













412

70

I

“Wie das Gestirn,  
Ohne Hast  
Aber ohne Rast,  
Drehe sich jeder  
Um die eigne Last.”

GOETHE.



*Med  
Al*

# TRANSACTIONS OF THE AMERICAN GYNECOLOGICAL SOCIETY

VOLUME 7

FOR THE YEAR 1882



*353828*  
*19. 8. 38.*

PHILADELPHIA, PA.  
HENRY C. LEA'S SON & CO.  
1883

RG  
1  
A55  
v.7

Copyright, 1883,  
BY THE AMERICAN GYNECOLOGICAL SOCIETY.

*All rights reserved.*

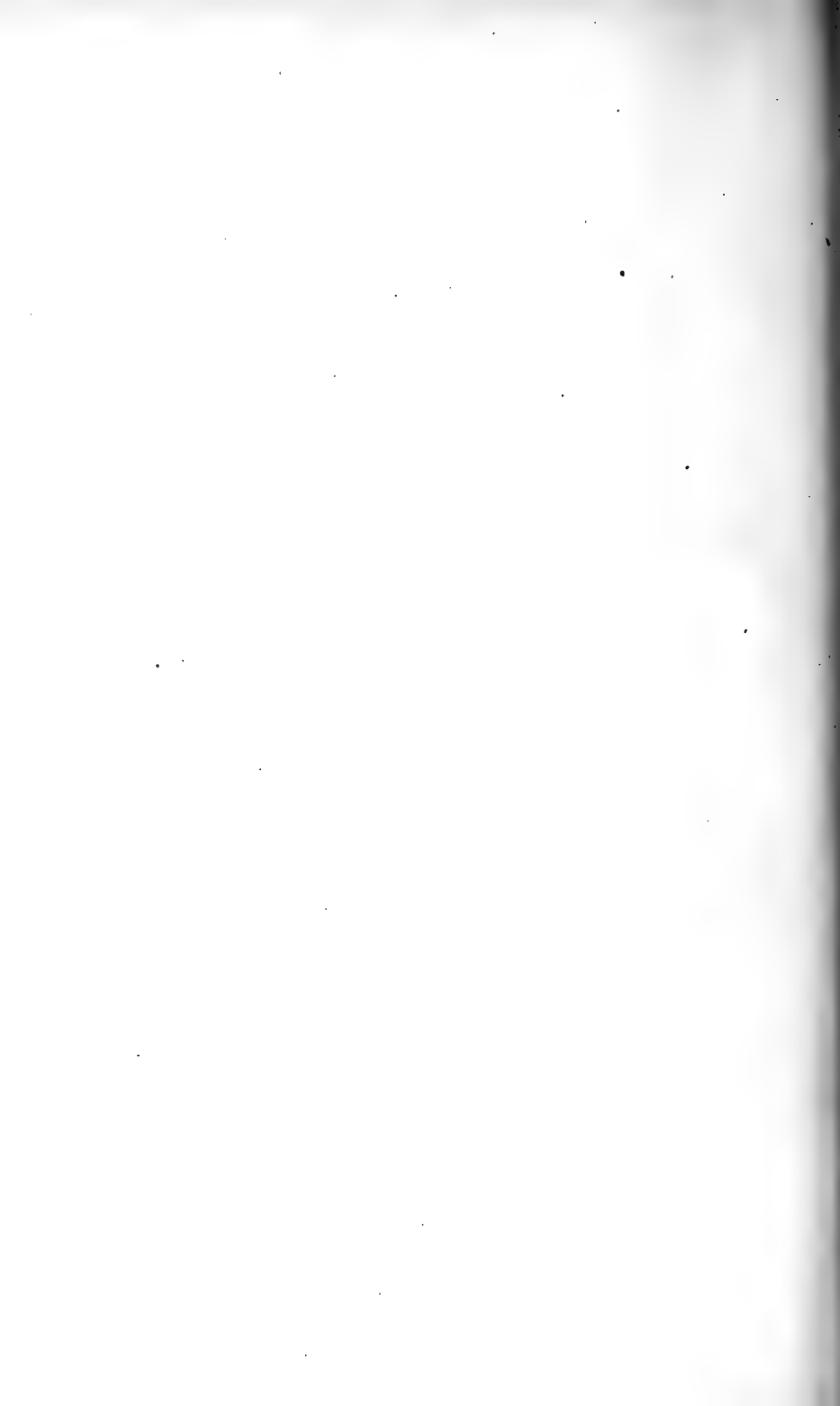
*The Riverside Press, Cambridge:*  
Electrotyped and Printed by H. O. Houghton & Co.

