under three months, 30 after three and under six months, another 20 after six and under nine months, 10 after nine and within twelve months, and another 10 after one year and under two years; the remaining 5 per cent. are scattered irregularly over longer periods. With these data, if the length of residence or still better the duration of the reception order of those remaining in on December 31st, and the monthly incidence of admissions during the current year be known, a mathematical recoverability of the total cases under treatment during the year can be calculated. And it is here suggested that this would be a safe and scientifically sound basis upon which to state a percentage of recovery.

Tables I, II, and III continued.—To revert again to the contents of these three tables, it is manifest that one, arranged on the lines of Table III, could without difficulty be framed to express every point at present dealt with by the three. The additional points, which so many asylums give as foot-notes or otherwise, and which are of decided value, could easily be included, and the opportunity would doubtless be taken to secure complete definition of the points of information desired. Considerable clerical labour and paper space would also be saved. A suggested table drawn up with the above object is here annexed.

Tables IV and VI.—These will also be conveniently considered together. Table IV is elaborate, and involves no little clerical labour. As expressive of the history of the annual admissions of any individual asylum it is admirable; and when that asylum happens to be free from old cases transferred into it from other institutions it is also of real scientific value. The same remarks apply to Table VI, except that it is a simple one; practically the whole of its information is contained in Table IV (but in a more accessible form), except that the current year's length of residence is in Table VI subdivided into five

periods. But how rarely is it the case for an asylum to be free from transfers! Their effect is that these two tables become of only local interest, and it is impossible to try to draw any deductions from a summary of the figures of all the asylums grouped together. The remedy is patent: the year in Table IV should not refer to the year of admission, but to the date of the reception order, and in Table VI "length of residence" should read "duration of mental disorder as judged by the date of the reception order." This, of course, would nullify them from a local point of view. It is urged, however, that wider interests should prevail, and that collective study should be our goal. A compromise might perhaps be made—Table VI remaining in its present form, while Table IV might be amended as above suggested. To make it complete the current year would have to be subdivided into the five periods, "under one month," "one month and under three," etc. The other alternative would be to state them in their present form, and to repeat them according to the date of the reception orders.

If Table VI were amended on these lines, a most valuable addition to it would be a third column expressing the duration of the reception order for those remaining in on December 31st. Indeed, this would become a necessity if the recovery rate were calculated as above suggested.

In passing it may be noted that, as regards Table VI, some asylums still further subdivide the periods of length of residence. This is well meant, but if care is not taken it may prevent their table being compared and summarised with those of others; for example, if six and under eight, eight and under ten, ten and under twelve months are periods chosen, it becomes impossible to refer to the period of nine and under twelve months.

Table V relates the causes of death, and of necessity is a very important one. In it the causes are now given in the same order and terminology as set forth in the table of deaths annually furnished by every asylum to the Commissioners in Lunacy; but the age for each cause is given in quinquennial periods instead of as a mean. No death table would of course be complete without expressing the age at death, and both these methods are useful; the two might with advantage appear in the same table. In the Commissioners' table the

number of *post-mortem* examinations is asked for, for each cause of death; this is a more complete correctory than merely stating a total as is done in our Association table, particularly for those asylums which have not been able to secure a high proportion of these examinations. (As the majority of asylums are able to secure at any rate much over 50 per cent., it would save figures if the column referring to post-mortem examinations asked for the number of instances opposite each cause of death in which one had *not* been held.)

It is not proposed to say anything about the classification of diseases which has been adopted; it appears now to be very satisfactory. But it is suggested that there are certain other points in addition to the above that could, without difficulty and with great value, be combined with the causes of death—such, for instance, as the duration of the mental disorder (judged, for the sake of definition, by the date of the reception order). The duration of the causes of death themselves is now demanded on the notice of death sent to the coroner, etc., and this information could also easily be incorporated in the death table. Further, the monthly incidence of deaths is information well worth having, especially if this is particularised for certain causes, *e. g.*, colitis, other diarrhœal diseases, phthisis and other respiratory diseases.

The value of these additions is probably, however, quite subsidiary to that of an important proposed reform now to be brought to your notice. When it has fallen to the lot of any of us to prepare Table V, we no doubt have each been then puzzled, in cases where more than one cause of death has definitely been in operation, as to which cause should be returned; for, as you are aware, the tabulation of only one cause is permissible. Most of us will probably be willing to agree that the cases where one cause alone brings about death are in the minority. In the majority of instances there is at least a primary and secondary (using these terms in a chronological sense) cause—sometimes more than one of each. The Registrar-General provides for these in the form of death certificate used by every general practitioner. It must be admitted, however, that there are times when it is by no means easy, indeed it may be said to be a matter of great difficulty, to decide which is primary and which is secondary. But such cases occur far too seldom to seriously impair the value of an honest attempt

to state the primary as well as the secondary cause of death. For instance, a child with measles, dying of bronchitis as a sequela, a case of diabetes succumbing to phthisis, a protracted case of phthisis ultimately contracting and dying from ulcerative colitis (asylum dysentery), are examples where there is no room for doubt as to which was the primary and which was the secondary cause of death. A more complicated example would be the case of a patient in whom was a syphilitic general arterio-sclerosis, who had symptoms of Bright's disease due to contracted granular kidneys (very probably the result of arterial degeneration), who also had an hypertrophied and fatty heart (explicable as secondary to the kidney condition and the general vascular degeneration), whose brain was in a state of marked general atrophy with many small areas of softening (again easily explained by the state of the vessels), and who ultimately died of œdema of the lungs due to the failing fatty heart.(2) Obviously the initial primary cause of death was syphilis, and the final secondary one was œdema of the lungs. Opinions may differ whether the arterio-sclerosis, the chronic renal cirrhosis, the cardiac hypertrophy with fatty degeneration, and the cerebral atrophy with multiple softenings should be returned as primary or secondary. In all these examples no one will surely gainsay the fact that much greater accuracy and figures of infinitely more value would be obtained by some form of death table which would permit of combinations of two or more causes of death being tabulated. Failing that, some rules for our guidance as to which cause to return are urgently needed. A table such as is indicated above, and the value of which is confidently urged, has been annually compiled at Bexley Asylum. A photograph of that for the year 1901 is here produced, and from it Dr. Stansfield in his Annual Report was readily able to give, among others, such details as—

"General paralysis is responsible for 89, or 31 per cent. of the total number of deaths, and of these 77 were males, representing 49 per cent. of the total number of male deaths. The physical wrecks which these people were on admission is strongly indicated when one examines the table as to the duration of the disease as judged by the date of the reception order. These figures are so remarkable that I here give them *in extenso:*

Males.		Females.		
5	...	—	...	Under 1 month.
11	...	1	...	Over 1 and under 3 months.
13	...	1	...	„ 3 „ 6 „
14	...	3	...	„ 6 „ 9 „
12	...	1	...	„ 9 „ 12 „
15	...	2	...	„ 1 year and under 2 years.
5	...	3	...	„ 2 years „ 3 „
1	...	1	...	„ 3 „ „ 5 „
1	...	—	...	„ 5 „ „ 7 „

It (general paralysis) was in combination with phthisis in 10 cases, colitis in 5, and pneumonia in 4."

Except the bare number of general paralytics, none of these facts could have been obtained from the ordinary table. Moreover on the right of this photograph of the table you will see three columns of figures (male, female, and total); these contain the actual figures which will be found opposite the causes of death in the annual report to be published this year. A glance at them will show that the more important all fall short of the actual truth, with the exception of general paralysis (because wherever it was in combination with other causes the latter were neglected). Phthisis you can see, for instance, will appear as a cause of death in twenty-five instances, while in reality it was so in forty; and colitis will be recorded in fifteen cases, while its true number should be twenty-four, etc. It is here strenuously pleaded that every institution publishing a table of causes of death could without difficulty adopt this principle, and that the extra time and trouble involved would be amply repaid by the knowledge that our labours expressed to the best of our ability the whole truth, and not merely fragments, the quotation of which might easily lead to most fallacious deductions.(3) The fact that the total of the figures opposite the various death causes would not agree with the total number of deaths should not weigh against the adoption of such a form of table, any more than does the same fact in the case of Table X dealing with the causes of insanity.

Tables VII, VIII, IX, and XII refer respectively to the duration of the mental disorder on admission; the ages of the admissions, discharges, deaths, and those remaining in at the end of the year; the civil state of the same; and the occupation of the admissions. They are grouped thus together because it is not proposed to say anything lengthy as to any of them, and because as regards the admissions one radical flaw is common

to each of them. This flaw has already been emphasised on page 717 and has reference to the confusion of recent cases with transfers. That the two classes should be sharply distinguished is practically non-controversial, and it would materially increase the scientific value of the tables if asylums saw their way to subdivide the recent cases as suggested on pages 717 and 718. The transfers, indeed, might be altogether omitted from the admissions in these four tables. But if they are included, it should be defined in Table VII whether the duration of the insanity prior to admission does or does not in their case embrace the period of residence in the asylum whence they have been transferred. And in this table there should be some marginal guide as to what is implied by the word "congenital;" presumably the figures here should tally with the congenital cases in Table XI, whereas it is seldom they do so. Table VIII, dealing with the ages, if amended to exclude or at least separate the transfers, would be a most valuable one as it otherwise stands. But we shall all agree that it could be made in finitely more so if the age *at commencement of present attack* and the age *on first attack* were also indicated; this could easily be arranged by giving three lines, instead of one, to each quinquennial period. As regards the admissions (transfers excluded), these two new rows of figures would of course usually be practically identical with those in the present single row. Table IX expresses the civil state; whether it has been or can ever be productive of value commensurate with the labour of its production is doubtful. Its chief value would be probably retained if it were allowed to refer only to the admissions; and there again its utility could be much enlarged if certain other facts were correlated—such as the age in three or four broad epochs, and, in the case of the widowed, the duration of the widowhood. If the table remains in its present form, the words "on admission" should be added in reference to the discharges, deaths, and those remaining in on December 31st. There is little to suggest with regard to the table (XII) of occupations of the admissions. It would be worth while as regards "housewives" to endeavour to subdivide these according to the occupation of the husband; a line would have to be retained for "housewife, undifferentiated," where this information was lacking. Then a large proportion of asylums now supply an education table; and it is possible for its contents to

be easily and with advantage correlated with the occupations, by introducing such columns as "University," "College," "Private," "Board," "Can write only," "Can read only," "Can do both," "Can do neither."

Table X. The causes of the insanity among the admissions.—In all diseases, if we wish to do something more than treat symptoms, if, in other words, it is desired to really *cure the disease*, it is of paramount importance to have the fullest possible knowledge of its ætiology. Viewed from this standpoint, this table must take precedence of all others, and it is certainly one upon whose preparation no pains should be spared and no labour grudged. Of all others, it is the one whose figures are most likely to be, indeed are most frequently, quoted by lay writers in newspapers and elsewhere; and therefore they should not only be reliable, but admit of no misinterpretation, particularly of no exaggeration. Does the table, valuable as it is, meet these requirements in the present form? Probably few would say that it does. Take, for instance, the figures purporting to state the cases due to alcoholic excess (these are probably the ones we see most frequently quoted); and to reduce these to a concrete example, it may be seen that of last year's admissions to Bexley Asylum (transfers excluded) there were 181 cases, or 24 per cent., associated with alcoholic excess. Now we all know that it is seldom only one cause is found, but in its present form there is no means of ascertaining from the table in how many instances any individual cause acted alone, or, when not alone, with what other causes it was combined. As a matter of fact, of the 181 instances stated to be due to alcohol, there were only three in which no other cause was associated. Thus, should this percentage of twenty-four happen to be publicly quoted as expressing the true *rôle* of alcohol as an ætiological factor, the uncomfortable feeling arises that one is responsible for the dissemination of statements which cannot bear strict investigation. No endeavour is here being made to champion the cause of alcohol—in truth, its far-reaching effects are very difficult to state in figures; merely is an endeavour being made to earnestly press a plea that we should refuse to lend ourselves to a statement of figures whose truth-bearing character could be successfully challenged. All that was said above on page 718, and again with regard to the death table, concerning correlated points of

information, fully applies here. Our table of causes should clearly indicate in how many instances each cause acted alone; and when in combination, the extent to which other causes were associated. Such a table is quite easily arranged, and a photograph of last year's one for Bexley Asylum is now shown you.

The field of usefulness of this table has probably been much reduced by its name. Had it been designated a table of "Possible Causal Factors and other Associated Conditions," had common usage placed no limit by the appearance of the line entitled "other causes" on the number of associated conditions to be recorded, and had these various conditions, cause or not, been correlated with each other on some such plan as here suggested, it is confidently asserted that our knowledge as to the ætiology of insanity might be much more precise and complete.

It should be clearly laid down that the *existence* of any of the factors should always be recorded, whether or not it appears to act as an actual cause, and marginal notes might profitably be used to explain any possible ambiguities or incompleteness of definition.

A powerful light, too, might be thrown upon the relative importance of any given factor or group of factors by repeating this table for both the recoveries and deaths. This is done by a few—but very few—asylums. No hesitation is felt in saying that the extra labour involved in a general adoption of the custom would be amply repaid.

Two Tables supplementary to Table X.—This is probably the place to introduce to your notice two tables which have been drawn up with a view to elaborating the information given with regard to the two most important predisposing causes of insanity, namely, heredity (including not only insane, but neurotic, phthisical, and alcoholic) and previous attacks. As a matter of fact several asylums already make a practice of specially correlating in Table X these two with other factors.

(*a*) *Table of previous attacks.*—Most asylums issue a special table of previous attacks (usually designated II A). It is suggested, however, that the present form of this extra table is not a very happy one; and that although it is interesting to know the number of cases that have had one, two, three, or more attacks, yet there are some other points the absence of

which really makes the table of comparatively small value. For instance, one would be glad to know the ages of the patients at commencement of present attack, and when first insane, not necessarily in quinquennial periods, but according to certain broad and important periods. The part which insane heredity, direct and collateral, played in these cases could also easily be expressed. And, finally, if with these facts was combined the interval that had elapsed between the present attack and *recovery* from the last one, the information with regard to previous attacks would be very complete, and might suggest some prophylactic measures. The interval since last recovery might be expressed, say, in periods corresponding to those of duration of residence in Table VI; or, if simplicity be desired, merely the number of cases which relapse within twelve months of their discharge might be indicated. This is a very useful period, and offers too some comparison of the degree of stability required by various asylums.

(*b*) *Heredity table.*—The question of heredity is admittedly one of such immense importance in any ætiological statement regarding insanity, that it is surprising how few asylums do more than content themselves with simply recording the number of admissions in which it is found; seldom even is any division into direct and collateral made. A few do, it is true, specially correlate it with other causal factors, and a few issue a special table giving in detail the members of the patient's family so affected. But having regard to the position in which most of us believe heredity stands to our specialty, and holding that the education of the public in the matter is a sounder prophylactic path than mere legislation, our tabular statement of it should surely be the most thorough that we can devise. In estimating the *rôle* of heredity in any given case not only is it necessary to know the patient's age at time of onset of insanity, but similarly the age at which the patient's relative became insane; and also what relatives are still living, because as long as they are alive they are potential factors. Furthermore, we believe that an *insane* heredity is not the only form of diathesis that acts as a predisposing cause. We believe that a neurotic, phthisical, or alcoholic family history is also of importance; it would therefore add to the completeness of our statement were the existence of one or more of

these correlated with insane heredity. An attempt at such a table is here shown you.

Table XI expresses the form of mental disorder in the admissions, recoveries, deaths, and those remaining in the asylum—in the last class on December 31st, in the first three classes on admission. Considerable diffidence is felt in approaching this table owing to the wide differences of opinion that exist on the subject of classification. No suggestions as regards nomenclature are going to be offered, but a strong protest is ventured to be lodged against the usual practice of mixing symptomatological and ætiological terms. We cannot serve two masters; one is inevitably neglected, and probably neither is served satisfactorily. It is contended that the inclusion of such terms as "acute mania" and "puerperal mania" in the same column is a flagrant breach of statistical laws. We all know that some of the most typical examples of "acute mania" are puerperal cases. Under such circumstances what is our rule for recording such a case? Some probably adopt one custom and some another, with the result that collective statistics become impossible. And even were one line of action agreed upon, it follows that if the figures opposite one of these varieties are complete those opposite the other are understated. It would be infinitely less confusing to keep clearly before us that there are two modes of classifying our cases, one according to the mental picture, and the other chiefly according to the ætiology. We can thus tabulate them strictly according to their mental symptoms, and then, on the same principle which has been indicated in other tables, correlate their ætiology with these. We should, for instance, be able to say that of our puerperal cases so many were imbeciles, so many simple mania, so many acute mania, so many stupor, etc.

To render the table more complete, the ages (at commencement of present attack) in quinquennial periods could with advantage be incorporated as is done in the death table; and as regards the recoveries, deaths, and those remaining in, it would be an additional great advantage to indicate the duration of the present attack of insanity (see Plate II).

In conclusion it should be understood that it is not suggested that all or even many of the above modifications could receive universal adoption in their entirety. It is a recognised

the place of

Year.	ccording to Out-county.			Percentage of recoveries on						Percentage of deaths on				Year.
				The missions ansfers luded).		The average number resident.		The total cases under treatment.		The estimated recovera-bility of cases under treatment.		Average number resident.	Total cases under treatment.	
	M.	F.	T.	F.	T.	M. F. T.		M. F. T.		M. F. T.		M. F. T.	M. F. T.	Opening.
Of opening														
														Current.
Current														
Total for														
Annual m														

Suggested Table of Missing mental features from those referring to ætiological two methods of classification.

Names of mental disorders. Symptomatological varieties.	T	General paralysis. M	F	T	Epileptic. M	F	T	Hysterical. M	F	T	Organic. M	F	T	Syphilitic. M	F	T	Alcoholic. M	F	T	Other chemical toxic. M	F	T	Phthisical. M	F	T	Climacteric. M	F	T	Gestational F	Puerperal. F	Lactational F

principle of statistics that to ensure success their form should be as simple as is consistent with accuracy. It is hoped, however, that where special facilities exist some of the above suggested elaborations may prove of service.

It remains for the writer to thank his colleagues, Drs. Piper, Lord, and Hughes, for ready assistance in filling in the extra columns of the Table of Deaths and that of Causes.

(1) Thus the admissions, differentiated into "first" or "new," and "not first" or "readmissions" (points 1 and 18), appear in Tables I and IV, whilst their total appears again in Table III, point 11. The current year's discharges (differentiated into recovered, relieved, and not improved) may be found in Tables I, point 3; III, point 12; and IV, the totals of points 19, 20, and 21. In the same three tables the deaths are numbered in points 4, 13, and the total of 22. Those remaining in on the 31st December can be found in Tables I, II, III, and IV, points 5, 10, 14, and the total of 27. The average number resident during the year may be found in Tables I and III, points 6 and 15. The total admissions since the opening of the asylum are given in Tables II, III, and IV, points 7, 11, and 18; in the first and last points they are differentiated into "persons," "new admissions," and "readmissions." The total cases discharged (differentiated into recovered, relieved, and not improved) and the total deaths, since the asylum's opening, may be found in Tables II and IV, points 8 and 9, and the totals of 23 and 26 inclusive. The age at death in quinquennial periods is set out in Tables V and VIII. The length of residence of those discharged and died during the current year for periods over one year can be worked out from Table IV as well as seen in Table VI. The figures opposite "congenital," expressing the duration of mental disorder prior to admission, in Table VII for the admissions, recoveries, and deaths, should presumably agree with those in Table XI, expressing the total of congenital cases admitted, recovered, and died.—(2) Such was the clinical and post-mortem record of a woman, Reg. No. 1702, who died at Bexley Asylum, June 23rd, 1902.—(3) Dr. Tatham, Superintendent of Statistics, General Register Office, kindly writing his opinion on this table, says, "Although in our national system of death registration it has hitherto been found impracticable to follow out the plan you advocate, still there is no doubt that, wherever any such system can be carried out—as, for instance, in a large public institution—the additional information would be exceedingly valuable."

Discussion

At the Annual Meeting of the Medico-Psychological Association, Liverpool, 1902.

The President.—We are indebted to Dr. Bond because the subject is both important and one which we are shy of handling. He is right in many of his criticisms. The mass of material obtained in asylums every year might be utilised to much greater advantage if our tables were brought down to modern requirements.

Dr. Newington.—The Association is to be congratulated on having these figures taken up and reviewed in excellent style. The Committee which drew up these tables was bound to remember that they were throwing a large amount of labour on people who had already a great deal to do. It was felt that very recondite questions could not be asked. But it is now recognised in most asylums that it is proper to send in the information required by the Association, and in the form suggested by the Association. We can almost hope the time will come when still more voluntary effort will be undertaken. Dr. Bond has pointed out in a proper way the shortcomings of these tables. I beg to move—"That

Dr. Bond be thanked for his paper; and that it be remitted for consideration to a committee. That the said committee be requested to report to the next Annual Meeting upon the present statistical tables of the Association as to whether, and if so in what direction, their alteration or amplification would be of advantage: that individual members of the Association be hereby invited to communicate to the committee any views they may have on the subject; and that such committee consist of Drs. Rayner, Hyslop, Whitwell, Stewart (Glamorgan), Bond, Yellowlees, Easterbrook, Nolan, Dawson, and Bedford Pierce; that Dr. Yellowlees be appointed Chairman, and Dr. Bond Secretary; that the quorum be three, and that the committee have power to fill any casual vacancy." These names have been very carefully chosen as those of gentlemen in every way competent to deal with the subject.

Dr. RAYNER.—I have great pleasure in seconding the resolution. We are indebted to Dr. Bond for having taken up this subject, and bestowed upon it so much time and attention. I shall be happy to be associated in carrying out the object he has in view. I suggest that the Treasurer's name be added to the others.

The resolution, as amended on Dr. Rayner's suggestion, was passed unanimously.

Observations on the Neuroglia Cell and its Processes.(1)

By R. R. LEEPER, F.R.C.S.I.

I WISH to-day to direct the members' attention to the neuroglia cell and its processes, although time does not permit me to do more than refer in the briefest manner to the present state of knowledge respecting the subtle relationship of the changes of these glia cells to insanity.

Neuroglia-cell change is as constantly found in the brains of the insane as are the other cellular chromatolytic and vascular pathological appearances with which we are familiar. The glia changes are, however, less readily seen, and require a somewhat more careful and painstaking study to demonstrate their diseased appearances than one is accustomed to give to the examination of the other cortical and medullary structures. Great, however, is the importance of the study of these changes and appearances, both in the normal and pathological brain. The normal function of these neuroglia cells is not clearly, if at all, understood, and I, for one, whilst admitting that much of what has been written may be correct, believe that the vibration of each ventricular systole finds one of its most distant and delicate expressions in the fibrillary network of the neuroglia, and these cells by their inherent elasticity serve

not alone as a mere mechanical support, but as the vaso-motor mechanism of the higher centres of the brain, protecting them from sudden toxic action, isolating and cherishing them by physiological forces of which we may but dimly discern the purpose, and can but conjecture as to the means of their morbid or beneficent action. It may yet be possible to accord to the glia cells and their processes all the power and complexity of function which Cajal has claimed for them. One wonders at the frequent presence of pigment granules in all large nerve-cells of men and animals, and it seems to me a matter beyond conjecture that this pigmentary substance is essential to normal nervous function.

What, then, is the interpretation of the presence of these pigment granules in and around the neuroglia cells? Is it the crude substance we see around the neuroglia, and is the filtrate seen deposited in the neuron itself, or is this circular pigmentary precipitate in the neuron to be excreted *viâ* the vascular and intercellular processes of the glia cells? or, again, is this yellow granular pigment a kind of intercellular storage battery to be used alike by neuron and glia in the development of nervous force? The pigment grows more noticeable as the cellular structures grow older and require a stronger stimulus to excite them to a functional activity. Is this pigmentary substance, in short, an accessory to normal nervous cerebral function, or are we to regard it as a sort of intra-cranial stigma of degeneration, only appearing in cells whose functions are no longer capable of the highest activity, but still in some way necessary to their declining lives? The processes of the neuroglia cells closely resemble the flagella of certain motile bacteria, and are stainable by the same histological methods; and in connection with this fact it is well to remember that Spina and Vejnar have observed glia cells in movement, also a cilia-like motion of their reticular network in the living frog.

The sclerosis of the brain differs from that of all other tissues in that there is little contraction of the affected area, a fact which must be due to the elasticity and adaptability of the replacement tissue, which we know to be largely made up of proliferated and hyperplastic neuroglia cells; this shows that the neuroglia cell must possess a higher organisation than that of its ordinary fellow-worker in the connective tissue of other parts of the body, and I feel sure that its motorial and contractile

powers will be fully verified as we gain more knowledge of its function.

No part of the neuroglia cell is more constantly looked for or better worthy of our attention than the so-called vascular process of Bevan Lewis. One frequently sees this process apparently in contact with an endothelial cell in a capillary wall, or attached to the vascular canal between the endothelial cells.

If a fine fibrillary network is always interposed between the termination of this process and the capillary wall, it is easy to understand the powerful effect which contractility of this process must have upon the cerebral circulation, and the hypertrophy of this process in morbid brains must have some direct pathological significance.

Again, this process may be the excretory channel for the products of cellular decomposition, the particles of chromatolysed nerve-cells finding their exit from the cortex by means of these octopus-like tentacular processes of the glia cells; or the converse may be the case, and we may find that the lymph is absorbed from the pericellular and perivascular spaces by these cell-endings and conveyed centripetally by these means for the nourishment of the glia and its dependants, to be subsequently passed into the neuron itself if the neuroglia exercises a trophic influence upon the nerve-cell.

In conclusion I wish to remark upon the importance of examining these cells as soon as possible after death, as they, in common with the other cellular structures in the cortex, rapidly manifest cadaveric change, and then examination is liable to give results of little value if not quickly fixed in a suitable fluid. My object in bringing these facts before you to-day is to endeavour to emphasise the importance of the study of these cells and their processes, and to notice the *rôle* which they play in cerebral function, morbid and normal; and I feel sure that increased knowledge of their structure and physiological function must mean a great gain to neurological science.

(1) Read at a meeting of the Irish Division of the Medico-Psychological Association in Dublin, May 23rd, 1902.

Note on the Pathogenesis of Diabetic Insanity. By W. R. DAWSON, M.D.(Dublin), F.R.C.P.I.; Medical Superintendent, Farnham House, Finglas; Examiner in Mental Disease, University of Dublin.(1)

TRUE diabetic insanity is a rarity, and when it occurs does not always take the same form. But it is by no means uncommon to meet with certain lesser mental abnormalities in diabetes which are very constant in character; and what is usually regarded as the typical variety of diabetic insanity is simply an intensification of these abnormalities probably due to inherited or acquired cortical instability.(2) Hence this psychosis derives its interest from the definiteness of its ætiology and the constancy of its symptoms.

Many diabetic patients develop by degrees a morbid "listlessness and depression of spirits, weakness of mind, and peevishness of temper" (Saundby), and in some few instances this becomes accentuated into a form of insanity which, in the words of Maudsley, "is inclined to be of a whining and wailing character, tedious and chronic, largely hypochondriacal in its complexion,"—a description which I can corroborate in the main from observation of a case recently under my care.(3) This peculiar form of weak, lethargic melancholia, with impaired intelligence and peevish irritability, may therefore be accepted as the characteristic psychosis of diabetes; but it is not peculiar to that disease, being met with also in anæmias and states of general cachexy, and where, as in phthisis, emphysema, and some forms of heart disease, there is imperfect aëration of the blood. It may therefore be taken as the special psychosis of defective supply of nutriment, but particularly of oxygen, to the brain, this deficiency of oxygen being one to which the cortical nerve-cells have been shown, by experiments with carbon monoxide, to be peculiarly sensitive.(4)

The anatomical changes in diabetic brains support the conclusion, derived from the symptoms, as to the atrophic origin of the psychosis. Not only has chromatolysis been found in such brains by Marinesco and others, but still more numerous naked-eye observations show that wasting of the convolutions, with consequent widening of the sulci, enlargement of peri-

vascular spaces, and other changes, are common occurrences; and these changes were found to a very marked degree in the brain of one of Clouston's two cases of diabetic melancholia which was examined, and which, though that of an adult woman, weighed only 38 oz.(5) Clearly, therefore, the mental symptoms are due to a gradual failure in function, ultimately leading to atrophy, of the brain; and as it is acknowledged that the changes in the central nervous system in diabetes are, with the exception of some rare focal lesions, of secondary origin, it may be instructive to inquire how they are produced.