## NOTE.



THE Society does not hold itself responsible for the views enunciated in the papers read at its meetings.

This volume contains the Index to the gynecological and obstetric literature of all countries for the year 1881, prepared with the coöperation of Dr. J. S. Billings, U. S. A., in charge of the National Medical Library in Washington.



## CONTENTS.

	PAGE
OFFICERS for 1882 . . . . .	3
HONORARY FELLOWS . . . . .	4
FELLOWS . . . . .	5
Minutes of the Proceedings at the Seventh Annual Meeting . . . . .	13
Papers read at the Seventh Annual Meeting . . . . .	25
Annual Address : A New Method of Exploration, with the Pathology and Treatment of Certain Lesions of the Female Urethra. By the President, <i>Thomas Addis Emmet, M. D.</i> . . . . .	27
The Proper Use of Ergot in Obstetrics. <i>Joseph Faber Johnson, M. D.</i> . . . . .	58
The Ovarian Cell ; Its Origin and Characteristics. <i>Thomas M. Drysdale, A. M., M. D.</i> . . . . .	81
Some Remarks on Ovariotomy, with special Reference to the Treatment of the Pedicle. <i>R. Stansbury Sutton, M. D.</i> . . . . .	119
Leucorrhœa Considered in Relation to its Constitutional Causes and Treatment. <i>Fordyce Barker, M. D., LL. D.</i> . . . . .	131
Care of the Perineum. <i>Theophilus Parvin, M. D.</i> . . . . .	145
The Relative Value of Hysterectomy and of the Complete Removal of the Uterine Appendages for the Cure of Uterine Fibroids. <i>J. Knowsley Thornton, M. B. C. M.</i> . . . . .	158
Electricity in Extra-uterine Pregnancy. <i>Henry J. Garrigues, A. M., M. D.</i> . . . . .	184
The History of Twenty-one Cases of Extra-uterine Pregnancy coming under the Personal Observation of the Writer. <i>T. Gaillard Thomas, M. D.</i> . . . . .	219
The Influence of the Constant Use of High-heeled French Shoes upon the Health and Form of the Female, and upon the Relation of the Pelvic Organs. <i>Samuel C. Busey, M. D.</i> . . . . .	243
Mechanical Therapeutics of Versions and Flexions of the Uterus. <i>Ely Van De Warker, M. D.</i> . . . . .	267
A New Method of Operation for the Relief of Rupture of the Perineum through the Sphincter and Rectum. <i>J. Collins Warren, M. D.</i> . . . . .	322
Measurements of the Uterine Cavity in Childbed, Fourth and Fifth Series of One Hundred and Eight Cases Each. <i>William L. Richardson, M. D.</i> . . . . .	331
Surgical Operations on the Pelvic Organs of Pregnant Women. <i>Matthew D. Mann, M. D.</i> . . . . .	340