Stress was laid above on the importance of a proper supply of oxygen to the brain, because it seems to me that it is the failure of such a supply to which the cerebral lesions and the symptoms may mainly be ascribed—a failure which I believe to be due, principally at least, to the appropriation of much of the oxygen by the glucose circulating in the blood. It is true that in some cases a marked reduction in the number of red cells has been found, but it is doubtful if this would, of itself, be sufficient to account for the symptoms, at all events in the majority of cases.

There is not wanting evidence in support of this hypothesis. In the first place, the presence in diabetic blood of a substance with marked reducing powers has been shown sufficiently by the fact, discovered by Williamson and confirmed by numerous others, that such blood is capable of decolourising methylene blue—a reaction attributed by nearly all observers to the glucose, which is the most powerful reducer of all the substances known to exist in such blood. Weak solutions of glucose, moreover, produce the same result, which I have obtained in a few minutes with a 0·4 per cent. solution rendered feebly alkaline with sodium bicarbonate. The reducing substance, therefore, is probably glucose. Supposing now, as seems almost certain, that glucose acts in the same way upon the hæmic oxygen, its effect might conceivably be to reduce some of the hæmoglobin. I have found that a solution of glucose as weak as 2 per cent., rendered slightly alkaline with sodium bicarbonate, and kept at about body temperature, will reduce the hæmoglobin in time, though not for many hours. As this solution contains much more glucose than has ever been found in the blood (the highest percentage

detected by Naunyn being 0·7),[6] the result of these experiments does not at first sight seem to lend much colour to the hypothesis. But beyond the fact that a weak solution of glucose will reduce hæmoglobin, no conclusion can fairly be drawn from these results. The presence of numerous other bodies in the blood and its rapid motion render it incomparable with simple solutions *in vitro* (solutions, moreover, which were not in the first instance effectively deoxygenated, and which, in most cases, were exposed to the atmospheric oxygen); but in addition there is another consideration which must be taken to account. Every student of chemistry knows that in working with very dilute solutions a reaction is greatly delayed in its inception, but once started will progress rapidly. In the blood, the supposed reduction of hæmoglobin would be continuous. For these reasons the time and strength of solution required *in vitro* are not valid arguments against the occurrence of reduction under the ordinary conditions in the diabetic body, apart from the fact that the blood from the right side of the heart must contain an enormously larger amount of sugar than that of the general circulation. Lastly, it may be mentioned that some observers have found the red cells to stain badly with methylene blue, which may conceivably be due to the sugar which they contain,[7] though, on the other hand, the corpuscles, when separated from the plasma, are stated to have little or no effect upon methylene blue in solution.

There is therefore every probability that some reduction of the hæmoglobin does take place; but, in addition to this, it must be borne in mind that the glucose comes into intimate contact with the hæmic oxygen under two other conditions,—first, when the oxygen is free in the plasma of the pulmonary capillaries on its way to the corpuscles, and secondly, when it is redissolved after being liberated from the hæmoglobin, to be conveyed to the tissues; and there can be little doubt that a good deal of this free oxygen is absorbed by the sugar, more especially as, on leaving the hæmoglobin, the gas is in the energetic nascent state. The following would therefore be the order of events:—The blood from the right side of the heart, loaded with sugar from the hepatic and portal circulation, and 1° or 2° higher in temperature than that in the left side, encounters free oxygen in the pulmonary capillaries as it seeks to reach the corpuscles, and levies toll of it first. During the

course of the blood through the brain and circulation generally, the hæmoglobin is being robbed of a certain amount; when the energetic nascent oxygen is set free in the systemic capillaries for the use of the tissues, a further portion is absorbed, and possibly combination may take place even in the tissues. There can therefore be little doubt that a sensible diminution takes place in the amount of oxygen available for use by the tissue cells, the vital activity of which is lowered in consequence; and, as the metabolism of the cortical cells is already very low,(8) they feel this deprivation more than those of other organs.

From all these considerations, then, clinical, pathological, and chemical, we are, I think, entitled to conclude that chronic reduction of the oxygen supply to the cortical cells is in all probability the principal cause of the characteristic insanity of diabetes, aided though it no doubt is by general malnutrition, due to the operation of the same cause on the other tissues (as shown by the numerous atrophies which are so marked a feature of the disease), and also by other influences.(9) One is tempted to assume that the resulting degeneration and ultimate atrophy of the nervous structures is simply due to disuse, or rather diminished use; but the process is probably more complex.

(1) Read at the General Meeting, July 24th, 1902. — (2) Under the latter head may be included exhaustion by mental work and worry.—(3) "Glycosuria and Insanity," Case I. *Med. Press and Circular*, Jan. 1st, 1902.—(4) L. Borri, *Rivista di Medicina legale*, ecc., Oct. 15th, 1897. (Recension by Chiozzi in *Riv. di Patolog. nerv. e ment.*, Dec., 1897, p. 552).—(5) *Lectures on Mental Diseases*, p. 657, 5th ed.—(6) "Der Diabetes mellitus," Nothnagel's *Spec. Pathol. u. Therap.*, Bd. vii, Th. vi, p. 150.—(7) Naunyn, op. cit., p. 243.—(8) L. Hill and D. N. Nabarro, *Journ. of Physiol.*, vol. xviii, p. 220.—(9) Raimann (*Wiener klin. Woch.*, 1901, p. 513) has found that the power of assimilating sugar is reduced in melancholia, so that alimentary glycosuria is more readily produced. It is thus possible that a sort of vicious circle may be established in diabetic insanity.

The Care of Idiots and Imbeciles. By J. H. SPROAT, M.B. (Lond.), Senior Assistant Medical Officer, Somerset and Bath Asylum.

THE question of better provision for the care of idiots and imbeciles has of late been one of some prominence in the more

thinly populated counties, and in several of these the county authorities are being urged to act in the matter. In large centres of population, where the number of the congenitally deficient is sufficiently great, and is under a single authority responsible for their care, it is more economical to provide for this class in separate institutions; but where you have, say in a county, a number of authorities, each responsible for the maintenance of only a few cases, it is on the face of it an expensive business for each of them to provide special and separate accommodation; still, it is highly desirable that some steps should be taken to put this class of case under more favourable conditions than at present.

I will first of all consider the different classes of cases to be cared for. They may be grouped as follows:

1. The feeble-minded (mainly children of backward or slow mental development).
2. The imbecile.
3. The idiot.

The difference between these three classes is simply one of degree; for practical purposes each group must be divided into children and adults, as the accommodation to be provided depends so much on whether a juvenile or grown-up individual has to be considered. I might here point out the loose way in which the word "imbecile" is used by the laity, including, as they do, the secondary dements and senile cases, as well as those mentally deficient from birth, in the same category. As secondary dements and senile cases may be amply provided for in other ways, their inclusion amongst the congenital deficients complicates matters, and accounts for much of the confusion which exists amongst lay committees who are appointed to consider the subject.

The first class of cases, namely, the feeble-minded, is an extremely difficult class to deal with. The children of this class would undoubtedly derive an enormous benefit from special teaching and training, and many of them might be brought to an almost normal degree of intelligence. Detention of these in any special institution, as the law stands at present, is not possible, but under the Elementary Education (Defective and Epileptic Children) Act of 1899, school authorities have the power to arrange schools or classes for such children in their district who, not being imbeciles, are incapable of receiving

benefit from instruction in ordinary elementary schools. As school authorities are not compelled to make provision for such cases, this Act is in a great measure neglected, and the feeble-minded children are allowed to grow into feeble-minded and more harmful adults. The adults of this class are not to be reached unless they come within the scope of the lunacy or criminal law. They oscillate between the asylum and the prison, with an occasional sojourn in the workhouse; and a number of them, having sufficient instinct to appreciate the extra comforts of asylum life to those of prison life, make no effort to oppose their classification as chronic lunatics.

The remaining two classes, namely, idiots and imbeciles, according to their age and mental capacity, may be divided as follows:

1. Juveniles capable of some educational or industrial training.
2. Juveniles requiring merely custodial care.
3. Adults capable of useful employment.
4. Adults requiring merely permanent custodial care.

The first class, that of juveniles capable of some educational and industrial training, form the section of imbeciles proper. These are of different grades of intelligence, and it is this class, if any, which will repay the authorities for any trouble or expense they care to lavish upon them.

The Idiots Act of 1886 is designed to provide for this class of case. The name Idiots Act is a misleading one, for the Act only deals with those cases of congenital mental deficiency which can be certified as being capable of receiving benefit from care, education, or training; therefore cases suitable to be dealt with under this Act must be capable, to a certain degree, of mental development,—that is, they must be imbeciles (of a higher or lower grade) rather than idiots.

To the class of those merely requiring custodial care belong the true idiots, or those whose capacity for mental development is so slight that they cannot be educated or improved to any appreciable extent. If this class cannot be cared for, there is at present only the workhouse or the asylum provided for them. The presence of idiot children with grown-up lunatics or paupers is highly objectionable from many points of view; they learn habits of indecency, bad language, and generally become more degraded. Also there is, where they are warded with adult

lunatics, the danger of their being injured physically. This is a class specially to be considered in any scheme for the improvement in the care of the congenital deficients.

The third class, namely, adults capable of useful employment, is a much less difficult class to deal with. The quiet and harmless of them are welcomed in workhouses, where they make useful permanent drudges; they give no trouble, and probably show, in actual value of work done, to as much advantage as if they had been half taught a trade, and could point to so many shillings and pence of earned money. Those who are capable of some useful work, but are nevertheless the subjects of excitement or violence, as many of them are, can easily be certified, if necessary, under the Lunacy Act, and be detained in pauper lunatic asylums, which is the safest and most suitable method of dealing with them.

Those adults who merely require custodial care, and who are incapable of any useful employment, can be cared for in workhouses or lunatic asylums,—in which depends upon the nature of each individual case. Country workhouses are, for the most part, much understaffed as regards attendants, and the consequence is that any inmate of this class who gives trouble—and most of them do at some time or other in some way—is promptly sent to the asylum without, in many cases, a due consideration of the fact as to whether the case is a fit one for permanent detention in such an institution or not.

Let us now consider the provisions at present existing for the care of the classes of the mentally deficient which have been mentioned. They are as follows:

1. At home under no special educational treatment.
2. At home, but attending special classes or schools under the Elementary Education (Defective and Epileptic Children) Act.
3. In workhouses.
4. In idiot asylums, under the 1886 Act.
5. In lunatic asylums.

Home care and the Defective and Epileptic Act should go together, and, if advantage is taken of the provisions of this Act, it might be sufficient as far as the feeble-minded are concerned. For members of this class detention in special institutions would be a difficult matter, as they would not readily be sent to such institutions by their parents, for the feeble-minded child is often the pet of the family. An objection to such

cases being treated at home as opposed to compulsory detention and education in an institution is the fact that the organic appetites, notably the sexual proclivities, are more often than not developed to a greater extent than the higher intellectual and inhibitory faculties. This, as is well known, constitutes a grave social danger, leading, as it frequently does, to inadvisable marriages, which too often result in offspring even more undesirable to the community than the parents from whom they sprang. If these unions were impossible without legal sanction this evil would be to some extent mitigated. This unfortunately is not the case, and the illegitimate offspring of the imbecile mother is only too frequently in evidence.

The accommodation at present provided in workhouses is not suitable for the care and treatment of all classes of idiots and imbeciles. It is certainly not adapted for the education and training of patients capable of such, and the ordinary workhouse, without some modification of the arrangements which at present exist, leaves much to be desired, even in the matter of those requiring merely custodial care. For adults who are capable of useful employment, whatever its nature, who are not dangerous to themselves or others, the workhouse is eminently suitable. This statement also holds good as regards the fourth class, that of adults requiring merely custodial care. This latter class of case too often finds its way to the asylum, as under the present conditions the workhouses turn asylums into dumping-grounds for any case which gives more than a minimum of trouble, whether they are harmless idiots, imbeciles, secondary dements, or purely senile cases. This is, of course, putting the asylum to a use for which it was never intended. There are two chief causes which produce this state of affairs, viz., (*a*) the four-shilling grant; (*b*) the inadequate staff of attendants in workhouses and the deficient supervision of them. The four-shilling grant must rank as a prime factor in the production of this class of asylum inmate, and as Poor Law guardians have been considered to be in the first place guardians of the ratepayers' pockets, and only secondarily guardians of the poor, they allow with complacency those who should be taken care of by them in the workhouse to be labelled insane and sent to the asylum. The frequency with which patients are admitted to the asylums who are proper cases for workhouse care is well known to all asylum

authorities. The majority are reported to be either actively suicidal, extremely violent, or troublesome. As an example, two patients were admitted to Wells Asylum within a short time of each other, one an idiot four years old, said to be actively suicidal, and one an old woman of eighty-four, who was said to be extremely dangerous; after admission the child, as might have been expected, showed no suicidal tendencies, and the old woman was in too feeble a state of bodily health to be anything approaching dangerous. Both cases were certainly dirty in their habits and required frequent attention, this fact undoubtedly furnishing the clue to their removal from the workhouse. It is well known that in workhouses where the attendants are frequently overworked and underpaid, a patient who gives any trouble can, by a report to the visiting medical officer that such patient is extremely dangerous, or has shown suicidal tendencies, be readily certified and removed to a lunatic asylum.

The idiot asylums established under the 1886 Act provide for a large number of the cases under consideration. As one of the conditions, as already mentioned, is that the case must be capable of improvement, it will naturally follow that they can only provide for those falling into the first class, that is patients capable of some educational or industrial training. I have no doubt if this condition were rigidly adhered to, the accommodation at present provided by the existing institutions of the kind would be quite sufficient for the needs of the community; but on looking over the statistics of a few of these institutions one is forced to the conclusion that too sanguine a view must have been taken before the patients' admission of their capacity for improvement. The statistics of one of these institutions show that in thirty years 2019 patients were admitted and went through their seven years' training with the following results. Seven are said to have recovered—a statement which requires no comment; 1047, that is more than a half, were not improved at all; and out of the total number only 254 were classified as much improved; and it must be borne in mind that all these were under the Idiots Act, and were certified on admission as being capable of some improvement. It would appear that a much more careful selection of the cases to be dealt with under this Act might be made, so that the expensive and special arrangements for treatment,

teaching, and training should not be wasted on those which eventually would be as well off in a more inexpensive place. In this connection I should like to quote the words of the Commissioners in Lunacy on the matter. In their forty-fifth Annual Report, on page 48, they say, "We think that the larger counties, or two or more of the smaller in union, might well consider the advisability of exercising another power given by the section quoted (241 of the Lunacy Act, 1890), namely, building asylums for idiots. Such asylums, in our view, should be of an inexpensive character, and should not aim at too much in the way of attempts at education or development, but should mainly be receptacles for unimprovable idiots, in which they would be fed, clothed, kept clean, and treated with kindness, leaving to other and specially equipped institutions the training and development of imbeciles of a higher degree of intelligence.

The last form of accommodation to be considered is that provided by existing asylums. As at present constituted, asylums are intended primarily for the cure of insanity, and in a secondary degree for the care and custody of those incurable and unimprovable cases who, from their habits and propensities, cannot at present be suitably cared for in any other way.

In asylums we always find a certain number of juveniles for whom there is at present, unfortunately, no more suitable accommodation to be found. This class is, luckily, not a large one, and is mainly composed of congenital epileptics and the bad bargains of idiot asylums. Few asylums at present are provided with any facilities for the separate treatment of these cases, and they are, as a rule, scattered throughout the asylums under conditions which are quite inadequate for their needs, as I have already pointed out.

I have briefly attempted to show the class of idiot and imbecile for whom provision is required, and what attempt is at present made to meet their requirements, incidentally pointing out how far these provisions fall short of the ideal. I do not feel justified in a short paper of this nature in suggesting a new and complete scheme for dealing thoroughly with the whole of these unfortunates, but will content myself with indicating a few of the more glaring defects, and the lines on which they may be modified.

The Elementary Education (Defective and Epileptic

Children) Act is being taken advantage of in 107 instances; of these fifty-nine are in London and forty-eight in the provinces. Those in the provinces are confined to twelve counties which contain large centres of population; the average number of pupils in each school is, roughly speaking, about 40. Twenty-four authorities have adopted the Act, but have taken no steps to carry out its provisions, inasmuch as they have no certified schools or classes of their own. The only instances in the West where the Act is taken advantage of are at Bristol and Plymouth. These figures speak for themselves, in showing what scope there is for a little more enterprise and energy in taking advantage of such a beneficial Act.

The extension of the four-shilling grant to lunatics in workhouses, while it might conduce to the detention there of suitable cases, might, on the other hand, tend to defeat the object for which it was originally given, namely, as an inducement to guardians to send to the asylum early, recent and curable cases of insanity. Also, although in the long run it would materially improve the conditions under which at present those of unsound mind exist in workhouses, there would be a great temptation, even more than at present, to classify (or brand, some might call it) every possible case as insane. There is, however, a way, although a somewhat circuitous one, of keeping idiots and imbeciles in workhouses, and also retaining the advantage of the four-shilling grant, namely, under Section 26 of the Lunacy Act. Under this section the asylum authorities can board out suitable cases in workhouses, if the accommodation be sufficient, and such cases being retained on the books of the asylum, the four-shilling grant is payable: this section is at present taken advantage of in only two or three instances. Guardians, to exercise their proper functions as such, must be somewhat more liberal-minded in their provision for the care of idiots and imbeciles, and not only make more suitable accommodation for such cases, but also see that the administration and staff is such as to make the detention of these cases possible without so frequently resorting to the help of lunatic asylums to take slightly troublesome cases off their hands. There are numbers of imbecile and idiotic children at present kept in their homes who would be much better off, mentally and bodily, for being subjected to the *régime* of a well-ordered institution; but as things are, no institution of the kind exists except lunatic asylums.

As regards idiot asylums, matters should be so altered as to give greater facilities for the admission of suitable cases. At present parents with an imbecile child have three methods of gaining admission for it into an idiot asylum: first of all, they may send it to the workhouse in the hope that the guardians will obtain admission for it; they may endeavour to obtain admission for it themselves—this is a matter of pure chance, as if they cannot get the support of subscribers to such institutions the case is hopeless, even if the child is an eminently suitable case; or they may gain admission by paying for the child themselves, which latter method is an almost impossible one for parents of the class under consideration. There is no doubt that there are no more suitable or better equipped institutions for dealing with improvable cases, and it is a pity that their record should be spoilt in so many instances by having foisted upon them idiots for improvement who are not in the slightest degree susceptible of any. Conditions should be so altered that no child who is undoubtedly a suitable case should have any difficulty about admission into an idiot asylum; whilst influence with subscribers should not facilitate the admission of more than doubtful or definitely unsuitable cases into such institutions, to the exclusion of other and more appropriate inmates. Alteration in this direction, combined with a more careful selection of patients, would much enhance the usefulness of idiot asylums, and the records of their treatment would make more pleasant reading than they do at present.

Lastly, failing any steps being taken to improve the accommodation in, and to facilitate the admission to, the institutions mentioned, we have to fall back on lunatic asylums. There is much to be said in favour of placing idiots and imbeciles under the care of asylum authorities. Looked at broadly, the minds of the low-grade imbecile and the secondary dement are much in the same condition, so much so that it is frequently impossible to tell the difference between the two when the imbecile has reached adult life. As asylum authorities are experienced in the care of one class, they would naturally be well suited to look after the other; but, at the same time, for reasons of economy the hopeless idiot or imbecile should not be treated on the same liberal scale as the curable lunatic, who may be restored to health and usefulness. It would therefore seem advisable—if the asylum must be utilised

for this class of case—to provide separate accommodation, to whatever extent required, for at least the juveniles of this class, it not being very apparent what harm the adults would take from being warded with the ordinary chronic insane. The accommodation for the children might take the form of a small annexe; or if the accommodation in the asylum is sufficient they might be given a ward to themselves, as far removed from the influence of the adult population as possible. This last suggestion appears to me to be the only feasible and practicable method at present available for the amelioration of the lot of these unfortunates, and nothing can be hoped for in other ways until Boards of Guardians wake up to a sense of responsibility in the matter, and do not allow false economy to stand in the way of efficiency in this direction.

Discussion

At the South-Western Divisional Meeting, April 22nd, 1902.

The Chairman said that they would all agree that Dr. Sproat's subject was a very important one, and one which had reached a very acute stage, in that county (Somerset) at least. The difficulty seemed to be to know who should deal with it. They were all agreed that there should be some educational process for imbeciles. At present the matter lay between the county councils and the boards of guardians, neither of which would undertake the responsibility. It seemed that there was not sufficient power without alteration of the standing laws to deal with the matter, and another difficulty was that of finance. It was impossible for them to expect guardians to provide instruction and training for imbeciles as Dr. Sproat had said, as they had such a small number. The experiment would be too expensive, but it seemed to him that if the guardians in several counties were to amalgamate and provide a large idiot asylum such as they had in the North, such as the Royal Albert Asylum (which, however, was charitable), that would meet the difficulty. He thought that they should confine themselves to children to start with, as he did not think much could be done with adults. As regards the financial question, the staff would have to be numerically as strong as in an asylum; and on account of the more individual care required, the pay would be higher, so that the experiment would be a costly one. They hoped, however, that careful training would produce sufficient ability on the part of the inmates to at least partly repay by their labour some of the costs of the institution. Then there was custodial care, which was important for many reasons. After training there should be great care with the cases on leaving the institution; and secondly, cases that could work together could be kept together, and were much more likely to be profitably undertaken.

Dr. Davis said that the matter had come up in Devonshire, and they had been informed that the Act prevented the county council building for idiots and imbeciles. The idea had been that Devon should co-operate with, say, Somerset and Cornwall, and build an institution which would be suitable, but the Act of Parliament prevented them, and the matter remained *in statu quo*. In asylums the majority of cases were capable of very little training.

Dr. MacBryan said that with regard to what Dr. Davis had said about the inability of the county councils to act, he was under the impression that Middlesex County Asylum had built a place in its own grounds.

Dr. Braine Hartnell said that at Worcester they had several instances, chiefly in the case of girls, of what they might call moral insanity—they had no idea of decency. Directly they went out in the world the strain was too much for them,

and they broke down again. Could not some place be got as a sort of after-care, where these people could go and live and work to earn money to pay for their keep? They were absolutely unfit to go out in the world, yet it was the greatest difficulty to certify them.

Dr. LAING questioned whether any school authority had any power to build a school or institution for idiots. He believed that a school authority had power to maintain a school for imbeciles.

Dr. MACDONALD said that the real difficulty raised by Dr. Sproat, and referred to by the majority of speakers, was the question as to what power any county council had to provide a home for those cases not certified. Personally he did not think they would get two or three counties to combine for purposes of this kind. They might get them to do it if the places were maintained by voluntary subscription, but not from the rates. He had been for years, and was still of the same opinion, that each county should do as Middlesex and Hampshire had done, and that was to provide a special block for the treatment of idiots and any other cases which it might be thought fit to send there. He was quite sure that the Legislature never contemplated that there should be more than one lunacy authority, and that one was the county council. He did not wonder at the boards of guardians refusing to do this, because if they did so it would be converting every workhouse in the country into a miniature asylum. Workhouses were not meant for that class of people, and they would find that the Legislature would force the hands of the councils until they had made provision for every one of these cases. He believed the blocks at Fareham and Wandsworth answered admirably; he had tried to get a case admitted, but he was told that all they could do was to provide for their own.

Dr. SPROAT, in replying, said that he thought it was fairly settled that the county councils could not provide for idiots and imbeciles other than as lunatics, and as the law stood at present there was no place except lunatic asylums for them.

The Relation of Mental Symptoms to Bodily Disease, and their Treatment.

By NATHAN RAW, M.D., M.R.C.P.(Lond.), F.R.S.(Edin.), Physician, Mill Road Infirmary, Liverpool.

DURING the last few years great importance has been attached to the consideration of the treatment of those patients who, though not permanently insane, presented mental symptoms requiring immediate and active treatment. Physicians who are brought into contact with large numbers of cases of bodily disease are generally agreed that many of them exhibit mental symptoms concurrently with their bodily illness which are entirely due to the disease itself, such as the initial delirium of pneumonia or the profound depression of influenza.

The nervous system may be attacked in precisely the same way as any other system by toxic poisoning, such as alcohol or arsenic, or by the toxines produced in the course of any of the specific infective fevers. Having made a diagnosis of such a case, the question of prime importance arises, How are we going to treat the case? Many patients exhibit such

dangerous homicidal and suicidal tendencies that it would be highly injudicious to attempt their treatment at home or even in the wards of a general hospital.

If a patient with raving delirium of pneumonia jumps out of a hospital window, a coroner's jury will probably attach some blame to the hospital authorities, whilst if a patient committed suicide at home the medical attendant would no doubt come in for some censure from the relatives. To the medical man there is no question which causes him such anxiety. There is no time for delay, the onset of the symptoms is rapid and uncertain, and it is necessary for the protection of the patient himself and his neighbours that he should be placed under proper restraint and control at once.

Where is he to go? It is a fact that in a large city like Liverpool there is actually no facility for treating a case of delirium tremens excepting the workhouse, and perhaps one or two nursing homes who do not encourage their reception. In the present state of the Lunacy Law all such patients requiring treatment in an institution must be certified as lunatics, either pauper or private.

My earnest contention is that there ought to be some provision made by law for the treatment of temporary or incipient mental cases *outside* a lunatic asylum, either in wards attached to a general hospital or in a reception house or mental hospital. The period of stay in this mental hospital should be strictly limited to time—to, say, six weeks,—and on the expiration of that period, if no improvement showed itself, the patient should be legally certified to an asylum.

My opinions are based on experience, as during the last five years, whilst in charge of this large Poor Law infirmary, I have had under my care 3129 lunatics, made up as follows:

Admissions from July, 1897, to July, 1902: males, 1671; females, 1458; total, 3129. Nearly all these patients were admitted under Section 20 of the Lunacy Act, 1890, on a three days' order. Under the powers of this Act I have authority to further detain the patient for a period of fourteen days, and even a further three days, making in all a total legal detention of *twenty days*.

Taking advantage of this authority, I have been able to discharge recovered no less than 1006 patients out of a total admission of 3129, or 32 per cent. It is only fair to say that a

large number of these cases were due to excess in alcohol, the effects of which generally pass off in four or five days, but often extend to weeks.

The point I wish to emphasise in this paper is this—A great number of people are sent to lunatic asylums every year unnecessarily, necessitating the provision by the asylum authorities of a great number of beds for acute cases. What is the result? The asylums are overcrowded with the accumulation of chronic cases, with no room, as at present, for the reception of acute cases. At least, this has been the position in Lancashire for some years.

The remedy for this chaotic and unsatisfactory condition in dealing with the insane which I suggest is as follows:—In each city or town a reception hospital for mental cases should be established, either attached to the general hospital or provided by the municipality at the expense of the rates, for the reception of all acute cases, or those people found wandering at large by the police. These patients to be placed under the best possible conditions, and treated by expert physicians. In a great number of instances the patient would completely recover, and be discharged to his friends; those who did not recover in six weeks would be certified to a private or pauper asylum. In addition to this, the workhouse authorities might arrange to detain every lunatic for the full period of twenty days in the wards of the infirmary before removing him to the asylum,—that is in those cases which required this detention.

The advantages of such a system of treating such cases are obvious; in the first place a large percentage of lunatics would never require to be legally certified, and would thus be spared the stigma of having been associated in a public asylum with hopeless dements and imbeciles, resulting in loss of employment and distrust for the rest of their lives. I have known a respectable man who was certified to a lunatic asylum suffering from the initial delirium of typhoid fever. On his discharge he was dismissed from his post as he was not considered safe. Then, again, there would be a great opportunity of teaching students and demonstrating to them cases of acute mental disturbance, which they have little or no opportunity of studying at present.