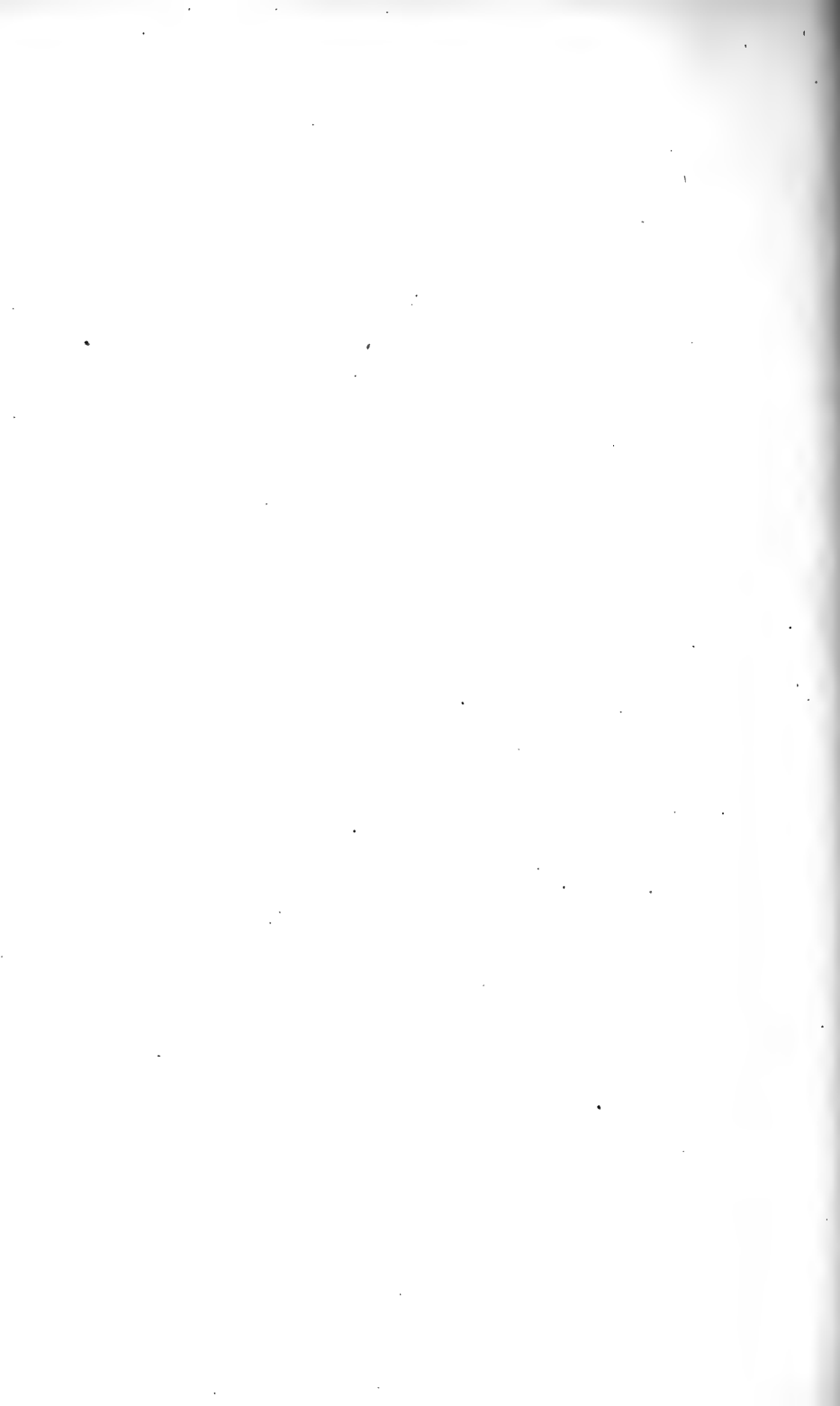
Hyperemia of the Vesico-urethral Membrane. <i>W. H. Baker, M. D.</i> . . .	382
A Memoir of Prof. James Platt White. <i>T. Gaillard Thomas, M. D.</i> . . .	405
Index to Volume VII. . . . .	413
Index of the Gynecological and Obstetrical Literature of all Countries for the year 1881 . . . . .	417
Index of Obstetric and Gynecological Journals . . . . .	419
Index of Obstetric and Gynecological Societies . . . . .	420

OFFICERS AND FELLOWS  
OF THE  
AMERICAN GYNECOLOGICAL SOCIETY.

1882.

VOL. VII

I





## OFFICERS FOR 1882.

*(Elected September 23, 1881.)*

---

### PRESIDENT.

THOMAS ADDIS EMMET, OF NEW YORK.

### VICE-PRESIDENTS.

GEORGE H. LYMAN, OF BOSTON.

EMIL NOEGGERATH, OF NEW YORK.

### SECRETARY.

JAMES R. CHADWICK, OF BOSTON.

### TREASURER.

PAUL F. MUNDE, OF NEW YORK.

### COUNCIL.

HENRY J. GARRIGUES, OF NEW YORK.