The objection (if such it can be considered) would be that the lunatic asylums at present would be deprived of the most

interesting and curable cases of insanity, and their statistics would suffer accordingly; but I cannot think that any asylum medical officer would seriously raise such an objection if the principle was for the public good. There will always continue to be numbers of acute cases requiring active asylum treatment, but my plea is for those who are not really lunatics in the true sense of the word, but rather temporary lunatics for the most part suffering from toxic poisoning of their nervous centres. In spite of what may be said to the contrary, there is a real stigma attached to a person and his friends who has been legally certified as insane; and I only contend for those who ought not to be certified,—for those who are really insane the disabilities must follow.

With regard to whether fresh legislation is necessary to establish such mental hospitals, and the details of supervision and management, I am not at present in a position to discuss them; but I earnestly hope to see some such effort made to remedy the present unsatisfactory manner of dealing with the insane.

In my opinion the time will come when the whole responsibility of dealing with the care and treatment of the insane will devolve upon the county councils and city and borough councils, and be entirely removed from the Poor Law authorities.

Clinical Notes and Cases.

A Case of Epilepsy with Glioma following on Traumatic Injury of the Brain. By A. R. URQUHART, M.D., and W. FORD ROBERTSON, M.D.

V.P. 73, æt. 34, admitted into Murray's Asylum, Perth, on October 12th, 1897. A married male.

Family history.—Vigorous and healthy, the various members of the family having occupied positions of responsibility with great credit.

Personal history.—Generally healthy. As a young man he was of exceptional ability, especially clever as a linguist; and at the age of twenty-one entered the Indian Civil Service, in which he was duly promoted. He was notably kindly and obliging in disposition, and very popular with all classes. To the end he maintained this reputation.

In 1887, at the age of twenty-four, he fell from his horse, and was so severely injured that he remained unconscious for ten hours. In the beginning of 1896 a remarkable change occurred; he then became apathetic, sedentary, and disinclined for his usual sports and pastimes. This was noticeable in his dress and in his relations with his wife and child. He lost interest in everything, and could not fix his attention on his work. These symptoms did not seem to be appreciated by himself, and his affairs were allowed to drift. In August of that year attacks of *petit mal* were noticed, and in February, 1897, the first major attack was recorded while he was presiding in Court. Between the following May and July, while living in the Nilgiri Hills, he had two seizures, and *petit mal* was of frequent occurrence. He then left for England, and severe epilepsy occurred at uncertain intervals, so that prior to his admission the nature of his malady was undoubted. There was nothing whatever in the life history of the patient or his parents to account for the development of epilepsy except the traumatic injury received nine years before the symptoms became apparent.

On admission the patient was to all appearances in good physical health, except that he exhibited marked local tremors. Albuminuria had been reported, but was never evident during his stay in Perth. The tremors were at first limited to the right forearm in the attitude of pronation. Supination at once inhibited the motion, and it could be controlled at will. When attention was called to the tremors, they ceased until his mind was otherwise engaged. Appetite hearty, and bodily functions well performed. Mentally he was slightly demented, his manner childish, and his finer characteristics blunted.

During residence in the asylum *petit mal* was of almost daily occurrence, and major attacks were frequent. Medicinal treatment was absolutely ineffectual. In December, 1897, the right foot dragged in walking, and at that time the first observed fit was recorded :—Head turned to the right shoulder; conjugate deviation of eyes to the right; pupils widely dilated; slight opisthotonos; limbs extended. The tonic stage lasted fully two minutes. The convulsions then became general, markedly affecting the right side—the right arm more than the right leg. Eyes rolling, with occasional internal strabismus. In the post-epileptic stage the tremors of the arm and the dragging of the leg were more apparent. In the course of the same month trophic symptoms occurred—an œdema of the left eyelid, eyebrow, and cheek, as if these had been scalded.

This was immediately followed by a herpetic eruption over the area of the first division of the fifth nerve, with great pain in the left eye and ear. This became neuralgic in character. In February, 1898, during a major attack the left arm and leg were violently convulsed, while the limbs of the right side remained still. This phenomenon had been previously observed by his attendant, and on the second occasion it was possible to confirm the observation by medical evidence.

In March, 1898, Dr. Byrom Bramwell concurring, Mr. Cotterill exposed the motor area on the left side. A spicule of bone was observed projecting towards the brain, but it may have been detached by the operation. Along the side of the arm-centre a patch of opalescent membrane was noted, and a piece of it was submitted to Dr. Ford

Robertson for report. There was undoubted evidence of high tension, but no tumour could be defined. Dr. Ford Robertson reported that the piece of pia arachnoid was affected by a long-standing inflammatory process.

The immediate result of the operation was to stop the local tremors. The major epilepsy ceased, but the *petit mal* continued unabated. On April 26th a major fit occurred, and the subsequent history of the case was characterised by gradual physical and mental deterioration. Towards the end of 1899 he became markedly amnesic. In November, 1901, the following facts were noted:—Smell normal; taste depraved—salt could not be discriminated from sugar, but quinine was slowly recognised by the bitterness; eyes myopic; fundi normal; intermittent diplopia; colour-vision normal. Common sensibility and localisation of sensation were dulled on the right arm, otherwise normal; perception of heat and cold normal; no anæsthesia of face; reflexes normal; knee-jerks exaggerated; left pupil dilated and reacting sluggishly to light and accommodation. Slight drooping of the right side of the face allowed saliva to trickle from that angle of the mouth. Movements of facial muscles apparently equal on both sides. Faint tremors of tongue and jerking movements of right arm and leg, specially involving the flexors and rotators of forearm and wrist and the extensors of the ankle. These were no longer controlled by attention and position did not affect them. Dynamometer grip, R. 45, L. 35. No evidence of electrical phenomena of degeneration. Memory very defective; aphasia marked. The aura at first was a "rush of blood to the head," latterly "people shouting" and a feeling of globus hystericus, preceded by a very bitter taste. At first the patient had time to lie down before the fit occurred, but in the end he had no interval of voluntary movement.

The aphasic symptoms were principally connected with the names of objects, and were apparent in speech and writing. Writing was always shaky and illegible. The names of objects entirely disappeared from memory, but some could be recalled by trying various nouns—wrong many times, but right at last. On pantomimic representation of the use of things, the names of which were forgotten, he could often recall the word. Latterly the patient wrote fairly well to dictation, and copied fairly; but he had great difficulty in expressing his thoughts in writing. This was intensified in the post-epileptic condition.

He died on February 19th, 1902, during a major attack. Death was due to failure of respiration, the respiratory act having been arrested in extreme inspiration.

Abridged Pathological Report by Dr. W. Ford Robertson.—Examination of the brain has shown that this case was one of infiltrating glioma of the left cerebral hemisphere. The new growth (after hardening of the tissues in formalin) is, for the most part, of a grey colour, intermediate between that of normal cortical substance and of white matter, and has a soft and elastic consistence and gelatinous aspect. It passes almost

insensibly into the normal tissues, and therefore its limits cannot be defined accurately. The following portions of the left hemisphere are, however, distinctly involved:—The whole of the island of Reil (which was probably the seat of origin of the morbid growth), the greater part of the white matter (adjacent) of the frontal and temporo-sphenoidal lobes, the basal ganglia, the whole of the cornu Ammonis, the white matter of the centre of the parietal lobe as high as the level of the upper surface of the corpus callosum, the cortical substance of the anterior third of the temporo-sphenoidal lobe and of the posterior two-thirds of the inferior aspect of the frontal lobe, and the tissues in the interpeduncular space. In the last-named situation the right side was involved to some extent as well as the left. Portions of the tumour taken from various parts present under the microscope the typical structure of a glioma. In the centre of the left parietal bone, the flap raised at the operation is still distinctly defined, having only in part undergone osseous union. It measured three inches by two and a half. Subjacent to this flap the dura mater and pia arachnoid had become adherent to each other (report of *post-mortem* examination), and the latter had also evidently become attached with abnormal firmness to the cerebral tissues. The brain presents in this position an extensive area devoid of pia arachnoid, and having a slightly eroded appearance. This area measures two and a quarter inches antero-posteriorly, and three inches from above downwards. Its anterior margin just touches the fissure of Rolando; the upper margin is one inch from the great longitudinal fissure. Microscopic examination of this area reveals a slight degree of sclerosis in the outermost layer of the cortex and a well-marked sclerosis of the white matter. The nerve-cells show advanced pigmentary changes and central chromatolysis. In the corresponding portion of the right hemisphere there are similar but less marked nerve-cell changes, whilst the sclerotic changes are practically absent. There is a small area of necrosis in the bony flap, but this does not appear to have been associated with any accumulation of pus between the bone and the dura. The piece of small intestine submitted for examination shows a very severe condition of long-standing atrophic catarrh. It is very probable that the process of gliomatous infiltration was set up by the traumatism recorded in the history. Numerous

cases of both spinal and cerebral glioma have been recorded, in which a severe traumatism seemed to have initiated the disease.

Remarks.—The interest of the case lies in the localising lesions and the apparent degeneration of the brain tissue at the time of operation. It was evident that it was of such a wide-spread nature that nothing could be done to avert the fatal issue. Yet, as might be expected, the relief of the internal pressure for a time resulted in amelioration of the grosser symptoms. In a case which we reported in the January number of the *Journal of Mental Science*, epilepsy followed on traumatic lesion of the frontal lobe, and in the present instance a similar result has been noted. It is common knowledge that cerebral injury may remain, as it were, latent for many years, and while we would narrowly scan the evidence on which such cases are generally accepted, there is now accumulated certain evidence in favour of this belief. At least, in these cases we have a certain history of trauma and consequent degenerative lesions, as ascertained by *post-mortem* examination.

A Case of Sulphonal Poisoning.

By H. de M. ALEXANDER, M.D.(Edin.), Senior Assistant Physician, Royal Asylum, Aberdeen.

A YOUNG woman of fair physique and 32 years of age, who looked anæmic but did not suffer from constipation, had been labouring under chronic mania of over two years' duration.

After a comparatively quiet interval of six weeks she became acutely maniacal, destructive, and impulsive. As on former occasions when an acute exacerbation of her mental affection had occurred, sulphonal was again administered to her in 30-gr. doses daily for one week, producing as much sedative effect as was desired without any untoward symptoms ensuing.

About twenty-eight hours after the last dose she refused her breakfast, and vomited shortly afterwards. Her skin was observed to be cold and clammy; pupils normal; pulse 86 per minute, of low tension, and somewhat irregular; respirations normal; temperature subnormal. Her gait was "groggy," but not to any marked extent; articulation was rather slow, but otherwise perfect, and her mental condition, though apathetic,

was clearer than it had been for many months. The patient complained chiefly of feeling "very cold," and she was placed in bed and treated as a case of sulphonal poisoning.

The leucocytes numbered 5642 per c.mm., and remained under 6000 per c.mm. till the end. The urine, which was of a deep port-wine colour, contained a trace of albumen, and on being examined at the laboratory of Professor Hamilton was reported to contain hæmatoporphyrin.

In spite of treatment her condition became rapidly worse. Flaccid paralysis appeared first in the legs, and spread rapidly upwards until the patient was barely able to turn her head. A varying amount of anæsthesia to touch, heat, and cold was present, and was most marked in the lower extremities. The muscles were very tender to deep pressure, and shooting pains were complained of, chiefly in the lower limbs.

Bullæ appeared on the heels, calves, elbows, and the radial side of the left forearm. The superficial and deep reflexes were lost, and the contents of the bladder and rectum were passed involuntarily. The act of swallowing became gradually more and more impaired, the respirations hardly perceptible, and speech a mere lisp. Though naturally a certain amount of mental lethargy was present, the patient was cognizant of everything that went on around her, and her intellectual faculties remained remarkably clear until her death, which occurred on the fifth day after the toxic symptoms were first observed. A post-mortem examination was not obtained.

Though the above case may be regarded as an example of chronic sulphonal poisoning, certain "by-effects," as is well known, may ensue shortly after an initial dose of sulphonal or trional; the usual symptoms being vomiting, muscular incoordination, and mental torpor, with, in the more severe cases, a considerable amount of prostration associated with a rather rapid low-tension pulse.

Of ten cases in which we have observed these symptoms, sulphonal (30 grs.) was the drug administered in eight of them, and trional (20 grs.) accounted for the other two. All of these patients were women, and under treatment they recovered more or less rapidly.

In nine of these cases the menstrual epoch was imminent or already present; hence it would appear that sulphonal and trional should be used with caution in women at this period.

Occasional Notes.

The Annual Meeting of the Medico-Psychological Association.

The Sixty-first Annual Meeting of the Association was held at Liverpool on the 24th and 25th of July under favourable auspices. By the courtesy of the Medical Institution, their spacious rooms were set apart for the scientific and business engagements usual on these occasions, and in no small degree contributed to the success of the meeting.

It may be confidently stated that the Association has never shown greater activity in dealing with the questions of the day, that it has never been more intensely vital in discussing subjects of real importance.

The work of the various committees already existent has proved insufficient for the energies of the Association, and we rejoice to note that the statistical tables of the Association have been referred for consideration and report next year. In view of recent advances in our specialty, the time is ripe for some improvements in our statistical methods and some enlargement of the scope of our observations. While that is so, we would plead for a retention of so much as is of value, especially for purposes of comparison. We cannot forget how Dr. Hack Tuke laboured to perfect the tables that are at present in use, how he sought for expert advice, and what importance he attached to Table II*a* as a record of results as accurate as can be obtained. We think that the time has come when our newly appointed librarian should collect and arrange all asylum reports for reference. Untold labour has been expended upon the production of these statistics, and they are in danger of being lost to investigators. If our medical officers are to be encouraged to continue their annual work in this direction, they should enjoy the hope that it will not be fruitless. We feel assured that sets of these reports might be obtained without great expense or difficulty, and that at least the statistical tables of such as are out of print would be sent to the library in manuscript. If the Association does not set a mark of appreciation on these annual reports by collecting and conserving them now that it is in possession of means so to do,

it is of comparatively little use to urge its members to more labours. Again, the latest investigations into the causation of mental disorders reveal the importance of early symptoms. We desire to know the prodromes, the events of the onset—we should ascertain and record all the facts of physical and mental deterioration in the precise order of occurrence. It will be for the committee to consider such questions as these, and so to thoroughly revise and modernise the statistics of insanity.

Dr. Wiglesworth, in his most interesting and practical presidential address on some of the problems of heredity, showed how important to the welfare of humanity such studies are; and it would be well if that address made a deep impression on the minds of the Statistical Committee and issued in some more precise and useful methods of recording observations than those we at present employ. We attended the meeting in full confidence that our President would set before us facts and conclusions garnered by his wide experience and illumined by his great ability. Whatever may be said in adverse criticism of overgrown asylums, it is evident that they impose no disability on high thinking and scholarly attainments. We congratulate the Association on having elected a President who has done so much to render our last annual meeting entirely worthy of the high aims of our Association.

We have no doubt that this number of the JOURNAL will be perused with great interest, as we have been able to present to our readers much of the transactions of the Liverpool meeting. We need not refer in detail to the various items of interest, but would remark on the high standard of the work done. While the Association can attract men of science and men of affairs its progress cannot be other than triumphal.

The Prevention of Syphilitic Insanity.

The prevention of disease, apart from the so-called preventable diseases, has at last attracted the attention of the public, as evidenced by the movements now in progress in regard to tuberculosis and cancer.

Syphilis, the most preventable of all diseases, is also now beginning to be brought into notice by the medical profession,

and we trust that the same success may attend efforts in this direction as in the two above-named diseases.

The dissemination of syphilis of late years has been permitted to be carried out to an unlimited extent, especially under the ægis of the religious (?) feeling of the country, and the plea of the liberty of the subject. The liberty of the subject to spread scarlatina and even smallpox has been greatly interfered with, but this more dangerous disease is allowed to be disseminated under the most favourable conditions, until at last it is becoming a national evil.

Insanity resulting from syphilis is probably the most obvious of all the innumerable evils resulting from it, although in every medical text-book on every disease the part that syphilis plays is luridly painted.

Statistical evidence of syphilitic insanity is, however, very defective, and bears witness to something wanting in our methods of arriving at the actual rather than the apparent causes of disease. In the Report of the Commissioners in Lunacy for the year 1901, seven deaths only are ascribed to syphilis, whilst in the quinquennial average of the assigned causes (either sole or combined) on admission the number is 341. Upwards of 1200 patients suffering from general paralysis are admitted in each year, whilst no less than 1500 died of it in 1901. Yet this disease is said by some observers never to occur without syphilis. This is, however, by no means the only form of insanity which can be traced to syphilis, so that the want of record of this element of causation is indeed striking, and definitely points to a conspiracy of silence. How this difficulty is to be overcome is indeed a serious question; physicians have naturally an objection to hurting the feelings of patients' friends by stating syphilis as a cause on the death certificate, and this objection cannot readily be removed. Statistical evidence of any value could probably only be obtained by a voluntary census of the existing cases in individual asylums and if possible of all asylums. Even this would probably fall far short of the truth.

Heredity of syphilis is probably an important factor in the predisposition to insanity, being ascribed in 2 to 5 per cent. of idiots, and detectable in many persons of unsound mind.

The question we have to ask is, If syphilis were abolished, what would be the reduction in the number of cases of insanity?

Observers would give very different answers to this question, and the estimates would probably range from 5 to 15 per cent. However valuable such an estimate might be, it would not be sufficiently reliable to form a foundation for an application to Parliament for legislation to prevent the present untrammelled propagation of the disease. The Statistical Committee appointed by the Medico-Psychological Association will do good work if it can devise a method by which, without offending the susceptibilities of patients, some definite record of inherited and acquired syphilis in the insane, and of its share in the production of insanity, could be obtained, with a view to aiding in future legislation for the prevention of this disease.

Drug Therapeutics.

The investigation of the therapeutic action of drugs from the darkest ages has ever been of the most unsystematic kind, nor can the present methods of arriving at their actual value be considered as satisfactorily scientific, many new drugs being introduced into professional medical use in a manner that is open to very grave objection.

The common method is for a firm of druggists to get hold of a new chemical compound whose immediate physiological effect has been tested by laboratory experiments, to persuade a number of physicians to try it, and to select for advertisement the reports that are favourable, ignoring all others. The actual advertisement is then made in what is really a monthly drug list, garnished with a little scientific quotation and a few medical platitudes, to give it the semblance of a therapeutic journal of a professional character.

The drug is then still further distributed to medical men and druggists, and some few sanguine members of the former class venture on trying it, or the public, reading the advertisements or hearing of the marvels from the chemist, press their doctors to prescribe it.

If a physician of repute takes it up, it becomes the vogue until some other novelty arises, so that at seaside resorts the chemists complain that they are heavy losers by their stocks of drugs, which in one season are contained in every prescription, and in the next are absolutely disused.

The remote effects of these drugs are not at once ascertained, and it is only after a time that their defects or uselessness or real use are demonstrated by a very desultory experience.

Scientific therapeutical investigation indeed can scarcely be said to exist. The organised bodies of the medical profession, whose duty it should be to issue authoritative information and to protect the public, are absolutely apathetic. The College of Physicians is assuredly the one body whose clear duty it is to undertake such investigations, and it should be aided by the Society of Apothecaries. The College, instead of leading, guiding, and instructing in all matters relating to social medicine, appears to be content if its opinion is asked on any of these matters in regard to which action is being taken by public initiative. It appears to have lost all sense of its high duties and opportunities.

The Medico-Psychological Association, although burthened by no duty in this respect, might well set a good example of initiative by collecting and recording the vast amount of therapeutic experience that is available in asylums for the insane, and of which an infinitesimal portion is available for scientific purposes. New remedies are tried in every institution, and if the experience thus obtained could be to some extent combined, valuable information might be put on record, which now is almost utterly lost.

The health of the country suffers so much from quack treatment, proprietary medicines, and the attractive preparations of the advertising chemist that it has become the most prominent duty of the medical profession to combat the rapidly increasing evil. The recognition of this obligation by one association would soon be imitated by others, and might lead ultimately to a re-awakening of our somnolent medical corporations.

Notes of a Visit to Continental and British Asylums. (1)

Mr. Clifford Smith's remarks on the various asylums he visited are of so much value that the report should be read by every one interested in asylum structure and management.

The report deals, as would be expected, mainly with structural and engineering points. The asylum administrator will find in it instructive and valuable information, which is set

forth clearly, tersely, and in business-like language, conveying the impression that great care has been exercised to state facts accurately and honestly without waste of words. It forms a very clear exposition of the present state of affairs as regards asylum construction, and at the same time it is interesting reading for any one attached to the staff of an asylum.

The author visited twenty-eight institutions in all, situated in France, Germany, Holland, Scotland, and one in England. He apparently left very little unseen worth seeing. The report is illustrated by close upon ninety woodcuts of various kinds, reproducing indoor and outdoor photographs and plans. Their origin is, wherever possible, suitably acknowledged, as are the sources of information generally, and also the attention bestowed him on his tour.

The first part consists of descriptions of various institutions. This is followed by a summary dealing with each country visited; and finally various conclusions are set forth, and recommendations made. We can only deal with the latter here.

After careful comparison of the various systems of asylums which Mr. Clifford Smith saw on his tour, and comparing these with the London asylums, he suggests that the coming asylum should be in three sections. The first should be for recent and acute cases, comprising admission pavilions, acute and infirmary pavilions, and pavilions or villas for convalescent patients; all being detached buildings with ample space about them. This section, which he calls the hospital, should be designed upon hospital lines, and should be distinct and well removed from the other sections of the asylum. It should be adjacent to the administrative centre, and the type of building should be a combination of pavilion and villa, except for the convalescent cases, for which the house-villa type alone would suffice.

The second section should be for refractory and infirm chronics. Its buildings would be similar to those for the acute cases, but of a humbler type, all being detached, and all within a reasonable distance of the administrative department.

The other section, for quiet and harmless patients, would consist wholly of detached houses and villas arranged in suitable positions about the estate.

He recommends the two-storey type of building for the first two sections.

The author goes into details, discusses the problem, and gives reasons for his recommendations; and concludes with a table showing the comparative cost of buildings and the maintenance rates of some of the main asylums.

Mr. Clifford Smith and the Council are jointly to be congratulated on the report, which testifies to the further awakening of the public interest in the mentally afflicted.

(1) Clifford Smith, C. W.: Report to Asylums Committee, London County Council, 1901.

Increase of Certified Lunacy.

The steady increase in the number of the certificated insane is evidenced by the rise in the number of first admissions to asylums, single care, etc. The report of the Commissioners in Lunacy just issued shows that the ratio of first admissions per 10,000 of the population has increased from 4·94 in 1898 to 5·31 in 1901. This, if not due to exceptional or temporary causes, is so serious that it would seem to demand attentive consideration.

The importance of the increase may not, of course, be so great as it at first appears; the greater part of the advance (from 5·05 to 5·31) having taken place in the last year (1901), and cannot therefore be regarded as a fixed increase until the statistics of the present year are available to confirm or negative it to some extent.

The increase in these years may be due in a considerable degree to the vigorous campaign of prosecutions for illegal treatment carried on during the last few years, which has had the result of making medical men and others taking charge of borderland cases much more careful to obtain certificates in any cases of doubt. Another possible element of increase is the cessation of the war, the excitement and interest which sustained many during its continuance leading to a breakdown when the stimuli ceased to act. Such an increase of insanity following on the cessation of war has been noted on more than one occasion.

The increase, if not attributable to some such temporary conditions, would lead to the conclusion that mental disease was really increasing rapidly, and would be an additional reason

for the more speedy and extended adoption of the means for the special treatment of incipient disorder by hospitals and reception houses, which afford the best hope of making any marked progress in the prevention of insanity.

New (Ninth) Asylum for London.

"The cry is still they come," and speculation tries in vain to foresee the end of the procession.

In the new annual report of the London Asylums Committee just published it is stated that "as a result of the report (1) of the asylums' engineer (Mr. Clifford Smith) we shall in due course recommend that the ninth asylum be a modified form of the villa type. The preliminary plans, etc., in connection therewith will be prepared by the asylums' engineer, the Council having voted a sum of £1000 for this purpose, but until they are completed we are unable to give particulars as to accommodation or an estimate of the cost."

The issue of the plans will be awaited by the specialty with considerable interest, although the general arrangement of the new asylum may be imagined from the description of its being of the modified villa type, in the light of the engineer's very lucid report.

The estimate of cost will also be awaited with interest; it will be disappointing if an institution on such lines cannot be provided at a cost very greatly below that which has been attained in previous asylums.

(1) Elsewhere alluded to in this issue of the JOURNAL.

Insanity in Jerusalem.

The letter published in "Notes and News," from the Superintendent of the English Hospital in Jerusalem, draws attention to the want of provision for the enlightened treatment of the insane, as well as to an interesting instance of maltreatment.

The Christian (?) belief that insanity is due to possession by evil spirits, etc., led to much if not all of the barbarous maltreatment of the mentally afflicted throughout Christendom

during the middle ages, and even into the beginning of the nineteenth century.

That this horrible idea should still flourish in the scene of Christ's teachings twenty centuries later is one of the most grotesquely ironical facts that can be conceived.

The picture of an almost nude lunatic chained for forty days and nights (the period of Christ's temptation ?) to the altar of an "orthodox" Christian church is one that should bring a blush of shame to every believer in Christianity, and should stir up an indignant desire to overcome such an anachronistic and antichristian anomaly.

Mahommedans treated insanity, as mentioned in our last issue, in connection with their hospitals, recognising it as disease, and the first hospitals for the insane in Europe were those established in Spain,—due, no doubt, to the influence of Moorish ideas and examples. If the above-mentioned fact were sufficiently widely known, there is little doubt that an effort would be made to remove this reproach from the Christian Mecca.

Another Messiah.

The latest claimant to Messianic dignity is Mr. Piggott, of Clapton, who has been associated with a body known as the Agapemonites, and some members of that body have accepted him in this aspect.

The Clapton public, however, appears to have taken the matter very seriously and excitably, with the result that the new Messiah has received very extensive advertisement in the daily papers. This is to be regretted, since it is exactly what would best further the aims of designing imposition, and would be unkind if it were mere lunacy.

That the press and the public are not better informed of the frequency of the Messianic delusion is also a matter for regret. If the statistics of the number of persons now in our asylums who labour under this special delusion could be publicly announced, it is possible that the appearance of one more claimant would be received with greater equanimity, and lead neither to local commotions nor sensational paragraphs.

The treatment of these unfortunates prior to their qualifying

for admission to asylums should consist in avoidance of anything that could be construed into persecution, whilst their weak-minded dupes should be exposed to nothing more serious than kindly ridicule. This attitude would probably be more easily adopted if the commonness of the delusion in this and all Christian countries was more widely known. It would be therefore of real utility if some *amicus curiæ* would collect and publish the necessary statistics.

Part II.—Reviews.

Lehrbuch der Nervenkrankheiten für Aerzte und Studirende [Text-book of Nervous Diseases for Practitioners and Students]. By Prof. Dr. H. OPPENHEIM. 3rd edition, improved and enlarged. Berlin, 1902, S. Karger. Pp. xii, 1220.

The third edition of Prof. Oppenheim's well-known and excellent text-book of nervous diseases requires no lengthy notice. It is considerably enlarged, and the number of the illustrations has been increased from 287 to 369, but the arrangement and general principle of the work remain the same as in former editions, the author rightly considering that the favourable reception accorded to these indicates that in essentials his plan and methods are correct. His efforts, therefore, are still directed to rendering the work practically useful, and for this reason most attention is given to symptomatology, diagnosis, prognosis, and treatment; pathological anatomy being only described so far as it throws light on one or other of these subjects. Many will regret, however, that in order to economise space, he still refrains from giving any bibliography.

The book opens with a short introductory part on methods of examination and general symptomatology. In speaking of vaso-motor disturbances the author maintains the existence of a cortical vaso-motor centre in the motor region, both on experimental and clinical grounds; and to account for trophic disorders he advances the theory that diseases of the spinal cord which interrupt the passage of stimuli from the spinal ganglia lead to an accumulation of stimuli in the cells of these ganglia, and so to a pathological increase in peripheral nutritive processes; while affections of the peripheral nerves which impair but do not altogether interrupt their continuity set up conditions of irritation which, extending to the trophic centre, alter its function so as to cause nutritional disorders in the corresponding peripheral area.

The special part, forming the bulk of the book, deals in order with diseases of the spinal cord, peripheral nerves, brain, the neuroses,

diseases of the sympathetic, and conditions of intoxication in which the nervous system is especially involved. The descriptions of the symptoms are characterised by an admirable lucidity and conciseness, while at the same time nothing of importance is omitted. The sections on the diagnosis of the various diseases show a grasp and judgment which might be expected from the author's reputation; while those on treatment are, one might almost say, models of what such sections ought to be, omitting nothing of importance, while not overburdening the reader with valueless remedies and methods. In this department the author's object was, as he says, to avoid excessive scepticism as well as "the far more dangerous fault" of uncritical acceptance of statements, and in this we think he has upon the whole succeeded. Among the countless points that might be noted, it may be mentioned that the author, while giving a number of theories as to the first point of incidence of tabes, declines to commit himself to any of them, and also that he does not hold either this disease or general paralysis (of which an excellent account is given) to be essentially syphilitic, while not denying the immense importance of syphilis as a factor in their causation. He speaks well of Frenkel's "Uebungstherapie" in the former. There is an interesting account of the symptoms arising from disturbances of the cerebral circulation. In the section on the neuroses, without wishing to institute comparisons, we may mention that the article on migraine is good, and the same may be said for that on morphinism amongst the intoxications, though in the latter the account of the treatment leaves something to be desired, as there is no indication given to enable the reader to decide as to the best mode of withdrawing the drug. The work as a whole may be unreservedly recommended to all who require an accurate, concise, and fairly full treatise on the subject from the clinical standpoint; and last, but not least, it is written in a very readable style. W. R. DAWSON.

Clinique des Maladies du Système nerveux (Hospice de la Salpêtrière), année 1898-9, Quatrième et Cinquième Série. Paris: Octave Doin. 8vo, 579 and 648 pp. respectively, with figures and plates.

These volumes, which succeed three others of similar size issued in previous years, consist of lectures delivered by Prof. Raymond at the Salpêtrière. The subjects dealt with are of the most diverse kind. A few may be enumerated:—Two cases of Tumour of the Rolandic Zone; The Diverse Forms of Progressive Muscular Atrophy; Affections of the Terminal Cone; Juvenile General Paralysis; Partial Epilepsy; Topography of the Cortical Centres of General Sensibility; Three cases of Scleroderma; Infantile and other Forms of Myxœdema.

These works are of interest more particularly to the neurologist The subjects dealt with are, with one or two exceptions, outside the domain of mental disorders. There is a chapter on the Psychical

Equivalents of Epilepsy, but the conditions described in this, as in the chapter on Juvenile General Paralysis, are well known to the student of mental disease. At the beginning of each lecture is a summary of the subject-matter, and the same appears in the table of contents at the end of each volume.

It would serve no useful purpose to select one or two chapters—and space would allow no more—of these tomes for review. Although it must always be highly instructive to peruse the work of one holding such a distinguished position in neurology as Prof. Raymond, and of such great experience, yet but few, we conceive, will have the leisure to peruse unsystematic works of so voluminous a nature. By students of neurology they will doubtless be highly appreciated. The lectures are marked by all that aptitude for lucid exposition which we associate with the great French teachers of medicine. E. G.

The Elements of Mind: being an Examination into the Nature of the First Division of the Elementary Substances of Life. By H. JAMYN BROOKS. London: Longmans, Green, & Co., 1902. Pp. 312, 8vo. Price 10*s.* 6*d.* net.

The title of this book might suggest that it comes within the region of psychology; the phrase "substance of life" in the sub-title indicates, however—what is in fact the case,—that the scope of the work is entirely metaphysical. Like many other people with a passion for thinking, Mr. Brooks has worked out for himself a theory of the universe. "By a fortuitous train of thought I believe I have discovered the elements of Mind, which, when compounded with those of Force and Matter, constitute the mysterious substance we call Life. In this I claim to have found the solution of a great and world-old problem." Thousands before Mr. Brooks have thought the same. Every metaphysician thinks his own philosophy the one philosophy in the world, just as every youth thinks his own sweetheart the one girl in the world. Youth is required for this faith. Mr. Brooks began early. He tells us how, though orthodoxly brought up to believe in a personal devil, he thought out for himself the nature of virtues and vices, and found out that, however mischievous human vices may be, the majority are but virtues carried to extremes, while virtues are generally vicious impulses under the restraint of moderation; so that up to a certain point all nature is good, and beyond that point all evil. These youthful conclusions—which contain a real and subtle element of truth—constituted the germ of Mr. Brooks's philosophy, which may fairly be described as monistic and pantheistic, though the author would not admit that these designations are strictly correct.

Mr. Brooks writes with much appearance of lucidity and clearness, but it cannot be said that his arguments are always easy to grasp, this being due to the fact that his definitions are by no means sufficiently precise. The author writes to attract the scientific reader, and appeals for support to various scientific writers (including "Weissmann"), and

the refreshing eagerness with which he puts forward his views may be found stimulating by those who like the construction of metaphysical edifices on a more or less scientific basis. Mr. Brooks must scarcely expect, however, to attract either devoted disciples or active opponents outside his own circle. To influence the world a metaphysical system must either be the elaborated outcome of a lifetime of work and thought, as in the case of Hegel or Spencer, or else it must be interesting because, as in the case of Ostwald or Verworn, it represents the ideas of a man who has already attained eminence in a special field of science. Mr. Brooks may console himself with the thought that a like fate has befallen many works of greater intellectual distinction.

HAVELOCK ELLIS.

Ueber die sogenannte "Moral Insanity" [Concerning So-called "Moral Insanity"]. By P. NÄCKE. Wiesbaden: Bergmann, 1902. Pp. 65, 8vo.

This pamphlet belongs to the excellent little series of Grenzfragen des Nerven-und Seelenlebens, devoted to the exposition of various current problems in psychology and psychiatry. Dr. Näcke has often discussed the subject of moral insanity before, and here presents his latest views. He doubts if any cases of moral insanity, in the strictest sense, occur at all, with the possible exception of that recorded by Bleuler, and is not in favour of retaining the name. It is very doubtful, he argues, whether, in such cases as have been recorded, the intellect is ever quite intact. Considering only the broad lines in their clinical aspects, there are two types of these cases—an active and more dangerous type, a passive and more harmless type. In the first there may be slight nervous disturbances from an early age, but the child is chiefly notable for its domineering, cruel, and unaffectionate disposition, and is always a liar and a hypocrite. He becomes the black sheep of the family, and is perhaps sent abroad, or passes from prison to prison, from asylum to asylum. The girls show inaptitude for any honest occupation, and tend to become prostitutes, even if of good family. Sometimes, however, the individuals of this type are placed under circumstances which enable them to achieve success, even fame the aureole of the hero. Such were some of the conquistadores, like Pizarro, and Näcke is inclined to place in the same group certain Englishmen of recent times, especially Cecil Rhodes and a well-known living politician. Even, however, when we admit abnormality, these suppositions seem a little hazardous. Näcke's second type is marked by indolence, indifference, egoism; but, in consequence of less active energy for evil, it is more capable of adaptation to social ends. All the cases of either type may be classed pathologically, Näcke believes, under one of three heads: (1) imbecility; (2) periodic or cyclic anomalies; (3) psychic degeneration in Magnan's sense. The use of the term "moral insanity" is thus regarded as unnecessary.

Concerning the forensic aspect of such cases, the author has little

that is novel to bring forward. He demurs to the statement of the present reviewer that the "moral imbecile" is properly regarded as a criminal. But at the same time he insists that the prison should be made "a kind of hospital and educational institution," and advocates the indeterminate sentence. "Moral insanity" is admittedly a somewhat peculiar form of insanity. Since, therefore, it is possible to treat it in a prison it is surely reasonable to do so, and, in so doing, to avoid unedifying and usually fruitless wrangles between the representatives of medicine and of law. HAVELOCK ELLIS.

Psychologie du Délire dans les Troubles psychopathiques. Par N. VASCHIDE et CL. VURPAS (Encyclopédie des Aide-Mémoire). Paris: Masson & Gauthier-Villars, 1902. Pp. 190, 8vo. Price 2 f. 50.

This little volume—written by a psychologist, who has previously done good work, in conjunction with an alienist—is somewhat disappointing. The aim of the book is excellent. It is proposed to deal with "the psychological mechanism of delirium," and to reach a clear critical conception of this highly important element in mental disturbance. The authors decided, however, to discard the experimental and strictly scientific methods with which they are most familiar, and to make a study of "the complete bibliography of the question, guided by the simple desire to know where the question stands, what methods have been employed to investigate delirium, and what the worth is of the psychological analyses that have been reached." This is a legitimate method of approaching the question, but it obviously involves some scholarship, and in this respect, it is too clear, neither author is well equipped. For ancient writers they constantly quote from Trélat's historical work on insanity; their knowledge of German authors, when not translated into French, seems to be confined to summaries in journals; English authors are mostly ignored. So easily accessible an ancient classic as Aretæus is only known to them at second hand; and, still stranger, so is a French classic, Pinel. This lack of direct grip on the writers they are investigating renders much of the book bald and uninforming, although the opinions of a great many authors are here brought forward.

In their first chapter, and again in the concluding chapter, the authors attempt to limit and to define the term "delirium," which has a more precise and explicit sense than "insanity," having reference to "what passes in consciousness independently of the motor reactions by which it is manifested." It is suggested that the key to the genesis and mechanism of the various states included under delirium may be found in the association of ideas. The authors regard delirium not as a special "syndrome," but as "the efflorescence of a subconscious psychological activity which, in its fundamental elements, exists not only in morbid but in normal states,"—not merely in dreams, but in "the intimate essence of human activity, that human loquacity which so feverishly intoxicates the intelligence." HAVELOCK ELLIS.

Gli Arii in Europa ed in Asia [The Aryans in Europe and Asia]. By G. SERGI. Bocca, Florence, 1902. Pp. 372, 8vo. Price 5.50 lire.

In this volume Prof. Sergi has presented us with a supplement to his *Mediterranean Race*, and has further discussed the great problem of the peopling of Europe and the origin of European civilisation. In the earlier volume he marshalled before us all the evidence which is gradually tending to show that the greater part of the population of Europe and the best part of its culture may be traced back to the dolichocephalic people—by him termed Eurafrican race—inhabiting both shores of the Mediterranean. In the present volume he discusses the origin of the Asiatic brachycephalic element in European populations, and its relationship to the Aryan family of languages. It is admitted that Asiatic migrations into Europe occurred at the end of the Neolithic period, and that at the same period metals appeared in Europe, as well as the practice of cremation. Sergi has come to the conclusion that the Asiatic invaders brought with them the primitive Aryan languages, but that they were savages, and that the appearance of metals at about the same period was a fortuitous coincidence. These invaders were of the same race as the Tajiks and Usbeks who to-day inhabit the regions to the north of India, and may be regarded as Mongoloid peoples, representing a cross between Eurafrican dolichocephals and Asiatic brachycephals. He does not, however, consider that these Mongoloid tribes originated the Aryan speech, but that they learnt it in the course of mingling with the dolichocephalic people of India, by whom they may be said to have been Aryanised. Sergi rightly regards the term "Aryan" as having a merely linguistic sense, and not as the name of a human variety. It is curious, however, to observe that, by a complete but silently made change, he now uses the term in an entirely different way from that in which he formerly used it. Before he called the brachycephalic invaders of Europe Aryans, now he regards them merely as "Aryanised," the "legitimate Aryans" being the dolichocephals belonging to the extreme eastern branch in India. It is evident that the less we use this elusive term "Aryan" the better.

The book remains, however, an interesting contribution to a problem which will doubtless long continue to prove fascinating. The author has sought to avoid all unnecessary technicalities, so that the volume is easy reading. It is illustrated with maps and many excellent facial types.

HAVELOCK ELLIS.

Merck's Annual Report, 1902.

This valuable *résumé* of the recent advances made in pharmacology and therapeutics is each year becoming more widely known and appreciated: the present number maintains the excellence of preceding years.

Of special interest to the alienist will be found the references to the cacodylates, in which the arsenic present is regarded as to some extent latent. The administration is chiefly by hypodermic injection, according to rules which are strictly laid down in this number and in Merck's report, 1900, but the administration *per os* or *per rectum* is also employed. The cacodylates are prescribed as metabolic stimulants in states of malnutrition, also in neurasthenic states and in conditions of mental depression associated with defective nutrition (Paulet and Gautier).

In connection with this the glycero-arseniates may be referred to. The lime salt is employed in conditions in which its counterpart, calcium glycero-phosphate, has been employed, viz., in states of malnutrition. The administration by mouth promises most, as the hypodermic method involves the use of citric acid as a solvent, and this causes pain.

Lecithin claims attention for similar reasons, viz., as promoting a healthy tissue activity. Administered either by mouth or hypodermically, it has been used in neurasthenia and various nervous affections (Gilbert, Fournier), in tabes, general paralysis, certain psychological conditions, and in hysteria (Hartenberg). In addition it is used in various states of impaired nutrition. Lecithin is easily assimilable, and is a vehicle of phosphorus, to which element much is attributed.

The list of nutrients is swelled by such preparations as alboferine, iron-tropon, mutase, plantose, roborin (obtained from the blood, and consisting mainly of calcium albuminates), sicco (a dried form of hæmatogen). We stand in great need of a reliable valuation of the many nutrients now on the market.

Among drugs of much interest may be enumerated bromipin and iodipin, which, as vehicles of bromine and iodine action, appear to convey their influence with less risk of intoxication. Recent investigations confirm the value of these drugs, and the former has now been extensively and successfully used in epilepsy.

Dionine continues to gain ground as a morphia substitute, and it has been recently prescribed by Maëwski in states of mental excitement, also in cases of increased sexual impulse, and in paroxysmal masturbation. In these cases dionine is injected hypodermically in the dose of gr. $\frac{2}{3}$—$\frac{3}{4}$. In the treatment of morphinomania it may be administered *per os* in doses of grs. $2\frac{1}{2}$ four times daily, whilst at the same time pure water is injected subcutaneously as a placebo.

Further use of dormiol (amylene chloral) confirms its usefulness. It is stated on the authority of a fresh list of observers to be without the depressant effects of chloral hydrate, and the unpleasant taste of paraldehyde and amylene hydrate. It acts more promptly than sulphonal, and gives a refreshing sleep of five to eight hours. It is best administered in capsules containing 7—8 grains; the dose is one, two, or three capsules.

Hedonal (methyl-propyl-carbinol-urethane) cannot be said to make headway; its taste is unpleasant, its action uncertain, and its price high. E. Müller, who reports more recently upon it, finds it a harmless hypnotic in doses of 30—45 grains, and suited to mild forms of

insomnia, but even in these cases its effect is found to diminish, and the dose has often to be very considerably raised, viz., to grs. 80 and over.

There are many other drugs to which we might refer, but we can do no more now than commend this valuable report for careful study.

HARRINGTON SAINSBURY.

Part III.—Epitome of Current Literature.

1. Anthropology.

The Sexual Impulse in Women. (*Amer. Journ. of Dermatology, March,* 1902.) *Havelock Ellis.*

THIS paper is an abstract of a study which is to be embodied in the author's *Psychology of Sex.*

Ellis points out that there is considerable divergence of opinion as to the frequency and strength of sexual impulse in women. His own direct observations on educated Englishwomen of the middle class dispose him to think that genuine cases of absence of sexual feeling are extremely rare. Notably he found that amongst the more highly intelligent energetic women, the sexual emotion was strong.

The impulse in women, however, differs from that in men in at least five well-marked characteristics: (1) it shows greater apparent passivity; (2) it is less apt to appear spontaneously, more often needing to be aroused; (3) it tends to become stronger after sexual relationships are established, and the threshold of excess is less easily reached than in men; (4) the sexual sphere is larger and more diffused; (5) there is a more marked tendency to periodicity in the spontaneous manifestations of desire. Largely as a result of these characteristics, the sexual impulse shows a greater range of variation in women than in men, both as between woman and woman, and in the same woman at different periods.

W. C. SULLIVAN.

Brain of a Criminal [*Das Gehirn des Mörders. Bobbe*] (*Corresp.-Blatt d. Deutsch. Gesell. f. Anth., Nov. and Dec.,* 1901). *Waldeyer.*

The eminent Berlin anatomist here gives a summary of his examination of a German criminal, who after murdering a number of persons, apparently with much deliberation, finally shot himself. His crimes extended over some years.

The skull offered no special peculiarities, except that it was relatively large and thin. It was mesocephalic. The brain, when removed from

the skull, weighed 1510 gr.—a very respectable weight for a small man weighing little more than 100 lbs.; with all corrections made Waldeyer estimates the brain weight as 1400 gr., still over the average. The convolutions were well developed; at the occiput the longitudinal fissures were better marked than usual. On the whole, it might be regarded as "the type of a normal human brain."

In the body generally there were various anomalies. The subject was a small man, with delicately made extremities, but well-developed muscles. He was slightly hump-backed, and the ribs were not symmetrically disposed at the sternum. Moreover, the tibialis posterior at its insertion in the foot, showed on both sides a peculiarity of atavistic character common in some of the lowest human races.

It is scarcely necessary to observe that in the hands of a highly competent investigator observations are equally valuable whether the results are negative or positive. This case, so far as it goes, supports the contention of those who believe that anomalies of the body generally are more significant than gross anomalies of the brain.

HAVELOCK ELLIS.

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2. Physiological Psychology.

On the Perception of Tactile Impressions [*Sopra la Percezione delle Impressioni Tatilli*]. (*Arch. di Psichiatr., vol. xxiii, fasc. ii, iii.*) *Grandis.*

When a sensitive area of skin or mucous membrane is stimulated by weak induced currents from a Du Bois-Reymond's coil, the subject experiences at first a vibrating, creeping sensation, which, if the electrodes are not moved, quickly changes to a simple sensation of contact. Grandis has studied this phenomenon in a series of twelve individuals, operating on the tip of the tongue with currents just above the *Reizschwelle*. He finds that the period during which the sensation has a vibrating character corresponding to the nature of the stimulus varies in different individuals, and in the same individual at different times. As far as could be inferred from a very limited number of experiments touching the point, the duration of this period increases with the strength of the stimulus. It did not appear to vary with alterations in the frequency of the shocks. In a series of observations with short intervals of rest, the period of correct perception was found to decrease rapidly to a couple of seconds. A shifting of the electrodes increased the length of the period, thus suggesting a peripheral exhaustion as the cause of the paræsthesia. The author, however, without absolutely rejecting a peripheral element, is inclined to attribute the phenomenon more to a central exhaustion; he points out that the increase on moving the electrodes is never up to the initial period; and further, that even when the experiments are renewed after some hours of rest, and the electrodes are not placed on the same spot, the period of correct sensation is always a good deal shorter than at the start. The interval between the successive shocks is too long to allow the phenomenon to

be explained by a blending of impressions. The author maintains, therefore, that the change in the character of the sensation is due to fatigue of attention, and he suggests that the duration of the pre-parästhetic period may be a practically useful measure of the individual's power of attention. W. C. SULLIVAN.

Voluntary Mydriasis and Epilepsy in a Man of Genius [*Midriasi Volontaria ed Epilessia in Uomo Geniale*]. (*Arch. di Psichiatr., vol. xxiii, fasc. ii, iii.*) *Lombroso and Audenino.*

The case, exhaustively reported in this paper, is chiefly interesting as an example of the uncommon condition of voluntary control of the pupillary movements. The subject. an hereditary degenerate with epilepsy, was able in a dim light to dilate his pupil from a diameter of 3 mm. to 6 mm. or more. The effort of will required was considerable, as was evident in the increase of vascular pressure and the acceleration of the pulse and respiration which accompanied the dilatation (illustrated by cardio-pneumographic tracings).

The authors consider that this mydriasis depends on a contraction of the vessels of the iris; the pallor and rise of blood-pressure would support this view. Lombroso, of course, advances as an alternative the inevitable explanation by atavism: why should not an epileptic of genius with innate criminal dispositions have a striated dilator muscle in his iris as have many birds of prey? W. C. SULLIVAN.

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3. Ætiology of Insanity.

The Genesis and Nosographic Position of Progressive Paralysis [*Genesi e Nosographia della Paralisi Progressiva*]. (*Riv. Sper. di Freniatria, vol. xxviii, fasc. i*, 1902.) *Bianchi.*

This paper is chiefly concerned with the ætiology of general paralysis. Bianchi reaffirms his well-known views that syphilis is not the only, or even the most important factor in the genesis of the disease. It is a dystrophic malady of the nervous system, due to the accumulation in the nerve-cell of the waste products of its own activity. The syphilitic poison is one of many causes which can produce this bio-chemical change in the cell; alcoholism, arthritism, neuropathic heredity, sexual excess, are other and not less important agents. As a rule, in any given case several of these causes co-operate. They create the predisposition; any over-strain of the nerve-cell—mental work, worry, excess—develops the disease.

Statistics are not competent to decide a question of ætiology. In this matter, moreover, they are discordant, and at the best they do not support the exclusively syphilitic origin of the disease. Bianchi, as an instance, gives statistics of eighty-seven personal observations: syphilis was only found in forty-seven cases, and in all but twelve cases other causes were also noted. Psychopathic heredity, on the other hand, was found in forty-eight cases, and figured as the sole cause in seventeen.

The greater frequency of the disease in educated women than in prostitutes, and its rarity in syphilitic but mentally inactive communities such as the Arabs and the Abyssinians are facts which tell against the luetic theory.

Bianchi attaches particular importance to arthritism as a cause of the disease, especially in the upper classes; and he admits a special renal form of the affection with initial epileptiform and apoplectiform attacks of uræmic nature. The source of the disease is never manifest in peculiarities in its anatomical lesions or in its clinical symptoms. Clinically it is proteiform.

Bianchi emphasises the grave import of loss of the knee-jerk and impotence as precursory signs of the disease. During remissions there may be an almost entire re-establishment of the normal personality; under such conditions the testamentary capacity of the patient ought to be admitted. W. C. SULLIVAN.

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4. Clinical Neurology and Psychiatry.

The Unilateral Occurrence of Kernig's Sign as a Symptom of Focal Brain Disease. (*Amer. Journ. Med. Sci., May*, 1902.) *Sailer, J.*

Two cases in which Kernig's sign was present only on one side, and appeared to bear some reference to a cerebral lesion on the other side of the brain, are here reported.

The author states that this sign was described by Kernig in 1883 before the Medical Society of St. Petersburg, and the next year published in German. His attention was first directed to the phenomenon in a patient recovering from epidemic cerebro-spinal meningitis. This patient could walk perfectly well, could lie in bed with legs extended, but whenever she sat in a chair she found it impossible to extend the legs on the thigh beyond a right angle.

Subsequently, he studied fifteen cases of meningitis, nine of which were confirmed by autopsy, with reference to this sign, and found it present in all. It could be elicited whether the patient sat up, lay on the back, or on the side. He describes it as a flexion contracture in the legs (and occasionally in the arms) when the thigh is flexed to a right angle upon the trunk. Under these circumstances, any attempt to extend the leg on the thigh meets with severe resistance as a result of contraction of the hamstring muscles, and it is impossible to extend the leg beyond an angle of 135°, or even, in extreme cases, beyond a right angle. When the thigh is extended the hamstring tendons are relaxed and soft; when, however, the thigh is at a right angle to the trunk, and an attempt is made to extend the leg, they become tense and prominent. The contraction is not ordinarily associated with pain, nor with any increased rigidity in any other part of the body, and Kernig particularly noted that the retraction of the head did not become greater when the patient sat up. He states that the sign usually persists long into convalescence; it may vary from time to time in the course of the disease; it is not produced by mechanical irritation of the sciatic

nerves, and may, as he noted in his original communication, occur in certain other conditions, although in all of those that he observed there was reason to believe that irritation of the membranes existed.

Sailer then proceeds to deal with the literature on the subject, which he describes as inconsiderable, although the presence or absence of this sign is now usually mentioned in connection with a suspected case of meningitis. The first important article on the subject was that of Früs, who found it present in seventy-four of eighty-six cases, and Henoch also obtained it frequently in children suffering from meningitis; but Netter's extensive series of investigations, in which he found it present in nearly all cases of meningitis, practically called general attention to the existence of this sign. Henoch was the first to mention the fact that it is more often absent in tuberculous than in any other form of meningitis, which observation has been confirmed by Netter, Herrick, Dieulafoy, and others. With the exception of one of Herrick's cases, in which the sign was elicited in the unaffected leg of a woman suffering from gonorrhœal gonitis, mention has not been made of its unilateral appearance. The author then proceeds to describe at length two clinical cases which have been under his care in the Philadelphia Hospital during the last year in which the sign was unilateral, and appeared to be a symptom of focal encephalitis. He afterwards criticises the theories of Früs, Henoch, and other authors as to the nature of the mechanism by which Kernig's sign is produced. He points out that Kernig himself is the only writer who states that the arms may be affected in a similar manner to the legs. He thinks that it is obvious that it is not a lesion of the meninges, but of the subjacent nervous substance that causes this sign.

Finally, he believes that the following conclusions are justified:—First, Kernig's sign may occur as a symptom of focal encephalitis, and in this condition may be present upon only the opposite side of the body. Sometimes it is associated with spastic paresis of the leg upon that side. Second, in these cases there may be a persistent tonic spasm of the flexor muscles of the arm, which, however, does not resemble Kernig's sign in its mechanism. Third, the most reasonable explanation of Kernig's sign that we have at present is to ascribe it to an irritative lesion of the pyramidal tract that diminishes, but does not destroy its functional activity.

At the request of the author, his resident physician, Dr. Shields, appends to this article a "Report of One Hundred Cases, all Non-meningitic, examined for Kernig's Sign."

He found this sign to be present in five cases; three showed the sign unilaterally and two bilaterally, one case of uræmia and one case of typhoid fever, and it is interesting to note that in both of these cases the sign could not be obtained after recovery. Kernig's sign persisted in the three remaining cases—two cases of right-sided hemiplegia, and one of typhoid fever,—and in all it was obtained on only one side. The case of typhoid fever, he states, is still quite ill, and it is possible that the sign will have disappeared by the time the patient has regained her normal condition. In both cases of typhoid fever which showed the sign delirium was marked and persistent. This predominance of mental symptoms may have been an indication of febrile or toxic

cerebral irritability, which might have in some manner been accountable for the presence of the sign.

In addition, also at the author's request, Dr. Clark reports "Three Cases of Meningitis in which Kernig's Sign was persistently Absent," the diagnosis in all three cases having been confirmed by autopsy. One was a case of acute cerebro-spinal leptomeningitis, whose bacterial nature was not determined; and two were cases of tuberculous meningitis, this fact confirming the opinion that Kernig's sign is especially unreliable in the latter disease. A. W. WILCOX.

On the Classification of the Psychopathies [*Sulla classificazione delle psichopatie*]. (*Riv. Sper. di Freniatria, vol. xxviii, fasc. i,* 1902.) *De Sanctis.*

In this report, presented to the eleventh congress of the Società Freniatrica Italiana, De Sanctis gives a succinct critical and historical account of the various attempts at classification of mental diseases, and discusses the principles on which a modern scheme of classification should proceed. It appears to have been generally felt in Italy that the classification introduced by Verga in 1874, which is still in use for official returns, has become hopelessly out of date, and it was especially with a view to devising an improved system for statistical purposes that the congress took up the matter. De Sanctis, however, has not confined himself to this strictly practical point of view, but has dealt with the whole problem of classification, and has gone into several thorny questions of nomenclature and of psychiatric doctrine related to it. His extremely able essay does not lend itself to condensation, and it is accordingly only possible to indicate a few of its salient points.

What is the trend of current thought in Italian psychiatry? On this point the replies to a *questionnaire* addressed by the author to a number of leading alienists are very instructive. They show that Italy is influenced to a very remarkable extent by German ideas. The majority of the classifications in use—and classifications are, perhaps, the clearest expressions of doctrine—are taken more or less directly from the Germans,—from Krafft-Ebing and Schüle among the older authorities, from Kraepelin more lately. Kraepelin's views, in particular, seem to have met with a rapid and striking success in Italy. On the other hand, very little direct French influence is acknowledged. In general the Italians, with the exception of the Neapolitan school, seem to share in the intellectualist bias which has always been stronger in German than in French or British psychiatry.