JAMES D. TRASK, OF ASTORIA, N. Y.

GEORGE H. BIXBY, OF BOSTON.

GEORGE J. ENGELMANN, OF ST. LOUIS, MO.

## HONORARY FELLOWS.

\* DECEASED.

---

### ELECTED.

1877. JOHN L. ATLEE, M. D., Lancaster, Penn., U. S. A.  
1876. ROBERT BARNES, M. D., London, England.  
1878. JOHN S. BILLINGS, M. D., U. S. Army, Washington, D. C.  
1877. JOHN C. DALTON, M. D., New York, U. S. A.  
1878. J. MATTHEWS DUNCAN, M. D., London, England.  
1876. JOSEPH A. EVE, M. D., Augusta, Georgia, U. S. A.  
1881. J. BRAXTON HICKS, M. D., London, England.  
1876. THOMAS KEITH, M. D., Edinburgh, Scotland.  
1876. \*ALFRED H. McCLINTOCK, M. D., Dublin, Ireland.  
1877. CHARLES PAJOT, M. D., Paris, France.  
1876. KARL SCHROEDER, M. D., Berlin, Germany.  
1876. \*GUSTAV SIMON, M. D., Heidelberg, Germany.  
1880. D. HUMPHREYS STORER, M. D., Boston, Mass., U. S. A.  
1882. LAWSON TAIT, Esq., Birmingham, England.  
1881. S. TARNIER, M. D., Paris, France.  
1883. J. KNOWSLEY THORNTON, Esq., London, England.  
1876. T. SPENCER WELLS, Esq., London, England.  
1881. F. WINCKEL, M. D., Dresden, Germany.  
1876. \*MARMADUKE B. WRIGHT, M. D., Cincinnati, Ohio,  
U. S. A.

Total, 16 Honorary Fellows.

## FELLOWS.

\* DECEASED.

---

*Founder.* — \* ATLEE, WASHINGTON L., M. D.

1882. — BAKER, WILLIAM H., M. D., Assistant Professor of Gynecology, Harvard University. Surgeon to the Free Hospital for Women. 10 Beacon Street, Boston, Mass.

*Founder.* — BARKER, FORDYCE, M. D., LL. D. Professor of Clinical Midwifery and Diseases of Women, Bellevue Hospital Medical College; Consulting Physician to Bellevue Hospital, etc. *President*, 1876-77. 24 East Thirty-eighth Street, New York.

*Founder.* — BATTEY, ROBERT, M. D. Formerly Professor of Obstetrics, and Clinical Professor of Gynecological Surgery, Atlanta Medical College. *Vice-President*, 1880. 36 Broad Street, Rome, Georgia.

*Founder.* — BIXBY, GEORGE H., M. D. Surgeon to St. Elizabeth's Hospital for Women; Physician to the Out-patient Department for the Diseases of Women, Boston City Hospital. *Council*, 1882. 143 Boylston Street, Boston, Mass.

1878. — BOZEMAN, NATHAN, M. D. Surgeon to the Woman's Hospital of the State of New York. 296 Fifth Avenue, New York.

1881. — BROWNE, B. B. Professor of Diseases of Women in the Woman's Medical College of Baltimore, and Gynecologist to the Woman's and Child's Hospital of Baltimore. 307 Madison Avenue, Baltimore, Md.

*Founder.* — \* BUCKINGHAM, CHARLES E., M. D.

*Founder.* — BUSEY, SAMUEL C., M. D. Professor of the Theory and Practice of Medicine, University of Georgetown; Physician to the Children's Hospital, and to the Louise Home; Consulting Physician to St. Anne's Infant Asylum. 1525 I Street, Washington, D. C.

*Founder.* — BYFORD, WILLIAM H., M. D. Professor of Gynecology, Rush Medical College. *Vice-President*, 1876-77. *Council*, 1878. *President*, 1881. 125 State Street, Chicago, Ill.

*Founder.* — BYRNE, JOHN, M. D., M. R. C. S. E. Formerly Clinical Professor of Uterine Surgery, Long Island College Hospital; Surgeon-in-chief to St. Mary's Hospital for Diseases of Women. *Council*, 1879, 1883. 314 Clinton Street, Brooklyn, N. Y.

*Founder.* — CAMPBELL, HENRY F., A. M., M. D. Professor of Principles and Practice of Surgery and of Gynecology, University of Georgia; Surgeon to the City Hospital, Augusta. *Vice-President*, 1881. *Council*, 1883. 715 Broad Street, Augusta, Georgia.

*Founder.* — CHADWICK, JAMES R., M. A., M. D. Clinical Instructor in Gynecology, Harvard University. *Secretary*, 1876-82. 270 Clarendon Street, Boston, Mass.

*Founder.* — DRYSDALE, THOMAS M., A. M., M. D. 1531 Arch Street, Philadelphia, Penn.

1879. — DUER, EDWARD L., M. D. Lecturer on Diseases of Women and Children at the Philadelphia Hospital; Gynecologist to the Presbyterian Hospital. 1704 Arch Street, Philadelphia, Penn.

1877. — DUNLAP, ALEXANDER, A. M., M. D. Professor of the Surgical Diseases of Women, Starling Medical College, Columbus, Ohio. 22 East High Street, Springfield, Ohio.

*Founder.* — EMMET, THOMAS ADDIS, LL. D., M. D. Surgeon to the Woman's Hospital of the State of New York; Consulting Physician to the Roosevelt Hospital, N. Y., and to the New York Foundling Asylum. *Council*, 1878-79. *President*, 1882. 87 Madison Avenue, New York.

*Founder.* — ENGELMANN, GEORGE J., M. D. Professor of Obstetrics, Post-Graduate School, Missouri Medical College; Consulting Physician to the Female Hospital, and to the St. Anne's Lying-in Asylum. *Council*, 1879, 1882. 3003 Locust Street, St. Louis, Mo.

1881. — FOSTER, FRANK P., M. D. Physician for Diseases of Women to the Out-patient Department of the New York Hospital. *Secretary*, 1883. 32 East Thirty-first Street, New York.

1877. — GARRIGUES, HENRY J., A. M., M. D. Obstetric Surgeon to the New York Maternity Hospital; Physician to the Gynecological Department of the German Dispensary of the City of New York. *Council*, 1882. 137 West Twenty-second Street, New York.

1881. — GILLETTE, WALTER R., M. D. Consulting Gynecologist to the Charity Hospital; Physician to the New York Lying-in Asylum; Obstetric Surgeon to the Maternity Hospital; Gynecologist to St. Francis Hospital, and Visiting Physician to the Bellevue Hospital. 149 West Twenty-third Street, New York.

*Founder.* — GOODELL, WILLIAM, A. M., M. D. Professor of Clinical Gynecology, University of Pennsylvania; Physician-in-charge of the Preston Retreat. *Council*, 1876-77, 1880. *Vice-President*, 1878. 500 North Twentieth Street, Philadelphia, Penn.

1877. — GOODMAN, JOHN, M. D. Professor of Obstetrics, Louisville Medical College. 236 Third Street, Louisville, Ky.

*Founder.* — HOWARD, WILLIAM T., M. D. Professor of the Diseases of Women and Children, and of Clinical Medicine, University of Maryland; Gynecologist to the University Hospital; Gynecologist to the Woman's Hospital of the State of Maryland; Consulting Physician to the Hebrew Hospital and Asylum Association of Baltimore, Maryland. *Vice-President*, 1880. *Council*, 1883. 181 Madison Avenue, Baltimore, Md.

*Founder.* — INGHAM, JAMES V., M. D. Obstetrician to the State Hospital for Women and Infants. 1342 Spruce Street, Philadelphia, Penn.

1877. — JACKSON, A. REEVES, A. M., M. D. Professor of the Diseases of Women and of Clinical Gynecology, College of Physicians and Surgeons of Chicago; Formerly Surgeon-in-chief of the Woman's Hospital of the State of Illinois; Consulting Surgeon to the Dispensary of the Woman's Christian Association; Chief of the Gynecological Department of the West-Side Dispensary. *Council*, 1883. 271 Michigan Avenue, Chicago.