Coming to the constructive part of his paper, the author discusses the criteria of classification. In the present state of science the clinical criterion is the safest. The effort must be made to arrange systematically as many clinical entities as can be distinctly established, grouping the remaining syndromes of uncertain position in a provisional fashion as morbid states,—accepting, that is to say, the distinction between *Geistesstorungen* and *Geisteskrankheiten*. This opens the vexed questions of the position of mania, and the soundness of Kraepelin's conception of maniaco-melancholic insanity and dementia præcox. On all these problems the author leans to Kraepelin's views, though, in

order to secure general agreement, he does not give them explicit endorsement in the classification which he suggests. This classification, in the form in which the congress finally accepted it, is as follows:

1. Congenital psychoses:—Arrests and deviations of psychic development, phrenastenias, moral insanity, sexual psychopathies.
2. Simple acute psychoses:—Maniacal states, melancholic states, amentia, sensory frenzy (hallucinatory psychosis).
3. Primary and secondary chronic psychoses:—Paranoia, periodic psychoses, senile psychoses, states of dementia, (i) primary juvenile; (ii) secondary.
4. Paralytic psychoses:—Classic general paralysis, paralytic dementias from syphilis, alcohol, cerebral softening, etc.
5. Neurotic psychoses:—Epileptic, hysterical, neurasthenic, choreic, etc.
6. Toxic psychoses:—Alcoholic insanity, morphinic, cocainic, etc.; pellagrous insanity.
7. Infective psychoses:—Post-influenzal, typhoid, syphilitic, etc.; acute delirious mania.

It is explained that in this list "amentia" is given as a comprehensive term for the confusional psychoses; a separate entity is, however, allowed to those forms where the psycho-sensorial disturbance is recognised as antecedent to the delirium or confusion; they rank under the rubric of "Frenosi sensoria." The term paranoia is retained for chronic cases only, including Magnan's *délire chronique*. The scheme does not appear to have excited much enthusiasm in the congress.

W. C. SULLIVAN.

Report of a Case of Dementia Præcox. (*Amer. Journ. Med. Sci., Jan.*, 1902.) *Dunton, W. R.*

As dementia præcox is not well known in America the following history seemed to the writer to have sufficient points of interest to warrant publication.

The case is that of a married woman, æt. 31 years on admission, the mother of three children, the youngest being eighteen months old at that time, who was under the author's observation for over two years. The family history was negative. The only history of serious illness was one of chronic bronchitis after the birth of her last child, from which, however, she had entirely recovered. The clinical notes are then set forth at length, the physical characteristics of the disease being more fully noted than the mental, partly, the author explains, because he was not sure of certain phases apparently shown by the patient, and partly to avoid making the report too long.

He then quotes Kraepelin at some length as to the symptoms of dementia præcox, and mentions the characteristic symptoms given by Tromner and by Christian.

A summary of the case he here reports shows that the patient was mentally depressed. There was an exaggeration of the tendon reflexes, a weakening of the heart's action, cyanosis, and a decrease of weight while taking nourishment well. At one time she refused food, and had to be fed; later she took nourishment well. Simple perception of external

ideas was not interfered with, but there was fallacious sense perception, as was evidenced by the early complaints of street noises, etc. Negativism, while present, was not especially marked. (Negativismus, or negativism, Kraepelin defines as the senseless struggling against every external influence. It is shown in the mutism or the senseless dumbness, as well as in the complete inability to influence the patient.)

There was disturbance of her emotional life, as was shown by her periods of depression and attacks of boisterousness. Stereotypy and verbigeration were shown on several occasions. Katatonic rigidity was also present.

The author is of opinion, from the symptoms, that this case is one of the katatonic form of dementia præcox.

The age, thirty-one years, at which the onset is noted, is somewhat uncommon, being beyond the period of puberty, which Christian has placed between the ages of fifteen and twenty-five. Kraepelin found (and illustrated by a diagram in his *Text-book of Psychiatry*) that 60 *per cent.* occur before the twenty-fifth year, but over 10 *per cent.* occur before thirty-five years. Tromner has placed this diagram side by side with one showing the occurrence of the maniacal-depressive forms of alienation (mania, melancholia, stupor) in the same periods of life. It shows very strikingly that dementia præcox is not so essentially a puberty psychosis as was supposed, and that the maniacal-depressive forms are more common in early life than was generally thought.

The condition of tonic muscular contraction shown by this patient has not been much studied. It occurs without accompanying mental symptoms, but the correlation between the two is practically unknown. The author hopes that physicians may become interested in this condition, and by reporting cases, either with or without accompanying mental symptoms, add to our knowledge of the subject.

A. W. Wilcox.

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5. Pathology of Insanity.

Clinical and Anatomo-pathological Studies upon Idiocy [*Studii Clinici ed Anatomo patologici sull' Idiozia*]. (*Ann. di Freniatr., vol. xi, fasc.* 4). *Pellizzi, G. B.*

In this number Dr. Pellizzi finishes a series of papers on the pathology of idiocy, which he has since published in book form. He devotes most attention to sclerosis of the brain, a rare form of idiocy, at least in Britain. He reproduces at great length twenty-two observations of Bourneville and others, to which he adds three of his own (filling forty-seven pages). He lays down some interpretations of his own which are *valde probanda.*

The rest of Pellizzi's work comprises a diligent study of divers papers in various languages upon cases of insanity, idiocy, etc. He deals mainly with what is seen through the microscope, touching very slightly on the clinical side. He devotes fifty-two pages to an attack upon the classifications of idiocy used by some writers, and advances a new one.

The classifications in vogue are composed mostly of the same forms arranged in a somewhat different order; and this even holds good of Dr. Pellizzi's classification, though to some forms he gives strange names, and adds numerous subdivisions taken from descriptions of rare cases. Each writer on the subject uses his own classification, and peaceably leaves his fellow-worker to do the same. In time we may arrive at some common agreement upon a sound anatomical and pathological basis. Pellizzi denies the existence of a form of idiocy determined by epileptic attacks. He will have it that the primary cause is a histioatypie, meaning apparently some unusual formation of the tissues of the brain, which is the cause both of the idiocy and of the epilepsy. Apparently such may cause the mental deficiency without epilepsy, or epilepsy without idiocy. The epilepsy is but a symptom of the arrest of cerebral development, which is partly atavistic and partly teratological. Neurologists generally admit an unusual nervous irritability in those liable to epilepsy; but whether this predisposition be accompanied by any abnormal appearance in the cells and fibres of the brain is doubtful. The appearances which Pellizzi loosely indicates by the word atypy seem to be of a varied character. In the general statement that there is a structural peculiarity in the nerve-cells of epileptic idiots Pellizzi has been long ago anticipated by Bevan Lewis, whom he does not mention in his long parade of authorities. The changes in the nerve-cell declared by this distinguished English microscopist to be characteristic of epileptic dementia have been called in question by other observers, and it seems to me doubtful whether those noted in epileptic idiocy are primary or secondary. Epilepsy may be called a symptom, but it is a good deal more. The epileptic attack is a grave event profoundly disturbing the whole organism, especially the nervous centres. The immediate results are extreme exhaustion and mental stupor, and, if the attacks are often repeated, a gradually increasing mental fatuity and sundry perversions of function. Surely no experienced medical man has failed to observe this in the adult, and why not in the child? Or at what age does this deleterious influence of epilepsy begin? Has the Italian pathologist kept his eye so closely upon his microscope that he has never observed cases in which the beginning of the idiocy dates from the first epileptic attack, is aggravated by recurrence of the seizures, and improves when they are checked? Heretofore the aim of those who have to treat such patients has been to prevent the recurrence of the epileptic attacks. A new attack is deplored as throwing the patient back: sometimes its disturbing effects on the mind can be traced for weeks. In studying diseases we must begin with clinical forms, after which we are pleased if the histologist can find in the dead tissues a lesion that is characteristic and constant to the disease; but when he does not succeed we are not going to credit a dogmatic assertion that the clinical form is untrue. As physicians, we deal with the functions and harmonies of the whole organism, not solely with slices cut from the brain. We have often seen a lesion declared characteristic by one observer, and freely contradicted by another.

WILLIAM W. IRELAND.

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6. Treatment of Insanity.

New Toxic and Therapeutic Properties of the Blood-serum of Epileptics and their Practical Employment [*Nuove proprietà tossiche e terapeutiche del siero del sangue degli epilettici e loro applicazioni pratiche*]. (*Riv. di Patol. nerv. e ment., vol. vi, Nov.*, 1901.) *Ceni, C.*

Very briefly Dr. Ceni describes certain experiments on epileptics, in which the serum of the epileptic subject was injected, repeatedly and in rising doses (1°) into another subject of the disease; (2°) into the patient himself (auto-injection). The material consisted of ten cases of the severer forms of epilepsy, in which, besides the motor manifestations, there existed more or less grave symptoms, psychic and psycho-sensory. In eight of the ten cases marked benefit ensued, but in the other two the effects were toxic and epileptogenic. Of the eight cases of therapeutic success, five received their serum from other cases of the disease, whilst three were injected with their own serum. Of the two cases of toxic effect, one derived the serum from another case, the other supplied his own serum. The beneficial effects noted comprised a very marked improvement in the general nutrition, in addition to a diminution in the morbid symptoms. Increase in weight to the extent of one to two stone occurred on an average. The two instances of toxic results were cases of congenital hereditary epilepsy. The observations covered a period of two years.

Dr. Ceni proceeds very cursorily to discuss the meaning of these results, after first having excluded the possibility of their being due to blood-serum in general. (This he did by a series of injections of the blood-serum of healthy subjects. The effects of these upon the subjects of epilepsy were entirely negative.) He concludes that the blood-serum in epilepsy contains a specific stimulating substance, to which are due the good effects noted, these not being explicable on the theory of antitoxins and of immunisation. The explanation of a *specific stimulating substance* is not exactly enlightening, whilst the fact that this positively beneficial substance should in certain cases (two out of the ten) cause an aggravation of the disease is more than puzzling. In these latter the tissues are supposed to be incapable of a physiological reaction, and therefore react pathologically! Theory is best left alone if it advances us no more than this.

It is to be regretted that the observations are not more numerous.

HARRINGTON SAINSBURY.

Treatment without Isolation Cells by Hydropathic Measures [*Versuche mit zellenloser Behandlung und hydro-therapeutischen Massnahmen*]. (*Cbl. f. Nervenheilkunde und Psychiatrie, March*, 1902, *p.* 153.) *Alter, W.*

This very interesting therapeutic contribution describes the remarkable success which has attended the treatment of the insane by hydropathic means—baths and packs. At the time of writing, Dr. Alter states that not a single patient was isolated, not one confined behind closed door or closed windows. The reduction in the administration

of sedative drugs on this system is very striking; thus, whereas during ten days of the year preceding the adoption of the treatment, the drug list for fifty-five patients gave as follows: 14 grms. of trional, 3 grms. sulphonal, 3 grms. chloral, 12 grms. chloral with morphia, 8 morphia powders, 4 morphia injections, 4 Dover's powders, 94 grms. paraldehyde, 160 grms. bromide,—during a period of twenty days (double the time) of the present year, only 2 scopolamine (hyoscine) injections, and 2 ten-drop doses of scopolamine solution were administered. On the other hand, during a period of twenty-eight days under the new system there were given 174 baths of two hours' duration, 41 baths of four hours, 14 of six hours, 111 day-baths, 18 night-baths, and 531 packings,—these in addition to the usual cleansing baths. The labour involved needs no comment, and Dr. Alter shows that his ability to meet these demands has arisen from the fact that his service has averaged one attendant to 2·4 patients, as against the 7—9 patients of the average public asylum. Uninterrupted supervision by trustworthy attendants is essential, but, in general, one attendant suffices for four patients in the bath. The baths were given at a temperature of about 93° to 95° F.; in the case of weakly patients, at about 97°. The hands and feet are well greased before the bath. The baths are covered with sheeting, and in the case of general paralytics (all cases), and in other cases when the bath is of more than four hours' duration, the patients are supported in the bath on stretched sheeting; in this way any sore from rubbing against the bath is avoided. Of the packs Dr. Alter speaks in highest praise as a general sedative, and more especially in the case of sleeplessness. In the case of the restlessness and insomnia of general paralytics, the wet pack often works wonders. The pack is ordered at 90° to 95° F. Among other beneficial effects, the appetite is often strikingly improved. HARRINGTON SAINSBURY.

Treatment of Mental Disorders by the Continuous Bath [*Le Traitement de l'aliénation mentale par le bain continu*]. (*Prog. Méd., May* 3, 1902.)

Dr. P. Keraval reports upon the recent developments of this treatment in Germany, and more particularly upon the work of Drs. Kraepelin and Alter, as detailed in the discussions of the Society of Alienists of South-western Germany, November, 1901.

The details of the baths, which may be maintained day and night for weeks, and even months, consecutively, the arrangements for sleeping, eating, reading, or working (crochet), smoking, etc., are given. The temperature of the water in which this life is lived is 34° C. (93° F.). Occasionally during the treatment a tendency to faintness is observed; this is met by an appropriate dose of caffeine, strophanthus, camphor, or ether.

In nearly every respect the results of Dr. Alter confirm those of Dr. Kraepelin, and it is therefore unnecessary to repeat them.

Messrs. Fuerstner and Schüle, and also M. Kreuser, raised certain objections, and were not convinced of the value of the wholesale applicability of the system; but, on the other hand, MM. Alzheimer, Bayer, and Bieberach were strongly in favour of the method.

The bath treatment above described is supplemented by Dr. Kraepelin by the use of wet packs, these often serving as introductory to the more radical treatment. HARRINGTON SAINSBURY.

Contribution to the Dietetic Treatment of Epilepsy [*Zur diätetischen Behandlung der Epilepsie*]. (*Neurol. Cbl., Jan.* 1, 1902.) *Schaefer* (*Pankow*).

In a short note, Dr. Schaefer describes the effect of a diet poor in chlorides upon three severe cases of epilepsy. During a period of eighteen months the attacks in these cases had averaged twenty to thirty per month, without counting occasional exacerbations of the disease when the attacks became so very frequent, and the patients so violent in the post-epileptic stages, that isolation became necessary. The reduction in the number of the seizures is most striking according to the table of results, but we learn, in addition, that the whole mental and physical bearing underwent a marked improvement. A return to the ordinary diet brought back within a few days a renewed activity of the disease. No mention is made of the administration of bromides, and the results are given as instances of the effect of diet alone on epilepsy, in confirmation of the teachings of Toulouse and Richet, and, after them, of Bálint.

Bálint's diet consists of 1½ litres of milk, 40—50 g. of butter, 3 eggs (without salt), 300—400 g. of bread and fruit; but to this diet he adds 3 g. of a salt of bromine (bromide). HARRINGTON SAINSBURY.

Chloral Hydrate Poisoning [*Chloralhydratvergiftung*] (*Psychiat. Wochenschr., Nov.* 23, 1901.) *Lückerath, M.*

Two cases of marked poisoning are recorded, the one after a total dosage of 13 grms. (200 grains), administered during a period of twelve days; the other after two doses of 2 grms. (30 grains). In the former case, the maximum dose at any one time did not exceed 3 grms. (46·5 grains). In this case, the symptoms consisted of marked congestion of the face, followed by a scarlatiniform eruption which affected the whole body, catarrh of the mucous membranes, in particular conjunctivitis and bronchitis, further swelling of the parotids and moderate fever. A good recovery ensued after copious desquamation. In parts it was noted at one time that the eruption was urticarial in type.

In the second case, the patient was admitted with general paralysis of the insane, and the nutrition was less good than in the first case. The symptoms here were congestion of the face and then a wide-spread eruption, purpuric in many parts, mild conjunctivitis, great general depression of vitality, high fever, catarrhal jaundice, death.

Dr. Lückerath points out that the dosage was a very moderate one in both cases, and that, in view of the enormous doses which have been tolerated on occasions, these two results must be regarded as instances of idiosyncrasy. Like effects have, however, been recorded sufficiently often to make us recognise in chloral hydrate an uncertain and, at times, dangerous remedy. The cause of death in the second case is not clear (though the rash, etc., may be attributed certainly to the drug), for the dementia was in an advanced stage; moreover amylene hydrate in the

dose of 45 grains was administered subsequently to the second dose of chloral. HARRINGTON SAINSBURY.

Onanism, and its Treatment by Hypnotic Suggestion [*L'onanisme et son traitement par la suggestion hypnotique*]. (*Rev. de l'hyp., Sept.*, 1901.) *Bérillon.*

This contribution is a protest against the attempts to treat onanism by mechanical restraints—in particular the employment of the *ceintures de chasteté* and of the tying of the hands is deprecated, and the author indeed goes so far as to say that when the case proves an obstinate one we may generally conclude safely that mechanical means of restraint have been adopted for some long period. Dr. Bérillon urges the treatment of such cases by suggestion, so as to awaken or re-educate the will, and in effect to create new centres of inhibition, perhaps one should say rather to reinforce old centres. He points out that suggestion gains enormously in power by the establishment first of the hypnotic state, and he goes on to describe the procedure he adopts. If the hypnotic state can be induced cure is the rule. An essential in the procedure appears to be the impressing upon the child or patient (under hypnotism) that it is the subject of paralysis (psychic), and that whenever the impulse arises to give way to the habit this paralysis will reappear and effectually prevent the act. HARRINGTON SAINSBURY.

The Psycho-mechanical Treatment of the Choreas, the Tics, and Habit Movements Generally [*Le Traitement psycho-mécanique de la chorée, des tics, et des habitudes automatiques*]. (*Rev. de Hyp., Dec.* 1901.) *Bérillon.*

The essence of this treatment consists in the enforced execution by the patient of definite gymnastic movements whilst in the hypnotic state. To this mixed method of hypnotism with the practice of mechanical movements, active or passive, Dr. Bérillon applies the term *psycho-mechanical.* To its successful employment it is necessary that the hypnotic state should be developed to the fullest extent possible, and to this end it may be requisite to call in the help of adjuvants, such as Braid employed, or even the use of hypnotic drugs.

The state established, suggestion is first made of the kind to arouse the attention and to hold it, and further to stimulate the dormant will powers, whose failure to act lies at the root of the evil habit. An absence of will power, a true "aboulie," is characteristic of this group of cases.

Finally, the movements are either prevented by holding and fixing the limb, or they are overcome by passively enforcing antagonistic movements, or, as a still more potent means, the patient under the hypnotic influence is bidden to perform, by an effort of will, the very same movement which, in the waking state, he performs involuntarily and even unconsciously, and then this effort is opposed by main force, and the patient's attention called to the fact of the arrested movement, and the sensorium awakened, as it were, to the accompanying sensation of the arrest. A memory of control is thus revived, and inhibitory centres recalled into activity. These exercises, performed at first only in the hypnotic state, are later on repeated in the waking state, and in this way

the automatic and unconscious act gives place to the voluntary and conscious performance. HARRINGTON SAINSBURY.

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7. Sociology.

On Military Crime [*Sulla Delinquenza militare*]. (*Riv. mens. di Psychiat. for., March, April, and May*, 1902.) *Saporito.*

This paper is based on a series of eighty-five observations of insane military offenders in the criminal lunatic asylum of Aversa. The author summarises in tabular form the results of his exhaustive examination of the hereditary and personal antecedents, and the morphological and functional stigmata of degeneracy in the whole series, and in an appendix gives full reports of fifteen of the cases.

Hereditary taint to some extent was present in nearly all the subjects; its most frequent forms were insanity (17·6 *per cent.*) and crime (12·6 *per cent.*).

Insane heredity was present in a notably large proportion of homicidal cases. The investigation of personal antecedents gave a history of convulsions in infancy in 23·5 *per cent.*, of nocturnal enuresis in 11·7 *per cent.* The majority of the subjects had always shown a very indifferent moral character, and 16·4 *per cent.* had been convicted of criminal offences.

Somatic stigmata of degeneracy were present in all the cases; none had less than three such stigmata, most had more. One individual had as many as seventeen.

Functional stigmata were found in all the cases, the number in individual subjects ranging from one to eight. W. C. SULLIVAN.

The Practical Direction that Psychiatry can give to Education [*L'Indirizzo pratico che la Psichiatria può dare alla Pedagogia*]. (*Riv. Sper. di Freniatria, vol. xxviii, fasc. i*, 1902.) *Agostini.*

This is a report presented to the Ancona Congress of the Società Freniatrica Italiana.

The author indicates the defects of method in the present purely empirical system of education. He dwells specially on the want of correspondence between the matter of instruction and the aptitude of the child at different age-periods, on the excessive duration of the hours of work with resultant brain fatigue, and on the exclusive attention to intellectual with neglect of physical and moral training.

In regard of all these points the present system is in contradiction to the teachings of scientific experience, and is accordingly to be regarded as one of the most important social factors of insanity and crime. Its dangers are, of course, greatest for the hereditarily unstable.

To remedy this evil the author suggests that teachers should be instructed in anthropology and psychology, so as to be able to examine intelligently the character and aptitudes of every pupil, their observations being noted on the *dossier* of each individual. In this way it would be possible to arrive at a sound system of classification, and to

adopt for each category of pupils the most fitting conditions of instruction. Notably the author would advocate special classes for the defectives and for the exceptionally brilliant pupils. Medico-pedagogic inspectors, who should be trained alienists, would supervise the working of the system.

In the discussion which followed there was a general agreement in condemning the existing methods of education, but the author's proposals of reform appear to have come in for a good deal of criticism. Bianchi in particular, in an eminently common-sense speech, deprecated the tendency to exaggerate the value of anthropological data in the judgment of mental qualities, and took exception to the suggestion of converting schoolmasters into amateur anthropologists. In common with most of the speakers, he was strongly opposed to the separation of children showing exceptional aptitudes. On the other hand, the need of special schools for defectives, and the desirability of instituting a psychiatric inspection of education, were admitted by all. W. C. SULLIVAN.

The Training of Defectives; its Criteria and Methods [*Sui Criteri e Metodi per l' Educabilità dei Deficienti*]. (*Riv. Sper. di Freniatria, vol. xxviii, fasc. i*, 1902.) *De Sanctis.*

One of the most interesting and important contributions to the Psychiatric Congress of Ancona was this exhaustive report by De Sanctis on the education of the weak-minded. The author divides his matter under several heads.

1. *Classification of the phrenasthenias.*—It is not possible to classify the defectives, as Sollier and others have attempted to do, by reference to the presence or absence of cerebral lesions with the corresponding absence or presence of neuropathic heredity. The biological factor (neuropathic heredity) dominates in the ætiology of all the phrenasthenias, whether paralytic or not, and even the presence of spastic paralytic symptoms is no proof that the related brain lesion is also the cause of the mental defect. Neither is the distinction into extra-social and anti-social a valid one; at some phase of their existence all defectives, paralytic or otherwise, become anti-social, unless their life of relation is too narrowly restricted by their disease. To meet these objections, De Sanctis would suggest that in addition to the (*a*) biopathic (imbecility) and (*b*) cerebropathic (idiocy), a (*c*) bio-cerebropathic form of phrenasthenia should be admitted (including epileptic idiocy), different degrees (slight, moderate, extreme) of mental and moral defect being recognised in each class.

2. *Educational capacity.*—The progress of the defectives under training should be observed as far as possible by positive scientific methods. De Sanctis, after unsatisfactory experience with various tests of intelligence, has come to rely solely on the determination of the power of voluntary attention by Griesbach's æsthesiometric method. The greater or less constancy of the degree of acuteness of tactile perception in a series of experiments is a measure of the greater or less capacity of concentrating attention; the oscillations of this acuteness under the influence of distracting stimuli acting on the various senses is an inverse measure of tenacity of attention.

Progress in spontaneous attention (in school, games, etc.), in proficiency, in demeanour, conduct, and morality, have to be estimated in a more or less arbitrary fashion. Comparison of the records of the pupil at long intervals enables a judgment to be formed as to his capacity and progress.

De Sanctis is satisfied that his observations by this method prove the existence of a certain educational capacity in the defectives. He points out, however, that there is a good deal of individual variation in the degree of this capacity, and, further, that moral progress rarely keeps pace with intellectual.

3. *Arrests in educational progress.*—Moreover in the course of training there are frequent periods of arrest, or even of retrogression. In the large majority of defectives a notable cessation of progress occurs at puberty, mainly determined by the awakening of the sexual instinct; but also furthered by other factors, social and bio-social. At this period practically all defectives, save such as are reduced to impotence by their disease, are actively anti-social; it is the moment when the criminal disposition is formed.

Thus the training of the weak-minded during childhood does not secure their future permanent adaptation to society. De Sanctis specially notes the not infrequent occurrence of cases where puberty appears to start a sort of progressive phrenasthenia—a rapid and extreme mental failure without symptoms of true dementia præcox or of juvenile general paralysis.

4. *Care of defectives.*—It is accordingly necessary to prolong the care of the defective beyond adolescence, by means of adult industrial schools, labour colonies, etc. This is a measure of social prophylaxis, and, as such, interests the State; though voluntary effort under proper organisation can do much to help in the task. W. C. SULLIVAN.

Enrico Ballor, called "the Hammerer" [*Enrico Ballor, detto "il Martellatore"*]. (*Arch. di Psichiat., vol. xxiii, fasc. ii, iii.*) *Lombroso.*

Enrico Ballor, surnamed "the Hammerer," from the weapon which he specially affected, was recently condemned at Turin for the murder of an old man; he was further supposed on strong evidence to have been the author of three other assassinations in which robbery was associated with apparently sadist impulses; from the age of eighteen he had been frequently in prison for thefts and wounding. Despite this record, however, Ballor, like Musolino, did not present the anatomical characters which are supposed to distinguish the "criminal type." Lombroso's note aims at showing that this fact is not as damaging as it looks to the atavistic theory of crime.

An examination of the assassin showed, it is granted, very few and unimportant somatic stigmata of degeneracy. On the other hand, there were numerous functional anomalies—contraction of the visual fields, with extensive scotoma on the right side, absence of most of the skin and tendon reflexes, sluggish action of the pupils, deficiency of the earthy phosphates in the urine (a condition noted by Audenino after experimental removal of the prefrontal cortex). Further, Ballor showed in a marked degree the vanity, laziness, and absence of moral sense

usually met with in habitual criminals. Inquiry into the family history disclosed alcoholism in the father, mental instability in the mother; a sister committed suicide. The murderer himself appeared normal as a child; but at ten years of age had an attack of meningitis, on recovering from which he developed extremely vicious tendencies. At about twenty-four years of age he had his testicles removed for tubercular disease. He was of alcoholic habits.

Lombroso interprets this history as meaning that in Ballor the criminal disposition was acquired as a result of the brain affection, and was not congenital. This would explain the absence of the somatic stigmata. W. C. SULLIVAN.

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8. Asylum Reports, 1901.

Some English County and Borough Asylums.

Carmarthen.—An electric bath has been fitted. It will be interesting to hear later on from Dr. Goodall of the effect that its use may have on patients. In more than half the admissions hereditary predisposition from insanity or allied nervous diseases was found. Mention is made of a case where a patient managed to squeeze herself through a a very small window space, and to throw herself off. The act was not suicidal, but because she wanted "to fly about like a little bird." Dr. Goodall continues to remind his Committee of the necessity for a pension scheme.

Derby Borough.—We note that a boarder from the Middlesex Asylum was received in exchange for an imbecile child—we presume in order that the latter should receive benefit from the special care bestowed on such cases in Dr. Hill's new annexe. Such a procedure is to be warmly commended.

In Table X the results of careful investigation into the causes of the mental disease are given in detail. The two chief ascertained causes are hereditary predisposition in one third of the cases, and a previous attack in one fifth. Public opinion has not yet reached the stage when these can be considered preventable causes. Seventeen cases, or 18 per cent., attributable to alcoholic excess appear a large number, but the proportion is considerably less than the average of previous years, which works out at 20 per cent. In connection with intemperance, which may be placed in the foreground as the chief preventible cause of insanity, two facts must be remembered in any deductions we are tempted to make from statistics: the one is that insanity in some cases so lessens the self-control that intemperance is the result and not the cause of the mental disease; the other is that a large proportion—certainly one third—of our relapsed cases are alcoholic, and the same patients recur over and over again, and swell the number in which alcoholic excess is tabulated as the cause.

Dorsetshire.—In 1901 the male admissions exceeded the female, the former having notably increased, the latter remaining stationary.

A separate house for private cases is in course of erection, Dr. Macdonald finding that contiguity to pauper cases is a hindrance and an objection.