*Founder.* — JENKS, EDWARD W., M. D., LL. D. Professor of the Medical and Surgical Diseases of Women and of Clinical Gynecology, Chicago Medical College; Gynecologist to the Mercy Hospital. 170 State Street, Chicago, Ill.

*Founder.* — JOHNSON, J. TABER, A. M., M. D. Professor of Obstetrics and of the Diseases of Women and Infants, University of Georgetown; Gynecologist to the Providence Hospital. *Council*, 1881. 926 Faragut Square, corner K and 17th Streets, Washington, D. C.

1877. — KIMBALL, GILMAN, M. D. Formerly Professor of Surgery in the Berkshire Medical Institution, and in the Vermont Medical College; Formerly Surgeon to the Lowell Hospital, Lowell, Mass. *President*, 1883.

1881. — LEE, CHARLES CARROLL, A. M., M. D. Consulting Surgeon to Charity Hospital; Surgeon to the Woman's Hospital of the State of New York; Physician to the New York Foundling Asylum. 79 Madison Avenue, New York.

*Founder.* — LUSK, WILLIAM T., M. D. Professor of Obstetrics and of the Diseases of Women and Children, and of Clinical Midwifery, Bellevue Hospital Medical College; Physician to Bellevue Hospital; Obstetric Surgeon to the Maternity Hospital; Visiting Physician to Emergency Lying-in Hospital. 47 East Thirty-fourth Street, New York.

*Founder.* — LYMAN, GEORGE H., M. D. Physician to the Boston City Hospital. *Council*, 1876-77, 1881. *Vice-President*, 1882. 131 Boylston Street, Boston, Mass.

1882. — MANN, MATTHEW D., A. M., M. D. Professor of Obstetrics and Gynecology, University of Buffalo; Gynecologist and Consulting Obstetrician to the Buffalo General Hospital. 610 Main Street, Buffalo, N. Y.

*Founder.* — MUNDÉ, PAUL F., M. D. Professor of Gynecology, Dartmouth Medical College; Clinical Lecturer on Gynecology, College of Physicians and Surgeons; Obstetric Surgeon to the Maternity Hospital; Physician to the Out-door Department for the Diseases of Women, Mount Sinai Hospital. *Treasurer*, 1876-83. 20 West Forty-fifth Street, New York.

*Founder.* — NOEGGERATH, EMIL, M. D. Formerly Professor of Obstetrics and of the Diseases of Women, New York Medical College; late Surgeon to the Woman's Hospital of the State of New York; Gynecologist to the Mount Sinai Hospital; Physician to the Female Department of the German Hospital; Consulting Surgeon to St. Mary's Hospital for Women. *Vice-President*, 1882. 42 West Thirty-fifth Street, New York.

1880. — PALMER, C. D., M. D. Professor of the Medical and Surgical Diseases of Women and Clinical Gynecology in the Medical College of Ohio. 308 West Seventh Street Cincinnati, Ohio.

*Founder.* — PARVIN, THEOPHILUS, M. D., LL. D. Professor of Obstetrics and Diseases of Women in the University of Louisville. *Council*, 1876-77. *Vice-President*, 1883. 143 North Alabama Street, Indianapolis, Ind.

*Founder.* — \*PEASLEE, E. RANDOLPH, M. D., LL. D.

*Founder.* — PENROSE, RICHARD A. F., A. M., M. D., LL. D. Professor of Obstetrics and of the Diseases of Women and Chil-

dren, University of Pennsylvania ; Consulting Obstetrician to the State Hospital for Women and Infants ; Visiting Physician to the Preston Retreat. 1331 Spruce Street, Philadelphia, Penn.

1881. — POLK, WILLIAM M., M. D. Professor of Obstetrics and Diseases of Women and Children, University of the City of New York ; Physician to Bellevue Hospital, and to the Emergency Lying-in Hospital. 13 East Thirty-fourth Street, New York.

1877. — REAMY, THADDEUS A., A. M., M. D. Professor of Obstetrics, Clinical Midwifery, and of the Diseases of Children, Medical College of Ohio ; Gynecologist to the Good Samaritan Hospital. *Vice-President*, 1881. 252 West Fourth Street, Cincinnati, Ohio.

*Founder*. — REEVE, JOHN C., M. D. President of the Medical Staff of St. Elizabeth's Hospital ; Formerly Professor of Materia Medica and Therapeutics, Medical College of Ohio. *Council*, 1881. Corner of Third and Wilkinson Streets, Dayton, Ohio.

1877. — REYNOLDS, JOHN P., M. D. Professor of Obstetrics, Harvard University ; Consulting Surgeon to the Boston City Hospital. 236 Clarendon Street, Boston, Mass.

*Founder*. — RICHARDSON, WILLIAM L., M. D. Assistant Professor of Obstetrics, Harvard University ; Physician to the Boston Lying-in Hospital, and to Out-patients, Massachusetts General Hospital. 76 Boylston Street, Boston, Mass.

1881. — SAWYER, EDWARD WARREN, A. M., M. D. Lecturer on Obstetrics, Rush Medical College ; Surgeon to the Woman's Hospital of the State of Illinois ; Medical Inspector of the South Division of the City of Chicago. Vincennes Avenue, Chicago, Ill.

1879. — SCOTT, JOHN, M. D., F. R. C. S. I. Late Physician to the Black Town Lying-in Hospital, Madras, British India ; Surgeon-in-chief of the California State Woman's Hospital. 729 Sutter Street, San Francisco, Cal.

*Founder*. — SIMS, J. MARION, M. D. *Council*, 1876-77. *President*, 1880. Formerly Surgeon to the Woman's Hospital of the State of New York. 267 Madison Avenue, New York.

*Founder*. — ‡SINCLAIR, ALEXANDER D., M. D.

*Founder*. — SKENE, ALEXANDER J. C., M. D. Professor of the Medical and Surgical Diseases of Women, Long Island College Hospital. *Council*, 1878, 1880. 167 Clinton Street, Brooklyn, N. Y.

‡ Resigned, 1882.

*Founder.* — SMITH, ALBERT H., M. D. Lecturer on Obstetrics to the Philadelphia Lying-in Charity; Consulting Surgeon to the Women's Hospital; Consulting Accoucheur to the Preston Retreat; Consulting Physician to the Hospital of the Good Shepherd, Radnor. *Council*, 1879, 1881. *Vice-President*, 1883. 1419 Walnut Street, Philadelphia, Penn.

*Founder.* — †STORER, D. HUMPHREYS, M. D. *Vice-President*, 1879. 182 Boylston Street, Boston, Mass.

1879. — SUTTON, R. STANSBURY, A. M., M. D. Lecturer on Diseases of Women, Rush Medical College, Chicago. 119 Penn Avenue, Pittsburg, Penn.

*Founder.* — TAYLOR, ISAAC E., M. D. President and Emeritus Professor of Obstetrics and of the Diseases of Women and Children, Bellevue Hospital Medical College; Physician to the Maternity Hospital; Consulting Physician to Bellevue Hospital, Charity Hospital, Woman's Hospital of the State of New York, Women's Medical Hospital of New York, etc. *Vice-President*, 1878. 7 East Thirty-sixth Street, New York.

*Founder.* — THOMAS, T. GAILLARD, M. D. Emeritus Professor of Obstetrics and of the Diseases of Women and Children, College of Physicians and Surgeons; Surgeon to the Woman's Hospital of the State of New York; Consulting Physician to the Nursery and Child's Hospital, New York, and to St. Mary's Hospital, Brooklyn, N. Y. *President*, 1879. 294 Fifth Avenue, New York.

*Founder.* — TRASK, JAMES D., M. D. Formerly Professor of Obstetrics and of the Diseases of Women and Children, Long Island Hospital Medical College. *Council*, 1882. Remsen Street, Astoria, N. Y.

1879. — UNDERHILL, J. W., M. D. Formerly Professor of Obstetrics, Cincinnati College of Medicine and Surgery. 418 John Street, Cincinnati, Ohio.

*Founder.* — VAN DE WARKER, ELY, M. D. Professor of Artistic Anatomy, University of Syracuse, N. Y. 45 Montgomery Street, Syracuse, N. Y.