Glamorganshire.—In connection with the causation of insanity Dr. Pringle remarks—

If the teachers in our board and Sunday schools who realise the terrible evils, physical and moral, which result from this habit (intemperance) were to point them out to their pupils, I think much good might be done. As a consequence of excesses in the parents, large numbers of children are born with strong impulses and weak wills, and they succumb to influences of a kind that those of a happier heritage can easily resist, and from these classes we receive many of our imbeciles and epileptics. The tendency of our age seems to be an increasing love of excitement and pleasure and a lessening sense of duty, and it is disappointing that education seems to do so little towards the building up of character or the promotion of self-control.

The new census enables him to form some conclusion as to the relative frequency of insanity in his area. At the previous census Glamorgan stood as 186 to 268 of all England per 100,000 of population. Now the proportion stands as 239 to 302.

The favourable position occupied by Glamorgan as regards lunacy I have always ascribed to the mixed character of its population and the constant influx of new blood, but this influence seems to be gradually decreasing.

Hampshire.—The following facts are worthy of noting and recording, as showing to what unexpected extent symptoms of tangible bodily disease may be marked in insane patients.

I extremely regret to have to report that after an interval of sixteen months' immunity from typhoid fever it again appeared at the end of January, when seven cases took place. Three more occurred in June, and one at the end of November. In all, three male and six female patients and two nurses suffered from it, and one male and three female patients died. Two of these deaths call for special notice, as they were of a most unusual kind. The first, a male patient aged 35, an epileptic idiot of a very low type, died in a fit. A post-mortem examination showed that a typhoid ulcer had ruptured, and was the cause of his death. He had no symptoms of fever during his life, and was up and about and took his food well the day he died. The second was a female aged 62 who had been eighteen months in the asylum, and was demented. It was well known that she had heart disease very badly, and had been treated for it on several occasions. At a post-mortem examination it was ascertained that her heart was greatly affected, and also that she had three large typhoid ulcers in that portion of the intestine where they are usually situated. She had not a single symptom of typhoid during life. She was in the infirmary ward the whole time she was in the asylum, and the nurse in charge of it has been specially trained, and has had two years' experience in a fever hospital.

Monmouthshire.—We are glad to note that the holders of the Nursing Certificate are granted both medals and increase of pay by the Committee.

Nottingham Borough.—Dr. Powell has to regret the first appearance of colitis in Mapperley. One case which died came from a London asylum a fortnight before his death, while the other death was that of a patient who had been at Mapperley for some years.

This disease is said to be in a large measure due to overcrowding; if this is so, it is curious that it made its appearance with us some time after the opening of the new wings, and when our accommodation was ample. It is undoubtedly an infectious disease, so that every precaution was taken to prevent its spread, and with satisfactory results, as we have not had another case. There has been no case of any other infectious disease during the year.

Touching escapes, the subjoined remarks of Dr. Powell are very much to the point. There is no art whatever in absolute prevention of all escape, but there is large scope for art in providing that the right patients only shall have a chance.

> There were six escapes, all men; they were retaken after short periods of absence. It is not surprising that we get these escapes at times, because we allow most of the patients a considerable amount of liberty; and as this is so important in securing the comfort of the majority, I think it better to suffer an occasional escape than to adopt a system of surveillance which would be irksome to so many.

Salop and Montgomery.—The medical superintendent's report is by Dr. Rigden, Acting Superintendent. He speaks feelingly of the death of Dr. Strange, which will be dealt with elsewhere.

> Dr. Strange was universally beloved, both by the staff and by the patients, on account of the kindliness of his heart, and those of us who have had the privilege of serving under him for a number of years feel that we have lost a personal friend.

Symptoms of impatience are arising between the two owners of the asylum, such as are often seen when counties are in union. Sooner or later one contributor supplies more patients than are justified by contribution. A fresh arrangement may temporarily adjust difficulties, but dissolution of union is a common result.

Surrey.—This county has also entered into a commendable agreement with Middlesex for the reception of ten improvable idiots by the latter. The ultimate results of treatment of imbeciles at Tooting will be looked for with the utmost interest. It is essential to remove all idiots and juveniles from general wards, and it is therefore right for all counties and boroughs to provide accommodation for all such cases, either by themselves or in combination. But it would be an immense mistake for each special idiot house to aim at anything like systematic instruction and education. The arrangements necessary for this would be expensive and complicating, and the success more than doubtful. Middlesex seems to have provided not only for itself but for others the right accommodation for the higher treatment of these juvenile incompetents, and the willingness to receive such cases by this county lays others under a very sensible obligation.

In dealing with the causation of his admissions Dr. Barton is able to state that a history of syphilis was found in nine out of twelve cases of general paralysis. This high proportion is not only very interesting as supporting the idea that paresis is in the main of syphilitic origin, but it is instructive as showing that persistent inquiry can evoke a larger amount of valuable history than is ordinarily given. We find that in Table X only two cases are attributable to syphilis, this being probably the amount of information afforded on admission or soon thereafter. It is a question which may well be considered when the present statistical tables are revised, whether this table should not be recommended for treatment in the same manner as the Commissioners treat causation in their quinquennial averages, viz., to adopt the relieving officers' statements only when later and more skilled inquiry has failed to elicit a more accurate ætiology.

Dr. Barton points out that the new definition of "seclusion" by the Commissioners has increased the number to be recorded under this

heading. It is a serious question whether, since the term "seclusion" has a somewhat invidious meaning in the minds of lay readers, it would not be wise to subdivide it rather than to include that form of treatment which, in regard to wild uncontrollable patients, no present-day superintendent would adopt unless he were driven to it by mental exigencies, under the same heading as is now applied to the desire to keep a weakly patient a little longer in a state of bed-restfulness. To speak plainly, it is well known that the original provision for recording seclusion formally in the visitors' books was aimed at the wholesale shutting up of patients by day, because the staff was too small or too lazy or too benighted to give them a fair chance of responding to the better treatment. It is a serious matter to similarly docket and record as an element in the management of an asylum a procedure adopted from consideration of the physical condition of frail patients who are year by year increasing in our institutions.

East Sussex.—Beer as part of the ordinary diet has been abolished in the whole establishment. This, which in the opinion of the Committee has been of benefit, was the cause of but slight expressed discontent on the part of the patients, by whom the addition of more cheese, cake, and jam to the dietary is much appreciated. The Committee give £2 extra wages to holders of the Nursing Certificate.

In the useful table of prospects on admission which is presented each year (and which other asylums might well adopt), no less than 145 out of 233 admissions presented bad or hopeless prognosis.

Mr. Mortlock, who had been steward since the opening of the asylum in 1858, died suddenly. His services are mentioned with high appreciation both by the Committee and Dr. Walker.

The general paralytics admitted are numerous, being fifteen males and four females.

Wiltshire.—The committee, we are glad to note, specially commend the time given out of their leisure by the assistant medical officers, Drs. Gordon and McRae, to improving the qualifications of the attendants, and sending many up successfully for the Nursing Certificate and the St. John's Ambulance Examination. We have before adverted to the frequent visitation of this asylum by the Guardians of the contributing Unions, and to the large amount of instructed interest shown in the record of these visits. We cannot but think that the hands of the Committee must be strengthened as against the querulous ratepayers by such remarks as these—

> After seeing the splendid new hall for recreative purposes, we were rather surprised to find the chapel so inadequate, only capable of seating about 250, whereas Dr. Bowes assured us he could easily send in 500, and further expressed the opinion that attendance at Divine worship is decidedly beneficial to many of the inmates;

and—

> With much pleasure we note all that provides for the comfort and well-being of the inmates, the wards being especially bright and cheerful. The chapel accommodation appeared to be quite insufficient for the requirements of the institution.

Worcestershire.—The duration of service here is noted by the Commissioners as satisfactory, 56 per cent. of the male and 35 per cent. of

the female attendants having over five years' service. The great majority of charge attendants have over ten years. Dr. Braine-Hartnell makes remarks on the question of nursing male patients by female attendants.

The nursing of the insane is the topic of the hour among asylum medical officers. I think we are destined to see great and radical changes in this part of the work. The desire is to bring asylum nursing into line with general hospital nursing. This would necessitate an increased staff, especially by night. It is proposed to undertake the care of the male hospital wards with trained nurses. The matter is as yet in a tentative stage. It has been chiefly tried in Scotland, and its advocates are loud in their praise. I think we ought to be able to show that the increased cost would give an increased recovery rate before we make such wide and sweeping changes.

Some Registered Hospitals.

The Lawn, Lincoln—The Coppice, Nottingham.—We are glad to note that both these hospitals have had a successful financial year. Neither is in receipt of substantial assistance from endowments or accumulations, but both apparently succeed in making their patients comfortable, and in both the recovery rate is good, being 43 and 60 per cent. respectively. The average payment of patients for maintenance, etc., and incidents is about £110 per annum.

The Retreat, York.—Dr. Bedford Pierce notes a recovery in a case of dull, silent melancholia after seventeen years' residence.

A striking instance of the value of work as an aid to recovery occurred recently in the case of a gentleman suffering from severe melancholia. As is commonly the case, he thought his condition was utterly hopeless. At first fitfully, and later on regularly and industriously, he assisted in the routine indoor domestic work, and polished the brasses with great vigour, and in other ways he materially helped the attendants. During this time he would say he was no better and had no hope of recovery, although it was evident he was improving all round. Very soon he began to exercise his influence on others, and he coaxed and bullied another gentleman, also deeply depressed, into helping in the work, the result being that not only did he himself perfectly recover but he contributed to the recovery of his companion. Both gentlemen are now filling important and responsible positions in life.

Patients doing regular work in the garden continue to be paid by the hour, an arrangement which answers well. One patient admitted at the lowest rate earns sufficient to pay for his maintenance, whilst others keep themselves in clothes and pocket money.

Some Scotch District Asylums.

Hartwood, Lanark.—This is the first report make by Dr. Neil Kerr, whom we congratulate on his appointment. Dr. Kerr has no doubt that a certain number of alcoholic cases are erroneously returned as such, intemperance being a symptom and not a cause. It would be highly interesting if any one could give a series of cases in which abstainers from birth had taken to drink in consequence of mental alienation. A case of recovery from mania is recorded after thirteen years' residence, the greater part of which was spent in noisiness, violence, and threatening. Dr. Kerr, during the four months' interval since discharge, had heard from the man regularly, and knows that he is doing useful work in the world. One case who escaped had to be discharged at the end of twenty-eight days because, though it was known to the

authorities in what neighbourhood he was, the people of the district successfully baffled the efforts of the police to capture him.

Inverness.—Overcrowding to a serious extent is reported, and worse in the immediate future is feared. Though the high percentage of 43 of the total insane of the district is resident in private dwellings (as against 21·3 per cent. for all Scotland) Dr. Keay thinks that another eighty or ninety patients could be safely boarded out, but increased allowance would have to be offered to the caretakers. The present allowance of 5*s.* per week seems to be prohibitively low, and is only just one half of the asylum maintenance rate. The cost of food alone in the asylum is, as we find from the Blue Book, just about 4*s.* per patient per week. There can be very little margin left for other expenses—care, etc.,—unless the quantity of food is reduced. Dr. Keay seems to be justified in recommending an increase of 1*s.* or 2*s.* per week in the allowance.

Roxburgh.—Dr. Carlyle Johnston shows by figures what a good effect persistent pushing of the boarding-out system can have. Chiefly by this means his average residence was brought down to 197 in 1888 from 241 in 1881. The allowance appears to be just under 7*s.* per week, or about two thirds of the asylum maintenance rate. Of late, however, the population has seriously increased, being 313 for the year under report. As he points out, this is not due to increase in admissions, for the yearly average in the last quinquennium is slightly below that of the preceding. Subtraction by removal and death do not keep pace with addition of fresh patients. The population of the contributing counties seems by the last census to have decreased in the inter-censal period by about 10 per cent.

Some Royal Chartered Asylums.

Dumfries, The Crichton.—The directors, on the recommendation of Dr. Rutherford, are about to erect a house for the special treatment of phthisical patients. Dr. Rutherford states that tubercle was directly responsible for 25 per cent. of the deaths, while post-mortem examination showed that another 30 per cent. had at one time or another been infected. Dr. Rutherford does not find that the popular idea of increased lunacy is borne out by the statistics of this institution—the pauper lunatics in the asylum being now 309 as against 307 in 1882. But he does find a marked change in the character of the cases admitted, there being more persons beyond middle age, and in bad health, and of broken constitution. Several of the voluntary patients were addicted to drink or morphia, and he has a poor opinion of the class.

> My experience of such cases has not been very favourable. They are often disagreeable inmates, untruthful, and untrustworthy. They exercise a bad influence on the other patients, and sometimes even try to corrupt the attendants. The results of treatment, too, are generally unsatisfactory.

Montrose.—Dr. Havelock expresses a similar opinion to that of Dr. Rutherford as to the increase of insanity, and as to the causation of apparent increase by sending weakly dotards to the asylum, where they

can get well nursed now-a-days, in preference to keeping them at home till the end.

Dr. Havelock points out that the 'hospital' treatment of the insane was in a sense existent at Montrose in the eighteenth century, a project being formed in 1779 to combine a suitable house for the treatment of the insane with an infirmary ward. The latter was removed in 1836 because the principal object of the institution, the care of the insane, was impaired by the demands of the infirmary section.

Royal Edinburgh Asylum.—The pressure on the space is still maintained. In July, 1897, the City Parish of Edinburgh agreed to reduce the number of their patients to 105 at the end of five years, or "as soon thereafter as the new district asylum shall be fitted up." At the end of 1901, so far from this being done, there were 416 of their patients in residence, or sixty more than when the agreement was made, besides ninety-three others for whose boarding out in other asylums the managers were responsible.

One fourth of the admissions were associated with gross brain disease. Sixty-five cases of general paralysis form a record. Of these twelve were females. Dr. Clouston considers that the occurrence of the disease might be entirely prevented.

The mean age on admission continues to rise steadily; it used to be forty—it is now nearly forty-three. The mean age on death also rises—it was 50·7 in 1899, it is now 54·3. A sum of £1 10*s.* yearly extra pay is given to holders of the Nursing Certificate, who form one third of the total staff.

To my great regret, and to the irreparable loss of the Institution, Mrs. Findlay, who for twenty-eight and a half years has been the head of our Female Hospital in the West House, has felt her strength no longer able for the arduous duties there, and has resigned. She was the pioneer nurse of Scottish asylums, and no more enthusiastic, strenuous, or unselfish woman did I ever meet. She lived for her patients, and for them alone. Her heart was wholly in her work. I always knew that things in her department were just as sure to be well looked after as if I were there and looking on all the time. "Well done, good and faithful servant," is no empty eulogy in her case.

Part IV.—Notes and News.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

Annual Meeting.

The sixty-first annual meeting began at 11 a.m. on Thursday, July 24th, 1902, in the Medical Institution, Liverpool. Dr. Oscar T. Woods, the retiring President, occupied the chair.

Present: Drs. T. Stewart Adair, Robert Baker, Fletcher Beach, Charles H. Bond, David Bower, Lewis C. Bruce, A. W. Campbell, D. M. Cassidy, T. S. Clouston, H. Corner, Andrew Davidson, W. R. Dawson, P. Maury Deas, Thomas O'C. Donelan, F. W. Edridge-Green, W. F. Farquharson, James F. Gemmel, Stanley Gill, Thomas A. Greene, John G. Havelock, Charles K. Hitchcock, James Hyslop, Theo. B. Hyslop, J. Carlyle Johnstone, Robert Jones, Walter S. Kay,

Neil T. Kerr, Richard Legge, Stephen G. Longworth, H. C. MacBryan, P. W. Macdonald, T. W. McDowall, Charles A. Mercier, W. J. Mickle, Alfred Miller, John Mills, C. S. Morrison, F. W. Mott, G. W. Mould, Gilbert Mould, H. Hayes Newington, David Nicolson, M. J. Nolan, Conolly Norman, L. R. Oswald, Bedford Pierce, Daniel Rambaut, Nathan Raw, Henry Rayner, J. Peeke Richards, George M. Robertson, H. A. Robinson, James Rorie, James Rutherford, George H. Savage, James Shaw, Francis O. Simpson, R. Percy Smith, J. B. Spence, James Stewart, R. J. Stilwell, C. T. Street, A. R. Turnbull, A. R. Urquhart, L. A. Weatherly, E. B. Whitcombe, J. Wiglesworth, Oscar T. Woods, David Yellowlees.

Visitors: Dr. Edward N. Brush, Dr. Alexander Davidson, Prof. Sherrington, Dr. W. B. Warrington, Mr. Damer Harrisson.

Apologies for absence were intimated from Dr. John Keay, Dr. Jules Morel, Dr. M. Peeters, Dr. Antonio Ritti, Prof. R. Virchow, Dr. Ernest W. White, Dr. Motet, Dr. Toulouse.

The minutes of the preceding annual meeting were taken as read, confirmed, and signed.

Election of Officers and Council.

The meeting then proceeded to the election of officers and council, Dr. Hyslop and Dr. Oswald acting as scrutineers. As the result of the scrutiny, they reported that the candidates nominated by the Council had been almost unanimously elected.

President	J. Wiglesworth, M.D.
President Elect	Ernest W. White, M.B.
Treasurer	H. Hayes Newington, F.R.C.P.Ed.
General Secretary	Robert Jones.
Registrar	Alfred Miller.
Editors	Henry Rayner, M.D. A. R. Urquhart, M.D. Conolly Norman, F.R.C.P.I.
Auditors	James M. Moody. E. B. Whitcombe.
Divisional Secretary for—	
Scotland	Lewis C. Bruce, M.B.
Ireland	W. R. Dawson, M.D.
South-Western Division	P. W. Macdonald, M.D.
South-Eastern Division	A. N. Boycott, M.B.
Northern and Midland Division	C. K. Hitchcock, M.D.

Members of Council.

R. C. Stewart; F. W. Mott, M.D., F.R.S.; A. D. O'C. Finegan; G. Braine-Hartnell; Maurice Craig, M.D.; David Yellowlees, M.D.

Election of Ordinary Members.

The following candidates were proposed for election as ordinary members:—Camparíole, Paul Clem, M.B., C.M.Ed., Junior Assistant Medical Officer, County Asylum, Melton, Suffolk (proposed by J. R. Whitwell, Stephen E. Longworth, and Robert Jones); Cassells, Alexander Henderson, M.B., Ch.B.Glasg., Senior Assistant Medical Officer, Sunnyside, Montrose (proposed by J. G. Havelock, John Cameron, and L. R. Oswald); Forster, Hermann Julius, L.R.C.P.I., L.S.A., Assistant Medical Officer, East Sussex Asylum, Haywards Heath (proposed by Edward B. C. Walker, H. Hayes Newington, and Charles Planck); Higginson, John Wigmore, M.R.C.S., L.R.C.P., Resident Medical Officer, Hayes Park Asylum, Hayes Park, Middlesex (proposed by Theo. B. Hyslop, Maurice Craig, and Robert Jones); Kelly-Patterson, William, M.D., M.Ch., R.U.I., Ballyemond, Killowen, co. Down (proposed by Arthur Finegan, Oscar T. Woods, and Robert Jones); Sodhi, D. M. S. Baba, M.B., Ch.B.Ed., Senior Assistant Medical Officer, Portsmouth Borough Asylum, Portsmouth (proposed by T. S. Clouston, H. Hayes Newington, and Robert Jones); Thomson, James, M.D.Glasg., Senior Assistant Medical Officer, Gartloch Hospital for Mental Diseases, Gartcosh, N.B.

(proposed by L. R. Oswald, D. Yellowlees, and W. A. Parker); Trevelyan, E. F., M.D.Lond., F.R.C.P.Lond., Assistant Physician to the Leeds General Infirmary, 40, Park Square, Leeds (proposed by F. W. Eurich, C. K. Hitchcock, and Robert Jones).

They were all unanimously elected.

Election of Honorary Members.

Dr. H. Rayner.—I beg, sir, to propose as an honorary member of the Association Sidney Coupland, M.D.(Lond.), F.R.C.P., Commissioner in Lunacy, 16, Queen Anne Street, Cavendish Square, W., late Physician to the Middlesex Hospital. It is hardly necessary to recommend Dr. Coupland to the members of the Association. He has done a good deal of literary work, among which his work on enteric fever has long been an authority. Besides his long experience at the Middlesex Hospital, he was for a great many years lecturer on pathological anatomy, and also lecturer on practical medicine. Both his literary and medical records, which are very good indeed, qualify him for the post he now holds. In that post many present can speak of the admirable way in which he fulfils his duties. I can speak personally, and I have great pleasure in nominating him.

The Treasurer.—I have equal pleasure in seconding the nomination.

The President.—It is unnecessary to recommend Dr. Coupland. I am sure that he will be a worthy member of the Association.

Dr. Urquhart then proposed the election of Dr. E. N. Brush, physician superintendent of the Sheppard and Enoch Pratt Hospital for the Insane at Baltimore. This nomination had been made by the President, Drs. Savage, Yellowlees, Rayner, Hayes Newington, and himself. Dr. Brush was well known to those of their members who had visited America, and had taken special interest in psychological medicine in the United States. He would honourably and efficiently represent the Association among their colleagues of the great republic.

Dr. Savage.—I have pleasure in seconding the nomination. Dr. Brush is not only a very distinguished American physician, but has devoted his life to this work, and is fully alive to all that is being done both in England and on the Continent. I speak from personal knowledge when I say that any one going to America and visiting Philadelphia will find in him a cordial friend.

Dr. Yellowlees.—I wish to support the nomination very emphatically. No one going over to the United States and meeting Dr. Brush will fail to find in him a helper, as well as delightful friendship.

The President.—Dr. Brush, one of the leading physicians of the United States, is accredited to us by the Medico-Psychological Association of America, and will make a very worthy member of this Association.

Both candidates were unanimously elected.

Election of Corresponding Member.

Dr. Percy Smith.—I beg, sir, to propose the election as a corresponding member of Benedetto Giovanni Selvatico Estense, M.D. (Padua), of 116, Piazza Porta Pia, Rome, Assistant at the Psychiatric Clinic of the University of Padua, Lecturer at the Medical Pedagogic Institute (Rome) of the Italian National League for Deficient Children. I have indeed pleasure in recommending the Association to elect this gentleman. He is well known to myself and to Dr. Savage, is a frequent visitor to English asylums, and has formerly taken part in the discussions of this Association. His contributions to medical literature are numerous and valuable.

Dr. Savage.—I second the proposition. I have a personal knowledge of this distinguished gentleman. He is a man who has done extremely good work, and will do further good work. His epitome of the opinions of Continental and English writers on general paralysis is a very masterly compilation.

The President.—After the full report given by Dr. Percy Smith and Dr. Savage it is not necessary for me to say anything, except to express my own opinion that Dr. Estense will make a very worthy member of this Association. His connection with this country makes his visits frequent. I hope they will be equally as frequent in the future.

Dr. Estense was unanimously elected.

Report of Council.

Membership.—The number of members of this Association for the year 1901 was as follows:

Ordinary members 580. honorary members 37, corresponding 11. Compared with previous years, the membership for the quinquennium ending 1901 shows the gradual growth and increased prosperity of the Association:

	1897.	1898.	1899.	1900.	1901.
Ordinary members ...	524	540	560	568	580
Honorary ,, ...	38	38	36	38	37
Corresponding members	12	12	12	10	11
Totals	574	590	608	616	628

Two honorary members, Dr. Cleaton and Dr. Curwen, died during the year, and one was elected. One corresponding member was elected. Eight ordinary members died, among whom were Drs. Law Wade, J. F. Sutherland, Campbell Clarke, and Alfred Aplin. This year also the Association has lost by death Drs. A. Strange, W. C. Hills, Bonville Fox, and G. F. Bodington.

During the year forty-four members were elected, twenty-one resigned, and four were removed for non-payment of subscription.

Meetings.—The Annual Meeting was held in Cork, in July, under the presidency of Dr. Oscar T. Woods, and was most successful. It was well attended, and the hospitality of Dr. and Mrs. Woods was greatly appreciated by the members.

Three General Meetings were held, one at Claybury, in February, and the others in London. Papers were read by Drs. Mercier, Percy Smith, Sir Lauder Brunton, and others, much interest being evinced in the subsequent discussions.

The Divisions have held meetings, and those held in the South-western Division, as last year, have materially added to the membership of the Association.

Committees.—Much work has been done by the various standing and special committees, and the report of the Tuberculosis Committee has been published, which emphasises the necessity for providing separate accommodation for the phthisical insane.

The Educational Committee continues to devote time to the special recognition of training nurses for the insane, and the Certificate of the Association for proficiency in nursing the insane has become a recognised standard of efficiency, and is much sought for. The Council thinks that the Association continues successfully to carry out the scheme for the training and examination of attendants and nurses, a responsibility which the Association undertook about ten years ago.

The Report was unanimously adopted.

Report of Treasurer.

The Treasurer.—My report, sir, is contained in the balance-sheet circulated with the papers for the year. The Auditors' report comes next. Unfortunately neither is able to be present. I think most members have a print of their report. They find that all is correct. They merely remark upon the satisfactory balance, and I may be permitted to add that it is larger than we ever had before. We made about £125 net last year, and this balance was created in the best way,—that is, by increasing subscriptions and by keeping the expenditure at a reasonable point. (Applause.) I beg to present my report.

Dr. Savage.—I move that the report be received and adopted.

The motion being duly seconded, it was put and carried unanimously.

Report of Auditors.

We, the undersigned Auditors of the Medico-Psychological Association, beg to report as follows. We have duly examined the items of expenditure for the year 1901, and checked the entries in the cash-book with the vouchers. We have also investigated the sources of income and duly checked the various items. We are pleased to note an increase in the annual subscriptions and in the fees for the Nursing Certificate. The certificate for medical men still fails to attract candidates. The balance upon the year's working is quite satisfactory.

July 17th, 1902.

Ernest W. White,
James M. Moody, } *Auditors.*

THE MEDICO-PSYCHOLOGICAL ASSOCIATION.—For the Year 1901.

REVENUE ACCOUNT—January 1st to December 31st, 1901.

1900.	Dr. Expenditure.	£ s. d.	£ s. d.
£ s. d.			
546 6 5	To Journal, Printing, Publishing, Engraving, Advertising, and Postage	538 4 3	
100 0 11	,, Examinations, Association Prizes, and Clerical Assistance to Registrar	127 16 3	
60 12 9	,, Petty Disbursements, Stationery, Postages, etc.	52 0 7	
127 9 11	,, Annual, General, and Divisional Meetings ...	102 10 0	
	,, Rent of Premises at 11, Chandos Street, care of Office, etc.	51 0 0	
51 0 0	,, Audit and Clerical Assistance	6 6 0	
6 6 0	,, Miscellaneous	31 16 1	
40 19 10			909 13 2
44 19 7	Balance		149 1 0
			£1058 14 2
£977 15 5			

1900.	Cr. Income.	£ s. d.	£ s. d.	£ s. d.
£ s. d.				
	By Dividends		13 7 11	13 10 8
	,, Sale of Journal	180 12 9		
	,, Sale of Handbook	18 10 0		
	,, Advertisements	51 11 0		
			250 13 9	255 11 6
	,, Fees, Certificates of Psychological Medicine ...	6 6 0		
	,, Fees, Certificates of Proficiency in Nursing ...	163 11 6		
			169 17 6	101 4 9
	,, Subscriptions		624 15 0	607 8 6
			£1058 14 2	£977 15 5

BALANCE-SHEET—31st December, 1901.

1900.	Liabilities.	£ s. d.	£ s. d.	£ s. d.
£ s. d.				
27 6 6	Journal Account, balance of	10 8 5		
4 15 0	Petty Disbursements Account, balance of ...	10 1 11		
7 0 0	Examinations Account, balance of	4 15 0		
2 19 1	Meetings Account, balance of	32 14 2		
1 16 2	Gaskell Fund Account, balance of	3 1 3		
– – –	Rent Account, balance of	21 0 0		
– – –	Miscellaneous Account, balance of	8 5 2		
10 15 3	Library Account, balance of	21 7 8		
				111 13 7
	Balance:—Balance on 1st January	1169 0 3		
	Add:—Balance of Revenue Account	149 1 0		
	Increase in value of Victoria Stock ...	1 12 3		
		1319 13 6		
	Deduct:—Decrease in value of New Zealand Stock	£0 15 6		
	New Zealand Stock (Hack Tuke Memorial)	0 16 0		
	Subscriptions written off ...	23 2 0		
		24 13 6		
			1295 0 0	
1169 0 3				
£1223 12 3			£1406 13 7	

1900.	Assets.	£ s. d.	£ s. d.	£ s. d.
£ s. d.				
	Lloyds Bank:—Bankers		415 12 8	239 3 7
	New Zealand Stock:			
	£3½ per cent. value at this date ...	£325 14 8		
	Hack Tuke Memorial	335 19 4		
	Victoria Stock £3 per cent. (Dr. Paul's bequest) ...	99 12 3		
			761 6 3	761 5 6
	Sales Account, balance		38 9 2	115 18 8
	Subscriptions Account, balance		121 5 6	107 4 6
			£1406 13 7	£1223 12 3

H. HAYES NEWINGTON, Treasurer.

E. WOODINGTON, *F.C.A.*

Gaskell Memorial Fund.

1901. Dr.		£	s.	d.
Aug. 16.	Dr. Stoddart (Prize) ...	35	0	0
,, 30.	A. Wyon (Medal) ...	5	5	0
,, 14.	Examiners' Fees ...	4	4	0
Dec. 31.	Balance	3	1	3
		£47	10	3

1901. Cr.		£	s.	d.
Jan.	Balance	1	16	2
,, 2.	Dividend	22	19	1
July 1.	Dividend	22	15	0
		£47	10	3

1902.		£	s.	d.
July 26.	Balance	49	9	3
		£49	9	3

1902.		£	s.	d.
Jan. 1.	Balance	3	1	3
,, 2.	Dividend	22	15	0
July 2.	Dividend	23	13	0
		£49	9	3

N.B.—At the time of the Annual Meeting, in addition to the credit balance on the current account as above, a sum of £171 0s. 6d. on deposit stood to the credit of the Fund.

H. HAYES NEWINGTON, *Treasurer.*

Revision of the Rules.

The PRESIDENT read the notice which had appeared on the agenda; it was as follows:—"To receive and, if thought fit, to adopt the report of a Committee appointed by the Council to consider the reprinting of the Rules and Regulations of the Association with such alterations as have been made from time to time therein at annual meetings, together with certain minor amendments which appear to the Committee necessary for the better working of the Association."

Dr. WHITCOMBE.—Mr. President, the Rules Committee have met on several occasions, and have done a large amount of work by correspondence. They reported to the Council this morning in the following terms:—"Your Committee reports that in pursuance of the resolutions of the Council dated May 23rd, 1901, July 23rd, 1901, and May 21st, 1902, they have considered—(*a*) the reprinting of the Rules (the former issue being exhausted); (*b*) the homologation of amendments made therein from time to time; (*c*) the introduction of amendments which would, in their opinion, lead to the better working of the Association.

"Further, they have, as instructed, caused proofs of the Rules, with proposed amendments, to be sent to each member of the Association with a view to the matter being dealt with at the annual meeting. In order to bring the matter forward the Committee have caused a notice of motion to be placed on the agenda of the Council meeting.

"The Committee have also, as empowered, taken the opinion of the Solicitor on various points. One result has been the disclosure of the fact that even the slightest alteration of the Articles of Association entails cumbrous formalities. If the Association in annual meeting approves the proposed changes it will be further necessary to hold two special meetings at statutory intervals, and to circulate special notices, etc., etc. The Board of Trade has signified its readiness to forego the submission to it of the proposed alterations.

"Your Committee, having in view the beneficial character of several of the proposed amendments, recommend that the Council should signify its approval of the said amendments to the annual meeting, and that it should suggest to the annual meeting that your Committee be empowered to take the necessary steps for carrying the matter through."

Not being a member of the Council I had no opportunity to submit this report, and I am at the present time in ignorance of what the Council have done. I therefore simply read the report made to the Council to the meeting here.

After a prolonged discussion the following was proposed by Dr. WHITCOMBE, and seconded by Dr. MORRISON:—"That a Committee be appointed to consider and revise the Rules, to add such amendments as have been made from time to time, and to report to the next Annual Meeting." This was rejected, and the following amendment to this motion proposed by Dr. URQUHART, seconded by Dr. CONOLLY NORMAN, was carried as a substantive motion, viz.: "That the Rules Committee appointed by the Council be thanked for their report, but that

it be not adopted. That this meeting do appoint a Committee to continue the work done by the Committee now dissolved, by submitting the amended Articles of the Association to the Divisions of the Association for consideration at their autumn meetings of the current year. That the reports of the Divisions be sent to the Committee to-day appointed, who are hereby granted freedom to deal with the whole question of Articles, Rules, and Bye-laws, with the instruction to prepare a report for the Annual Meeting of 1903. That this Committee be constituted as follows:—Drs. Hayes Newington, Mercier, Urquhart, Conolly Norman, Carlyle Johnstone, Whitcombe, Weatherly, Robert Jones (Honorary Secretary)." Dr. Whitcombe declined to act.

Report of the Tuberculosis Committee.

Dr. Weatherly.—It is now my privilege to bring forward the report of the Committee which was appointed two years ago on this subject. With the enormous amount of work we had, with members living in all parts of the country, and not having more than one meeting every quarter, it will not be difficult to understand why it should have taken two years to prepare this report. There are one or two points on which, before proceeding to the general question, I should like to touch. It will be observed that some of the answers have not been embodied in the statistics. For that omission the Committee take the full responsibility. The omission is due simply to this fact, that some of the answers sent to us, although most valuable in some respects, were not so perfect that we could embody them with the others, and draw proper inferences from them. The Committee again wish me to emphasise the work of our honorary secretary, and we owe a deep debt of gratitude to Dr. E. France for the labour he has undertaken. It is somewhat remarkable that this report should be placed before you for adoption at Liverpool, because this town is in the forefront of Great Britain in doing something for its poor consumptives. It has already started a grand sanatorium at Delamere, and the Poor Law guardians are fully aware of the importance of this great crusade. To the energy of Dr. Nathan Raw, a member of our Association, is Liverpool indebted for the position she takes up in this good work.

Some may smile at this report and stigmatise it as a mass of commonplace platitudes, but from my experience of this crusade against consumption I am satisfied that these truths cannot be too often repeated.

I trust that this Association will grant power to our Treasurer to provide money for the wide circulation of this report. We are on the eve of a great good resulting from this crusade, and I am confident that the statistics which we are able to show the public now, and the improvement that must result from the adoption of our suggestions in the mortality from consumption in our asylums for the insane, will help forward a movement which science so clearly tells us must ultimately be the means of eradicating this dreaded disease from amongst us.

On behalf of the Tuberculosis Committee I beg to move the adoption of this report.

Dr. Percy Smith.—I beg, sir, to second the motion.

The resolution was carried.

Dr. Clouston.—I cannot allow the occasion to pass without referring to the exemplary pains which, as Chairman of the Committee, Dr. Weatherly himself has taken to make this report perfect. We know that a report of this kind is not compiled without great interest and enthusiasm on the part of the Chairman, and we ought to thank him very heartily. With the contents of the report we shall not deal seriously, but, however commonplace it may appear to be, it is needed to bring before us, as the heads of asylums, the responsibility which lies upon us for the lives of our patients. I move—"That the best thanks of this Association be given to the Committee for the great trouble they have taken, and for their able, lucid, and instructive report." (Applause.)

Dr. Nicolson.—I have great pleasure in seconding that motion. It is a subject on which we have been working for many years in asylums.

The President.—I do not think we can be too grateful to the Committee, and we ought to thank the Secretary as well as the General Committee.

The resolution was unanimously passed.

Circulation of the Report on Tuberculosis.—It was resolved that Dr. Weatherly should submit the names of those to whom the report should be sent, and that the President and Ex-President be authorised to pass the expenditure.

Parliamentary Committee.

Dr. Hayes Newington, on behalf of the Parliamentary Committee, stated that as the Lunacy Bill had not yet made its appearance they had nothing to report.

Educational Committee.

Dr. Percy Smith.—There is very little to say about the Educational Committee. We have got the new Nurses' Examination arrangements completed, and have settled many matters referred to us by the Council. We have the Medico-Psychological Certificate Examination still under consideration, but we hope to arrive at a definite conclusion at the meeting in the autumn.

The Library.

Dr. Morrison.—The Library Committee, Mr. President, made last year a report which was referred for consideration to the Council, with instructions to bring the matter before this meeting. Has the matter been submitted to the Council, and if so have the Council reported?

The President.—It has been under the consideration of the Council, and is still in their hands; it has not been forgotten.

Dr. Hyslop.—It is very important that this question should not be shelved.

Dr. Urquhart.—In regard to the questions before the Annual Meeting at Cork last year I undertook to submit a report to the following Council meeting in London, and I did so.

Dr. Morrison.—May I propose that £25 be put aside for additions to the Library?

Dr. Hyslop.—There have been no additions for the last ten or twelve years. The Library has been at a standstill. It is of no use for reference. Something ought to be done to provide more recent works.

The President.—Will Dr. Morrison put it in this way: that the matter be referred to the Council as a suggestion that an annual grant be made for the support of the Library?

Dr. Morrison.—We could vote an annual grant of £25 at once. As a suggestion I do not think it would do any good.

Reappointment of Committees.

The Parliamentary Committee were appointed for the ensuing year.

Dr. Carlyle Johnstone.—Will the members of the Education Committee who are not, as teachers of insanity, members *ex officio*, and have not attended at least one meeting, be reappointed? I should like to propose that members, not being members *ex officio*, who have attended at least one meeting be reappointed.

The following resolution was adopted, viz., "That those members of the Educational Committee, not being teachers of insanity, who have attended at least one meeting of the Committee during the year be reappointed, with the addition of the names of Drs. Macphail and Robert Jones."

The meeting then adjourned for lunch.

The meeting having reassembled—

The President said: My duties as your President are drawing to a close, but before I leave the chair I have a pleasant office to fulfil. It is to propose in no formal way a vote of thanks to the permanent officials of the Association. (Applause.) On them the work of the Association depends, and they are almost all of them old in its service. Your Treasurer has grown grey in your service. He at all events spares himself no trouble to further the interests of the Association. In your Secretary I personally know you have a most valuable officer who carries out his duties with a faithfulness and an anxiety which few could emulate. Unfortunately during the year our late Registrar was obliged through ill-health to resign. He had most faithfully discharged his duties. I believe you have

found a very worthy successor in Dr. Miller, who has the interests of the Association at heart. I beg to propose a very warm vote of thanks to these gentlemen for the great assistance they have given me, and for the time they have devoted to the good of our Society.

With regard to the Editors, the whole work of the Association depends on the JOURNAL, and Drs. Rayner, Urquhart, and Norman have worked on it for years, and very warm acknowledgment is due to them for their labours.

The motion was passed with applause.

Dr. URQUHART.—I have been asked to respond to this vote of thanks, and I do so with great pleasure, because now I feel myself in a position of less responsibility and greater freedom, and can speak more freely with regard to the officers of the Association than I might have done last year. I quite endorse what you have said about our Secretary and Treasurer; we could not be better served. With regard to Dr. Benham, my old and valued friend, I am sure that the Association deeply regrets that he has been laid aside by illness, and hopes to see him soon restored to health. All our officers fully appreciate the confidence which the Association reposes in them.

Dr. MERCIER.—May I ask that a copy of the resolution be sent to our late Registrar?

Dr. NEWINGTON.—Dr. Benham is back, and looking forward to a renewal of his work.

INTRODUCTION OF DR. BRUSH.

Dr. URQUHART.—Mr. President and Gentlemen, I have the honour to present to you Dr. Brush, of the Sheppard and Pratt Hospital at Baltimore. I spoke at length this morning concerning Dr. Brush, and would merely add that he is the bearer of a letter from our friends of the American Medico-Psychological Association, and I now present his credentials as their representative. (Applause.)

Dr. BRUSH (who was received with loud applause).—The credentials which my friend Dr. Urquhart has presented to you were sent to me, and found me a few months ago in Germany. A little later a letter came from the secretary of our association, asking me to express to the British Medico-Psychological Association their warm and most fraternal greetings. I have great pleasure in doing so. (Applause.) We look to you, gentlemen, for example. As one of the editorial committee of our journal, I may say we regard the JOURNAL of this Association as the model of what the journal of an association of this kind ought to be, and we follow it as nearly as we can. For myself, nothing I can say or do in my future professional life can in any way equal the honour which has been done me to-day; I can simply thank you most sincerely.

VOTE OF THANKS TO THE PRESIDENT.

Dr. SAVAGE.—Mr. President, you are about to leave the Chair, but for a moment permit me to say we have had in you a president who has not only represented your profession in this country in the genial and kindly way which was reflected in the terms in which you spoke of your officers, but who has, as helmsman, steered us well through this year. We feel now that the rest you have obtained has been earned, and without arresting your descent any longer, I beg in the most cordial way to propose a vote of thanks for the manner in which you have performed your duties.

The motion was passed with applause.

The PRESIDENT.—Gentlemen, I am exceedingly obliged for the warm vote of thanks you have passed, and for the acclamation with which you received it. In accepting office I felt that, living so far away, I could not fill it as my predecessors had done. It has, however, proved a work of pleasure. I have made many new friends, and met many old ones. In retiring I have only to introduce to you my successor, Dr. Wiglesworth. (Applause.) You have known him for many years as an able and enthusiastic worker. Everything he has taken up he has done thoroughly. With him the interests of the Association are in safe hands. We do not doubt that he will follow in the footsteps of the best of his predecessors. (Applause.)

The PRESIDENT, Dr. Wiglesworth, then delivered his presidential address (see page 611).

Mr. DAMER HARRISSON read a paper entitled "Some Remarks upon the Surgical Treatment of Insanity." He showed a case on which he intended to operate. The result of the operation is recorded in an appendix to his paper (see page 696).

Dr. MERCIER proposed the following resolution:—"That in the opinion of this Association further legislative measures are needed to protect the property of those who, without being certifiably insane, are yet, by reason of disorder of mind, unable to administer their affairs with ordinary prudence." A report of the discussion that ensued will appear in the January number of the JOURNAL.

SECOND DAY.

Dr. MOTT read a paper entitled "Stimulus in Relation to Decay and Repair of the Nervous System" (see page 667). The paper was illustrated by lantern slides and diagrams.

Dr. A. W. CAMPBELL gave a lantern demonstration on the medullated nerve-fibres of the cerebral cortex.

Dr. DAVID ORR gave a lantern demonstration on nerve-cell and medullated fibre changes in acute insanity.

Dr. CLOUSTON introduced a discussion upon "The Possibility of providing suitable means of Treatment for Incipient and Transient Mental Diseases in our Great General Hospitals" (see page 697).

Dr. HUBERT C. BOND read a paper on "Medico-Psychological Statistics—the Desirability of Correlation with a view to Collective Study" (see page 709).

The following resolution was, on the motion of Dr. NEWINGTON, seconded by Dr. RAYNER, unanimously passed:—"That Dr. Bond be thanked for his paper, and that it be remitted for consideration to a committee. That the said committee be requested to report to the next Annual Meeting upon the present statistical tables of the Association as to whether, and if so in what direction, their alteration or amplification would be of advantage. That individual members of the Association be hereby invited to communicate to the committee any views they may have on the subject; and that such committee consist of Drs. Rayner, Hyslop, Whitwell, Stewart (Glamorgan), Bond, Yellowlees, Easterbrook, Nolan, Dawson, Bedford Pierce, and the Treasurer; that Dr. Yellowlees be appointed Chairman, and Dr. Bond Secretary; that the quorum be three, and that the committee have power to fill any casual vacancy."

Drs. URQUHART and FORD ROBERTSON contributed the clinical and pathological report of "A Case of Epilepsy with Glioma following on Traumatic Injury of the Brain" (see page 751).

Dr. DAWSON contributed a paper entitled "Note on the Pathogenesis of Diabetic Insanity" (see page 735).

VOTES OF THANKS.

Dr. RAYNER.—We ought not to separate without passing a vote of thanks to the medical authorities in Liverpool who have lent us this building, so well adapted to the purpose of our meeting. I beg to move that the best thanks of the Association be given to the members of the Medical Institution.

Dr. MOTT seconded the resolution.

The motion was carried with acclamation.

Dr. NEWINGTON.—I beg to propose a vote of thanks to our President for his services in the chair. No one deserves it more.

Dr. RAW.—I have much pleasure in seconding this proposal. The medical profession in Liverpool are gratified that Dr. Wiglesworth has attained to the position of President of this important Association.

The motion was carried amid applause.

The PRESIDENT.—I thank you, gentlemen, for the manner in which you have supported the Chair. I desire, in parting, to congratulate the Association on the high quality of the work presented to us. The original work might have been laid before any society in the kingdom. It does the Association great credit, and promises well for the future.

The Annual Dinner.

The Annual Dinner of the Association took place at the Adelphi Hotel on Thursday evening, the 24th July. The President occupied the chair, and there was a large attendance of members, amongst whom were no less than fifteen past presidents. Amongst the visitors were Sir William Mitchell Banks, Sir Edward Russell, Mr. W. Scott Barrett, Dr. Brush (Baltimore), Mr. Edgar Browne, Mr. Damer Harrisson, etc. Dr. Savage, in proposing "The Liverpool University College," alluded to the fact that the present college was formerly, in part, the old Lunatic Hospital of Liverpool; and Dr. Clouston, in proposing "The Guests," twitted the inhabitants of Liverpool with having abolished the Lunatic Hospital of the town without putting any similar institution in its place.

The speeches were of an exceptionally lively character, that of Sir William Banks being especially witty, while Mr. Edgar Browne delighted his audience by his happy humour. Both the meeting and the dinner may be said to have been of the most successful character, giving strongest evidence of the vigour of the scientific spirit, together with the cordial feeling of fellowship in the members of the Association.

Council and Committees.

In connection with the Annual Meeting there were meetings of Educational, Rules, and Parliamentary Committees. The Council met on the 24th July, the following members being present:—Oscar T. Woods (President), J. Wiglesworth (President-elect), H. Hayes Newington (Treasurer), Alfred Miller, J. G. Havelock, P. W. Macdonald, J. Beveridge Spence, L. A. Weatherly, Fletcher Beach, R. Percy Smith, T. Stewart Adair, A. R. Turnbull, A. R. Urquhart, L. C. Bruce, T. B. Hyslop, Henry Rayner, D. M. Cassidy, W. R. Dawson, Conolly Norman, and Robert Jones (Hon. General Secretary).

The usual official reports were received and dealt with.

The Educational Committee recommended that the following gentlemen be appointed Examiners for the Medico-Psychological Certificate Examinations:—England: Dr. Theo. B. Hyslop. Scotland: Dr. John Carswell. Ireland: Dr. Michael J. Nolan.

IRISH DIVISION.

A meeting of the Irish Division of the Medico-Psychological Association was held in the College of Physicians, Kildare Street, Dublin, on Friday, May 23rd, 1902.

Dr. Oscar Woods presided, and there were also present Drs. Frank O'Mara, Henry M. Eustace, M. J. Nolan, O'Neill, Thomas Drapes, W. R. Dawson, John Mills, Richard Leeper, Michael Curran, Conolly Norman, Daniel F. Rambaut, J. O'C. Donelan, J. A. Oakshott, and Arthur Finegan, Hon. Sec.

The minutes of the last meeting as published in the Journal were taken as read and confirmed.

Dr. Nolan expressed surprise and regret that a proof of his remarks in the discussion at the previous divisional meeting had not been sent to him.

Dr. O'Neill said that unfortunately he was not able to be present at the discussion that took place on the resolution standing in his name at the last meeting. Had he been present he would have corrected some of the statements that were there made. He felt that it was only due to himself and the Association that the matter should be cleared up. He then briefly referred to the action he had taken in the pension question in the interests of the Association and of every one connected with the service.

Dr. Oscar Woods.—I am, as is every one here, perfectly satisfied that the action which Dr. O'Neill took was for the best interests of all asylum officials. I think that Dr. O'Neill was perfectly justified in bringing forward his resolution at the general meeting in England. He did so in consultation with the permanent officials of the Association. As it was a matter purely in connection with Irish asylums it would have been better, if possible, to have brought it before the

Irish Branch; we must not forget, however, that the whole subject was brought before the annual meeting at Cork, and that it was owing to an oversight that the resolution was not then proposed.

The Honorary Secretaryship.

The Chairman.—We are all very sorry to hear that Dr. Finegan has decided to resign the secretaryship of our division. He asked me to bring the matter before the meeting in London the other day. I brought it before the Council, and the Council passed a resolution that any name sent forward by to-day's meeting would be put forward for the secretaryship of the Branch.

It was unanimously decided to nominate Dr. Dawson for the position of Honorary Secretary.

Nomination for Election to the Council.

On the motion of Dr. Conolly Norman, seconded by Dr. Drapes, it was unanimously decided to nominate Dr. Finegan.

Examinership for the Medical Certificate of the Association.

On the motion of Dr. Mills, seconded by Dr. Dawson, it was unanimously resolved to nominate Dr. Nolan.

Dr. Richard Leeper read a paper entitled "Observations on the Neuroglia Cell and its Processes." He showed a series of microscopic preparations of neuroglia fibres from the brain of an epileptic.

Dr. Rambaut read a paper entitled "Case-taking in Large Asylums." This paper will appear in the January number of the Journal.

Dr. Dawson read a paper entitled "Note on a New Case-book Form." This will appear in the January number of the Journal.

Dr. Conolly Norman read a paper on "Obsessions." This will appear in an early number of the Journal.

BRITISH MEDICAL ASSOCIATION.

Annual Meeting, Manchester, 1902.

Section of Psychology.

President: George Wm. Mould, M.R.C.S. Vice-Presidents: Judson Sykes Bury, M.D.; Thomas Steele Sheldon, M.B. Honorary Secretaries: John Sutcliffe, M.R.C.S.; Ernest Septimus Reynolds, M.D.

The section was well attended, and the subjects discussed were of exceptional interest.

President's Address.

Mr. Mould, in his presidential address, referred to the recent advances in the accommodation provided for the insane, and mentioned especially the system of having detached blocks or villas. He said that this plan had been adopted at Cheadle since 1862, and that it was now in extensive use in Europe and America, and had the support of the most advanced and enlightened psychiatric physicians. He contrasted the present-day treatment of the insane with that in vogue forty years ago, and he mentioned some of the heroic measures which were formerly adopted, and which with the advance of knowledge had disappeared. He referred to the meeting that had been held in Manchester twenty-five years ago, and he paid a high tribute to the memories of some of the distinguished alienists who were then present.

The Care and Treatment of Persons of the Poorer Classes in the Early Stages of Unsoundness of Mind.

Sir John Sibbald, in opening a discussion on this subject, said that the present position of the matter might be summed up in two propositions: first, persons suffering from mental disorders in their early stages were not, and under British

lunacy law could not be, provided for in asylums; and secondly, such patients were at present, as a rule, unprovided with hospital treatment of any kind. All that he desired was that general hospitals should do for mental disease in its early phases what they did for disease in general, viz., they should receive patients of the poorer classes who suffered from incipient mental disorder, and who could not be properly treated under the conditions usual in the homes of the poor, but could be suitably treated in special wards in general hospitals. He considered that it was desirable that the mental wards which he proposed should be in charge of physicians who had devoted their special attention to the care and treatment of mental disease. He referred to the rival proposal of providing separate special hospitals—institutions apart from general hospitals and public asylums—for the reception and treatment of incipient cases of mental disorder. An insuperable objection to this scheme, however, was that by whatever attractive name such hospitals might be designated, they would be classed by the public as "asylums," and the patients whom it was wished to benefit would accordingly shrink from entering them. He pointed out that the educational value of such an arrangement as he proposed would be very great, and he added that, above all considerations, there rose the supreme fact that the establishment of such wards would render possible the special treatment of mental diseases in the early stages.

The Hospital Treatment of the Insane at the Bexley Heath Asylum, and the Value of Villas for the Housing of Convalescing and Quiet Chronic Patients.

Dr. Hubert Bond, in his paper on this subject, gave details of the system of nursing at Bexley Heath, and stated that it was similar to that adopted in the medical wards of general hospitals. Plans of the villas and gardens were shown.

The Relation of Functional Neuroses (Hysteria, Neurasthenia, Hypochondriasis, etc.) to Insanity.

Prof. Clifford Allbutt opened the discussion on this subject. While admitting that the morbid states to which one gave such names as hysteria, neurasthenia, and hypochondriasis were somewhat arbitrary conceptions at the best, he was of opinion that a discriminating diagnosis was frequently possible. He said that the confusion which arose generally depended not upon identity, but upon a similarity between two or more of these maladies in certain phases of their course. He gave a very clear and exhaustive account of the characteristics of these conditions, and laid special stress on the differential diagnosis of neurasthenia from insanity. He stated that for the most part it was wrong to say that neurasthenia "drifted into" this, that, or the other morbid process; neurasthenia was not a general quality common to many diseases, but a particular process having its own causes and its own events. Diagrammatically they might conceive of the nervous system as a vertical pile of centres, the lowermost of which presided over the earliest of the functions, each higher centre in its turn being occupied with functions later and later in the order of development. Not only so, but each later centre was not only attached directly to its predecessor, but was co-ordinated also with all its predecessors, so that the pile became a system of mutual interdependence. Thus every later centre modified, or, in other words, controlled or inhibited, not only the one immediately below it, but also each and all the earlier centres, certain cardinal inhibitions being provided for by special short circuits. But a nervous centre was not a mere change-house; it was also an accumulator of energy, whereby it was prepared not only for mean demand, but also for extremes of effort or rest. The neurasthenic had never much reserve for time of stress; he needed inordinate time for repair, and was apt to be exhausted beyond the possibility of full repair. In this lowering of nervous potential not only did output soon run down, but inhibition was slackened, so that energy was prematurely set free in what they called "irritable weakness." This, however, was not insanity; it was not perversion, but poverty. Hysteria, on the other hand, was the interference of inhibition out of season. It consisted in intrusive suggestion; the patient could not take the break off; so it was often remediable by counteracting suggestions and by disciplinary exercises, neither of

which were of much service in neurasthenia. The neurasthenic sought each new physician with fresh prospects of relief; the hypochondriac sought him only to consume another man's time and sympathy upon the altar of himself. Of late years he had formed the opinion that neurasthenia was apt to follow surgical operations—sometimes even the smaller operations—when done under an anæsthetic. He believed it to be genuine neurasthenia, and allied to that which followed some railway accidents.

Apprehensiveness, Stupor, and Katatonia.

Dr. Robert Jones read a paper on this subject. He thought that katatonia was not a separate variety of insanity, but was a symptom which occurred in the cyclic forms of insanity. The essential feature was a tendency to the recurrence or repetition of motor and mental impulses followed by negativism, *i. e.*, by a condition of passive resistance to every movement. He gave a detailed account of the prominent symptoms in the various stages of this affection, and said that the greater number of katatonic cases became chronic and passed into mild dementia of a sluggish type. Overstrain and anxious responsibility were important factors in the causation, and masturbation aggravated the condition. It had not yet been possible to correlate the symptoms during life with the lesions observed in post-mortem investigations.

Syphilis as a Cause of Insanity.

Dr. Mott, in opening the discussion, said that the poison of syphilis was remarkable for its persistency, its potency, and its prevalence, and that it acted in many ways as a cause of insanity. During the secondary stage the anæmia and toxæmia which it produced acted as exciting causes of insanity in predisposed subjects, but over-dosage with mercury was also a possible factor in some cases. The worst forms of brain syphilis were those which occurred within the first four years after infection. Such cases usually ran a rapid course, and were intractable to treatment. Those forms of the disease in which there was a combination of endarteritis with gummatous meningitis simulated very closely general paralysis; they were, however, amenable to treatment by drugs, and the symptoms in great measure coincided with the post-mortem findings. The relation of general paralysis to syphilis was now an established fact of great importance. The action of syphilis in producing general paralysis was limited to the brain of the civilised man, for in savage races syphilis might be, and often was, common, while general paralysis was rare. The factors which in civilised life favoured the development of neurasthenia were capable, in co-operation with syphilis, of producing general paralysis. Acquired or congenital syphilis was equally potent to cause general paralysis. The occurrence of syphilitic infections could by careful investigation be traced in from 70 to 80 per cent. of cases of general paralysis. The symptoms of general paralysis, however, began to be apparent only several years after infection, the average interval being fifteen years. General paralysis was unknown where syphilis was unknown, and was rare in the rural districts of Ireland and Sweden. It was also rare among priests, Quakers, and women of the upper classes. General paralytics were immune to syphilitic inoculation. Juvenile general paralysis was almost invariably found to be a result of congenital syphilis, and in 20 per cent. of the cases observed it was found that the fathers of the patients had had general paralysis. Dr. Mott concluded by adopting, for the purpose of raising a discussion, the thesis, "No syphilis, no general paralysis."

At the close of this discussion the following motion was carried unanimously:—"That the Section of Psychological Medicine thinks it ought to point out that general paralysis, a very grave and frequent form of brain disease, is largely due to syphilis, and is therefore preventable. We therefore, the members, strongly recommend that greater efforts should be made to arrest the transmission of syphilis and to stamp it out, and we further urge that the attention of the Legislature and of public bodies should be called to this important matter."

RECENT MEDICO-LEGAL CASES.

[The editors request that members will oblige by sending full newspaper reports of all cases of interest as published by the local press at the time of the assizes.]

An Appeal by Mrs. Cathcart.

Cathcart v. *Jacobs and another.*

This was an appeal by the plaintiff, Mrs. Mary Cathcart, and the committee of her estate, who had been made a party to these proceedings since the trial of the action, from an order of Mr. Justice Day, whereby he entered judgment in favour of the defendants on the claim and judgment for them also on their counter-claim for £2387 10s.—Mr. Montague Lush, K.C., and Mr. Morton Smith appeared for the plaintiffs; Mr. Minton Senhouse and Mr. Emery for the defendants.

Mr. Morton Smith, in stating the facts to the court, said this action was a good sample of Mrs. Cathcart's litigation. The action came on just before the Long Vacation of 1900, and he believed the lady was represented by counsel during the two days when it was then argued. After the Vacation it again came into the list, and Mrs. Cathcart conducted her case in person—or, perhaps it would be more correct to say, she was not represented by counsel, as she was constantly away from the court. The action was brought by the plaintiff claiming to have three agreements signed by her in 1898 cancelled, on the ground that the defendants had obtained one of them by misrepresentation, and that her signatures to the other two were forgeries.

The Master of the Rolls.—What did the learned judge find as to the alleged forgeries?

Mr. Morton Smith.—That the signatures were not forgeries. Continuing, the learned counsel said the defendants were Mr. Julius Jacobs and his son, Mr. Morris Jacobs, who were described as financial agents in the city. They denied the allegations in the claim, and counter-claimed for £12,000 as the commission due to them under the documents the subject of the action. Mrs. Cathcart's case was that in 1898 her mother, a Mrs. Unwin, having recently died, she asked the defendants to try to find out what property her mother died possessed of, representing to them that she did not know anything about her mother's affairs. The defendants, in consideration of 15 per cent. on all the money they might discover that the lady had died possessed of, undertook, on the contract note being signed, to make the necessary investigations. As a matter of fact, the lady's estate was all known to her bankers, and the getting together of the information was a very simple affair. The lady died possessed of many thousands, and the commission on her property was out of all proportion to the labour expended; but at the trial the defendants offered to accept a *quantum meruit*, and the judge acted on that offer. As a defence to this part of the counter-claim Mrs. Cathcart said the property discovered was already standing in her name, and was not property that passed to her on her mother's death at all, but the learned judge ruled otherwise. The second document was to the effect that in the event of the defendants letting certain lands of hers in Worcestershire, on building leases, at a ground rent of £50 a year, and a premium of £1500, the money over and above that premium was to be retained by the defendants for their trouble. The third document purported to be an agreement to sell to the defendants, in consideration of the sum of £1500, a ninety-nine years' lease of the "Horse and Groom" public-house at Hayley, and some other property, subject to a rental of £55 a year, the defendants to retain all they got for this property over and above the £1500 for their trouble. The learned counsel submitted that the defendants knew perfectly well that Mrs. Cathcart was not able to manage her affairs, and had taken unfair advantage of this fact to get her to enter into contracts which were so to her disadvantage that the courts could not allow them to stand. He asked for a new trial. The real issue—the insanity of the plaintiff—was not before the court when the action was heard.

Mr. Montague Lush, K.C., having been heard on the same side, Mr. Minton Senhouse, for the defendants, said there was no evidence on which this court

could set aside the judgment entered for the defendants. Everything they had done was done aboveboard and was regular. The commission the lady was willing to pay was in writing. The defendants had incurred substantial out-of-pocket expenses, and if a new trial was ordered on the ground that the lady was insane when she entered into these agreements the defendants should have their expenses paid and their costs. The only ground on which the court could order a new trial—namely, the incapacity of the plaintiff to contract—was not before the court when the action was tried. The lady had failed in the action, and the defendants had won on their counter-claim. He submitted, as the defendants had acted *bonâ fide* in the matter, a new trial could only be ordered if the plaintiff placed the defendants in the same position as the parties were as regarded money matters before the trial was commenced.

Mr. Emery followed, and at the close of his argument the Master of the Rolls said the point the court had to decide was whether Mrs. Cathcart was in a position at the time of the trial to conduct her own case and instruct counsel properly. The facts spoke for themselves, and showed that by the lady's conduct the real issue was not tried when the action was heard. As to the merits of the case he would say nothing; but the judgment entered for the defendants for £2387 could not stand, and there must be a new trial; the costs of the first trial and of this appeal to be left to the discretion of the judge who re-heard the action.

The Lords Justices concurred.—Court of Appeal, before the Master of the Rolls and Lords Justices Mathew and Cozens-Hardy.—*Standard*, July 19th, 1902.

In re *Isaiah Meechan, who assaulted Dr. Anderson at Westgreen Asylum, Dundee.*

Before Sheriff Campbell Smith and a jury at Dundee yesterday, Isaiah Meechan, at present an inmate of the institution, was charged with having, on 24th June, on the terrace at Westgreen Asylum, assaulted Dr. William Lockhart Gibson Anderson by beating him on the face with his hand, and by stabbing him with a knife on the left side.

Mr. Lawrence Melville, solicitor, who appeared on behalf of Meechan, submitted a special defence, in which he stated that accused denied the charge, and pled that at the time the crime was said to have been committed he was and still is insane.

Dr. Anderson, examined by Mr. Melville, stated that he was Junior Assistant Medical Officer at Westgreen Asylum, having held that post since March, 1901. Meechan came to Westgreen as an ordinary pauper lunatic in April last, and had been there ever since. His condition had not improved. Meechan imagined that Westgreen Asylum belonged to him, and that he was tormented by various people who spoke to him by means of a telephone. Dr. Anderson, he believed, was one of his tormentors.

Mr. Lawrence Melville.—Did he mention any other body?

Witness.—Yes, he thought Sheriff Campbell Smith and myself were working an infernal machine against him. Meechan refused to take his food, and witness was preparing to administer it compulsorily when accused volunteered to partake of it. On several occasions Isaiah had used violence towards the doctor. He had refused to go to exercise on the terrace, and he had had to be carried out by the attendants. He first attacked the doctor about the middle of May. One of the attendants warned witness, and he watched accused carefully. On 24th June, while witness was on the terrace, Meechan suddenly rushed at him, and struck him on the right cheek, while almost simultaneously he dealt him a blow on the left side of the body. Dr. Anderson did not pay particular attention to the latter, but on looking under his waistcoat he saw a small patch of blood. He then examined his side, and found a wound from one third to half an inch in length between the seventh and eighth ribs. One of the attendants closed with Meechan, and a knife was found in his possession. The witness had no doubt that Meechan was insane and dangerous.

William Mitchell, head attendant at the asylum, corroborated as to the assault. He recovered the knife, which he found had been brought into the house by some relations of another patient.

Dr. Rorie, Medical Superintendent, Westgreen Asylum, stated that Meechan had been quite insane ever since he came into the institution. He was suffering from delusions that people were working an infernal machine upon him. He appeared to improve a little, and the doctor was hopeful that the delusions were leaving him, but unfortunately they returned. He had examined accused on several occasions, including that day, and he was still suffering from these delusions.

The Procurator Fiscal.—He is not a fit subject for an ordinary lunatic asylum?

Dr. Rorie.—No, he is exceptionally dangerous, and not at all suitable for treatment in an ordinary asylum.

In answer to the Sheriff, accused said he had got witnesses in Lochee and the asylum attendants. He wished them to be examined against these doctors. He must get justice as well as other people.

The Sheriff.—Did I torment you as well as the doctors?

Meechan.—I never mentioned your name to them.

The Sheriff said he had no doubt that Meechan was not a fit subject to be at large, and the best thing for him and for others was that he should be taken care of. He would grant the ordinary interlocutor.

Meechan, as he was leaving the dock, exclaimed, I am entitled to get protection as well as other people.

His Lordship.—You will get protection.

Meechan was then ordered to be confined in Perth Penitentiary during His Majesty's pleasure.—*Dundee Advertiser*, August 8th, 1902.

REVISION OF THE RULES.

The following communication has been sent by the Honorary General Secretary to the Divisional Secretaries:

DEAR SIR,—The Rules of the Medico-Psychological Association being out of print, it has been thought desirable before a reprint is issued to consider any suggestions which might be made for the better working of the Society, and a committee—Drs. Carlyle Johnstone, Mercier, Hayes Newington, Conolly Norman, Urquhart, Weatherly, and the Honorary General Secretary—was appointed at the last Annual Meeting in Liverpool to report upon the Rules to the next Annual Meeting. It was also referred to the various Divisions to consider the Rules at their next Autumn Meetings, and I write to request that you will kindly bring the matter forward for consideration, and that you will also kindly let me know what suggestions—if any—may be made by your Division, so that I can report to the Rules Committee.

The following is a record of action taken by the Council and Annual Meeting in regard to the Rules:

May 23rd, 1901.—A committee, consisting of Drs. Whitcombe, Mercier, Weatherly, Newington, and the Secretary, was appointed to consider the printing of the new Rules, and to report to the next Council.

July 25th, 1901 (*Annual Meeting in Cork*).—It was resolved, on the motion of Dr. Hayes Newington, seconded by Dr. Urquhart—"That it be further remitted to the Rules Committee to report to the Council showing what rules have been passed by the Association since last printing, what rules have been passed by the Council, and what suggestions they would submit for the better working of the Association."

July 24th, 1902 (*Annual Meeting in Liverpool*).—The following was proposed by Dr. Whitcombe, and seconded by Dr. Morrison:—"That a committee be appointed to consider and revise the Rules, to add such amendments as have been made from time to time, and to report to the next Annual Meeting." This was rejected, and the following amendment to this motion, proposed by Dr. Urquhart, seconded by Dr. Conolly Norman, was carried as a substantive motion, viz.:—"That the Rules Committee appointed by the Council be thanked for their report, but that it be not adopted. That this meeting do appoint a Committee to con-

tinue the work done by the Committee now dissolved, by submitting the amended Articles of the Association to the Divisions of the Association for consideration at their autumn meetings of the current year. That the reports of the Divisions be sent to the Committee to-day appointed, who are hereby granted freedom to deal with the whole question of Articles, Rules, and Bye-laws, with the instruction to prepare a report for the Annual Meeting of 1903. That this Committee be constituted as follows:—Drs. Hayes Newington, Mercier, Urquhart, Conolly Norman, Carlyle Johnstone, Whitcombe, Weatherly, and Robert Jones (Honorary Secretary)." Dr. Whitcombe declined to act.

A copy of the Rules, with proposed amendments, was forwarded by post to every member of the Association before the last Annual Meeting. Further copies may be obtained from the printers of the JOURNAL.

Yours faithfully,

ROBERT JONES,

Honorary General Secretary.

COMMITTEE FOR THE REVISION OF THE STATISTICAL TABLES OF THE MEDICO-PSYCHOLOGICAL ASSOCIATION.

The Committee on Statistical Tables appointed at the last Annual Meeting (1902) are anxious to ascertain the views of asylum physicians as to the twelve tables that are now in use, some of which were adopted nearly forty years ago. The Committee have before them the labour involved in the compilation of these tables, and the advantage of retaining simplicity of form as far as is consistent with accuracy and utility. They earnestly ask the co-operation of their fellow-members, and that replies to the following questions be sent before November 1st to the Secretary of the Committee, Dr. Bond, London County Asylum, Bexley, Kent.

1. Do you think that the present series of tables requires modification or addition?
2. If so, what tables require alteration, and in what respect?
3. What additions do you suggest?

N.B.—The form of the official tables as originally recommended by the Association is set forth in vols. xi and xiii of the *Journal of Mental Science.*

Suggestions of Possible Amendments.

1. The points of information afforded by the tables in their present form number rather more than fifty. Several occur in more than one table. By avoiding this repetition, space may be found for many of the additional points already supplied by some asylums.
2. Several of the items of information are read and interpreted diversely. This lack of definition has been recognised by many asylums, and attempts to correct it have been made by the addition of explanatory foot-notes. Particularly is there often confusion as to the interpretation of the word "admissions," and as to whether or not transfers have been included in the figures.
3. The advantage of greater correlation between the tables.
   - (*a*) The age at death, with the cause of death (Table V); and
   - (*b*) The duration of insanity on admission with the existence of any prior attack (Table VII), are examples of existing attempts at this by the present tables.
   - (*c*) The recording of more than one cause of death (where more than one was in operation), with a cross-index to associate them, *e.g.* enabling it to be seen into how many deaths from general paralysis, phthisis entered;
   - (*d*) The association of the duration of the mental disease with the cause of death;
   - (*e*) The inclusion of the ages in a similar manner with the form of mental disorder (Table XI); and

(*f*) The cross-indexing of the causes of insanity (Table X), *e. g.* enabling it to be seen into how many alcoholic cases heredity entered, or how many puerperal cases were also adolescent, etc.,

are examples of possible further efforts in this direction.

4. Supplementary tables. For instance, one detailing the degree of insane heredity, and associating it with neurotic, phthisical, and alcoholic heredities.

5. Any revision of the present nomenclature of mental diseases in Table XI, and the separation therein of symptomatological from ætiological terms.

THE HYPODERMIC ADMINISTRATION OF MORPHIA.

Dr. J. B. Mattison, Medical Director, Brooklyn Home for Narcotic Inebriates, offers a prize of 400 dollars for the best paper on the subject:—

Does the habitual subdermic use of morphia cause organic disease?
If so, what?

Contest to be open two years from December 1st, 1901, to any physician, in any language.

Award to be determined by a committee: Dr. T. D. Crothers, Harford, Conn., Editor *Journal of Inebriety*, Chairman; Dr. J. M. Van Cott, Prof. of Pathology, Long Island College Hospital, Brooklyn; and Dr. Wharton Sinkle, Neurologist to the State Asylum for the Chronic Insane, Philadelphia.

All papers to be in the hands of the Chairman by or before 1st December, 1903; to become the property of the American Association for the Study and Cure of Inebriety; and to be published in such journals as the committee may select.

CORRESPONDENCE.

"F. S. S." *v.* "Resartor."

GENTLEMEN,—I have to inform "F. S. S." that no collaboration was practised in preparing my strictures; indeed, none was wanted. I thank him for his recognition of care on my part. Perhaps it was due to this care that he was not able, in his rejoinder, to make a frontal attack on the positions taken up by myself. "F. S. S." is aggrieved by my assuming that he recommended the adoption of average residence in place of residence on January 1st of each year as a basis for statistical computations. He bids me read his review again. I have done so, and in the light of his recent translation of the first paragraph I must congratulate him on the production of a fine cryptogram. I have gone further, and re-read his review of the previous year,(1) and find that he advocated therein this same basis of average residence. But on that occasion he added that if the Commissioners adopted it they might safely work out percentages to two places of decimals. Where, then, is the grievance? and why should he now write that a tyro in arithmetical reasoning could see that such a summation could not possibly be taken as a basis for working ratios and proportions?

However, it now turns out that "F. S. S.," in recommending this "only fair estimate," only meant to give the Lord Chancellor a better estimate (to two places of decimals?) of the amount of work the Commissioners have to do annually. But even on this footing, why should not the Commissioners tell their own tale of work in the way they may think best?

I still think that "F. S. S." is mixed on the subject of recovery rates. "I merely desired to emphasise the fact that such a yearly aggregate increase must in a measure affect the calculation, be it the average number resident or the admission rate which may be chosen." That is just where he is mixed. This crisp statement exactly confirms my reading of his original review. How can yearly aggregate increase affect recovery rate on admission? It is a fact that yearly aggregate increase depends largely on failure to recover; in other words, recoveries affect

aggregate increase. If, at the same time and for the same purpose of estimating the amount of curative work done, we are to reverse the position of cause and effect, and to look upon aggregate increase as having active control of recoveries, we are landed in a parlous statistical maze. I maintain confidently that the two methods of estimating recoveries are so diverse that they can have nothing in common.

He asks for my authority for stating as a patent fact that there are fewer cases of general paralysis than there were. Here it is:

Lunacy Reports, 1896 and 1901.—Table XX.

Annual averages of		Total admissions.	General paralytics admitted.	Proportion per cent. of general paralytics in total admissions.
1890–94	Private ...	2,109	150	7·1
	Pauper ...	14,977	1,299	8·7
	Total ...	17,086	1,449	8·5
1895–99	Private ...	2,144	156	7·3
	Pauper ...	16,600	1,207	7·3
	Total ...	18,744	1,363	7·3

"F. S. S." follows up his challenge with this most remarkable question: "Because the Commissioners show statistically that there are fewer general paralytics in asylums, does 'Resartor' imagine that there are fewer in the community?" He must well know that the Commissioners' report under review dealt only with officially known lunatics, and he must equally well know that in the paragraph of his review in which he himself dealt with the question not a suspicion of "the community" was raised. He debated the question on stated figures applying only to known insanity. One may well ask why he has touched the blue-book statistics at all if he is going to import an element which must vitiate all, even his own, calculations. It would have been more to the point if he had opened his review with the remark made by him in this very paragraph, "It is not apparently appreciated that rational proportions of quinquennial averages are totally different from pure aggregates;" and then, after having demonstrated the impossibility of obtaining a pure aggregate in the face of existent but unascertainable insanity outside asylums, treated all statistics to a righteous and dignified silence.

"F. S. S.," after all, does believe that syphilis is the *sole* factor of general paralysis. I am with him to a certain extent in his belief that it is a *prime* factor, but I cannot conscientiously go so far as he does, since the denial of all other causation, direct or contributive, entails the discomforting proposition that every person who contracts syphilis, which is not arrested or modified by treatment, is bound to fall to the other disease,—a sort of penny-in-the-slot ætiology which is simple but very frightful.

I am, Gentlemen,
Your obedient servant,
RESARTOR.

(1) *J. M. S.*, January, 1901, p. 119.

To the Editors of the 'Journal of Mental Science.'

GENTLEMEN,—Tactically it is recognised that to make a frontal attack against an insidious foe can be of but small avail if one desires to convince him of the pregnability of his position. I therefore very properly made a flank attack in the hope of satisfying "Resartor's" scruples, and I adopted plain and simple reasoning as my movement; direct denials and refutations would never have persuaded one who argues as does he. Unfortunately, with blind unreason he returns to the encounter, and by further misinterpretations and misreadings of my meaning attempts to pass off as fair argument a perverted view of any opinion of mine he can fasten upon, if only for the sake of establishing his earlier erroneous contentions, and to justify himself in his own sight and in the eyes of your readers. I

feel that no further arguments, corrections, or interpretations of what I have written will help him out of the "statistical maze" into which he has so rashly wandered, or wean him of the self-satisfaction he feels in the plausibility of his own deductions.

I generously grant him, therefore, the supposititious victory for which he craves. I yield. I am everything that is wrong. I remain mixed on the subject of recovery rates. General paralysis is dying out. Syphilis is not the sole cause of general paralysis, and so forth. *Ainsi soit-il—qu'importe?*

But if "Resartor" thinks I am retreating from my position, or covering an apparent retreat by assuming the cloak of indifference, he is vastly mistaken. As I hope to contribute a paper to your JOURNAL dealing with the whole matter of lunacy statistics, an opportunity will no doubt be afforded him of entering the lists against me and my doctrines. He will, perhaps, by very careful reading, find some verbal construction at which to tilt his hypercritical lance—or is it his shears? or his goose?

"Resartor," I note, withdraws the other lines of his attack without one word of comment, covering the confusion in his ranks by further involved disquisitions on certain opinions and suggestions of mine—opinions which he distorts, and suggestions which he cripples and warps so that the victory may be his. To me it seems, however, that the flank movement above alluded to has not been quite so unsuccessful after all.

My thanks are due to you for forwarding me a proof copy of the above letter. So far as I am concerned the correspondence ends.

I am, your obedient servant,
F. S. S.

THE INSANE IN JERUSALEM.

Dr. Cecil Beadles has forwarded us a letter from Dr. P. D'Erf Wheeler, Medical Superintendent of the English Hospital at Jerusalem, in which the writer states:

"I had not forgotten to make inquiries, and to visit and inspect personally the only institution here approaching to the name of 'Lunatic Asylum.' This institution, called 'The Aid for Women,' has a threefold object. 1. The nursing and support of poor women in childbirth. 2. The support of a certain number of deserving 'incurables.' 3. The looking after the insane.

"I visited this institution accompanied by Mr. Wiseman and Mr. Penash, the head of the establishment.

"There were only six lunatics proper, and these were well looked after, and treated regularly by the doctor of the institution. They are fairly well supplied with a 'douching apparatus,' and have a good supply of water for washing and hydropathic purposes. There were two acute cases of mania. During the last year there were thirteen lunatics treated in the institution.

"I know of no other properly organised 'Lunatic Asylum' in the country, except the new one near Beyrout.

"The crude—I was going to say barbarous treatment of the insane at the Church of St. George's (Greek Orthodox) is well known to you. I have seen a patient chained to the altar almost nude, undergoing treatment (or ill-treatment?); they are supposed to be forty days there. Some few years ago I attempted to establish a 'lunatic room' in connection with our new hospital, but the Committee would not give their permission.

"We sadly need in Jerusalem a proper institution for the insane, and any help I can render towards such an object will be most willingly given."

OBITUARY.

GEORGE MICKLEY.

We much regret to announce the death, on August 10th last, of George Mickley, late Medical Superintendent of St. Luke's Hospital. Born in November,

1843, he received his education at Clare College, Cambridge, and Guy's Hospital, graduating B.A. in 1864, M.B. 1865, C.M. 1866, and M.A. 1867. In 1867 he also became a Licentiate of the Society of Apothecaries, being elected a member of that body in 1895. After leaving Guy's Hospital he was appointed Clinical Assistant at Bethlem Hospital, which post he held for a year, being then elected Assistant Medical Officer to the Three Counties Asylum, where he remained for seven years and became Senior Assistant. In 1875 he was elected Medical Superintendent of St. Luke's Hospital, from which post he retired in 1898 owing to failing health. His whole life was spent in the practice of Lunacy, and he was a member of the Medico-Psychological Association for thirty-five years. Many improvements and alterations were made at St. Luke's during his time for the welfare of the patients. He was a devoted Mason, interesting himself especially in its educational and benevolent institutions, and attained a high degree in the craft. His death was due to organic heart disease, which was started by a severe attack of influenza some years ago. He will be remembered by all who knew him as a sincere, honest, and kindly gentleman, and by those who worked with him in any capacity as a friend.

Neil Harrismith Macmillan.

"He whom the gods love dies young."

A most promising and brilliant career has been suddenly cut short at its very outset. Just over thirty years of age, and whilst absent on leave, Dr. Macmillan has passed away. The sad and unexpected news of his death has caused very deep and real grief to the service at Claybury Asylum. At the last meeting of the South-eastern Division of the Medico-Psychological Association he read a paper upon "The History of Asylum Dysentery at Claybury" (to which malady, with the irony of fate, he himself has succumbed), recording his experience on the female side of the asylum, and suggesting methods of treatment; he was greatly complimented by the Division upon his careful, clear, and most suggestive contribution. Born in South Africa (Harrismith), educated in the south of France, he took his degree at Edinburgh, where he filled the resident appointments after qualifying, and he subsequently studied in Vienna. He was acquainted with French and German, and served as a most helpful assistant at Claybury, where he endeared himself to patients and staff. He was an excellent clinician, devoted to his work; he spent hours in the wards daily, and was most observant, careful, and earnest. His case-books and general work were always marked with thoroughness, and in his social relations he was courteous, urbane, and essentially conscientious.

It is the first occasion upon which a medical officer at Claybury has died in active service, and, as the chaplain at a memorial service observed, "as an honourable gentleman his memory will always be held in endearing affection."

NOTICES BY THE REGISTRAR.

The following gentlemen were successful at the examination for the Certificate in Psychological Medicine, held on July 17th, 1902.

Examined at Bethlem Hospital, London: James E. H. Sawyer, James F. Cunningham, George H. Grills.

Examined at Glasgow: Harry E. Brown.

The following is a list of the questions which appeared on the paper:

1. Mention briefly the various types of progressive paralysis occurring in the insane. 2. Describe the various pupillary changes met with in the insane, and state their clinical significance. 3. State briefly the premonitory symptoms of an attack of insanity, and your mode of treatment. 4. Describe a case of puerperal mania, your prognosis, and treatment. 5. Discuss the relative influence of the hereditary factor in the causation of insanity, and mention the most important stigmata of degeneration. 6. *Morbid anatomy.*—Describe in detail chromatolysis of the nerve-cell. 7. Describe the physical symptoms met with in melancholia

and mania. 8. What are the pharmacological actions of sulphonal, trional, and the bromides? What dangers attend their use? 9. Enumerate the chief forms of syphilitic insanity; and briefly describe the *rôle* of intoxication, and infection in its pathogenesis. 10. Describe a case of sexual hypochondriasis. Give prognosis and treatment. 11. Discuss the doctrine of Kraepelin that melancholia is essentially a disease of early senility. 12. Mention the leading theories which have been formed to account for the existence of hallucination, and discuss the arguments in favour of that one to which you adhere.

Examination for the Nursing Certificate.

The next examination for the Certificate of Proficiency in Nursing will be held on Monday, November 3rd, 1902, and candidates are earnestly requested to send in their schedules, duly filled up, to the Registrar of the Association not later than Monday, October 6th, 1902, as that will be the last day upon which, under the rules, applications for the examination can be received.

For further particulars respecting the various examinations of the Association, apply to the Registrar, Dr. Alfred Miller, Warwick County Asylum, Hatton, near Warwick.

NOTICES OF MEETINGS.

Medico-Psychological Association.

General Meeting.—The next General Meeting will be held in the rooms of the Association, 11, Chandos Street, W., on 20th November, 1902.

South-western Division.—The Autumn Meeting will be held at the Devon County Asylum, Exminster, on Tuesday, 28th October, 1902. Business meeting at 2.45 p.m.

South-eastern Division.—The Autumn Meeting will be held, by the courtesy of the Drs. Tuke, at Chiswick House, Chiswick, on Wednesday, 29th October, 1902.

APPOINTMENTS.

Ellerton, Henry B., M.R.C.S.Eng., L.R.C.P.Lond., appointed Senior Assistant Medical Officer to the Leavesden Asylum.

Macfarlane, Aylmer A., M.D., appointed Resident Medical Officer to the Parkside Lunatic Asylum, Adelaide, South Australia.

Rambaut, Daniel F., M.D. Univ. Dub.l, Third Assistant Medical Officer and Pathologist, Richmond Asylum, Dublin, appointed Resident Medical Superintendent, Salop and Montgomery Counties Asylum, Shrewsbury, *vice* Dr. Arthur Strange, deceased.

Robinson, Harry A., M.D., B.Ch.Vict., appointed Senior Assistant Medical Officer to the Darenth Asylum.

Walker, Ernest C. D., M.B., C.M., appointed Assistant Medical Officer of the Seacliff Lunatic Asylum, New Zealand.

Wilkinson, Miss Ada, M.B., appointed Assistant Medical Officer to the Isle of Wight County Asylum, *vice* W. M. P. Keogh, M.B., B.Ch., R.U.I., deceased.

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AUTHORS REFERRED TO IN EPITOME.

ILLUSTRATIONS.

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