*Founder.* — WALLACE, ELLERSLIE, M. D. Professor of Obstetrics and of the Diseases of Women and Children, Jefferson Medical College; Consulting Physician to the Preston Retreat, and to St. Christopher's Hospital for Children. 1130 Spruce Street, Philadelphia, Penn.

† Elected Honorary Fellow in 1880.

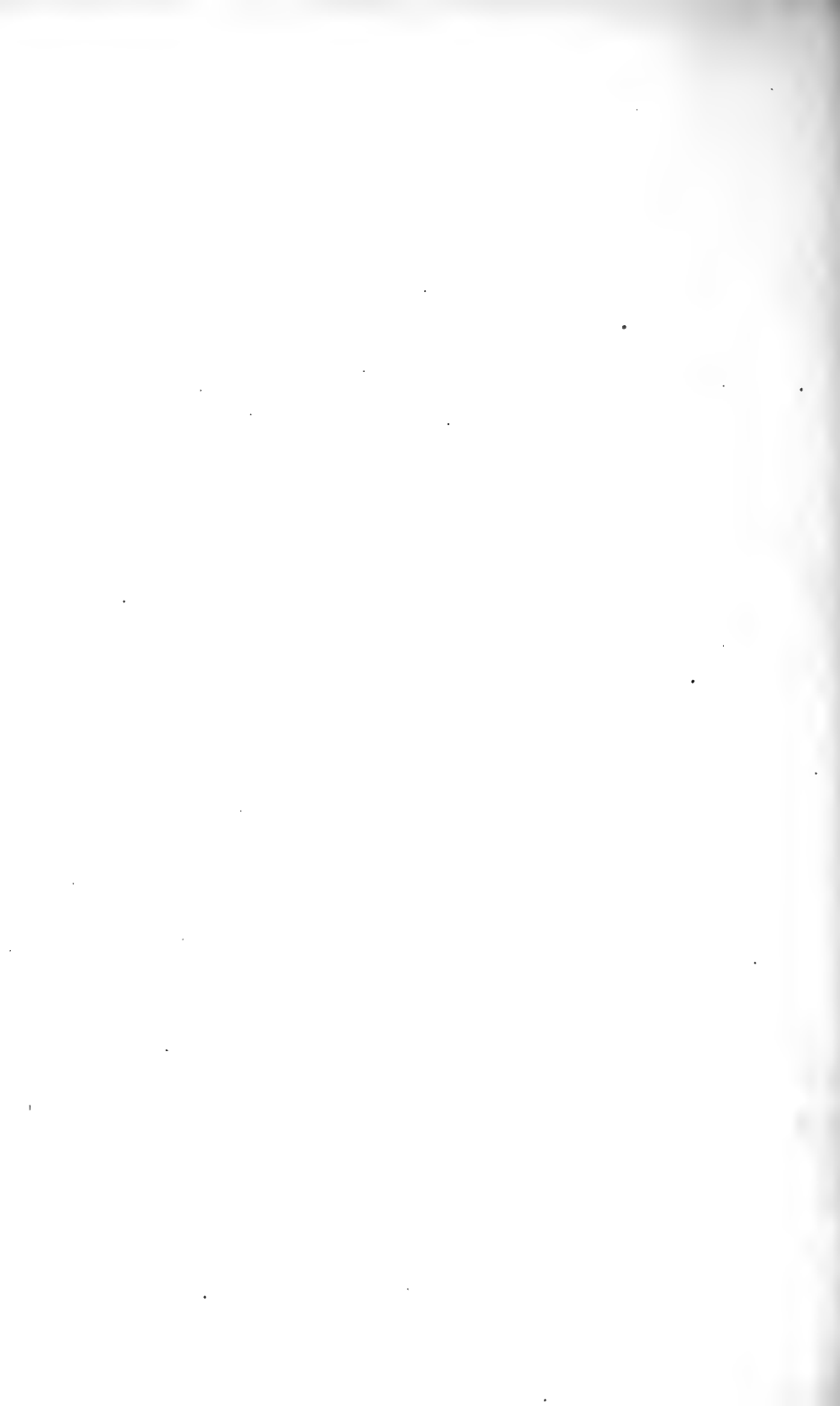


*Founder.* — \*WHITE, JAMES P., M. D.

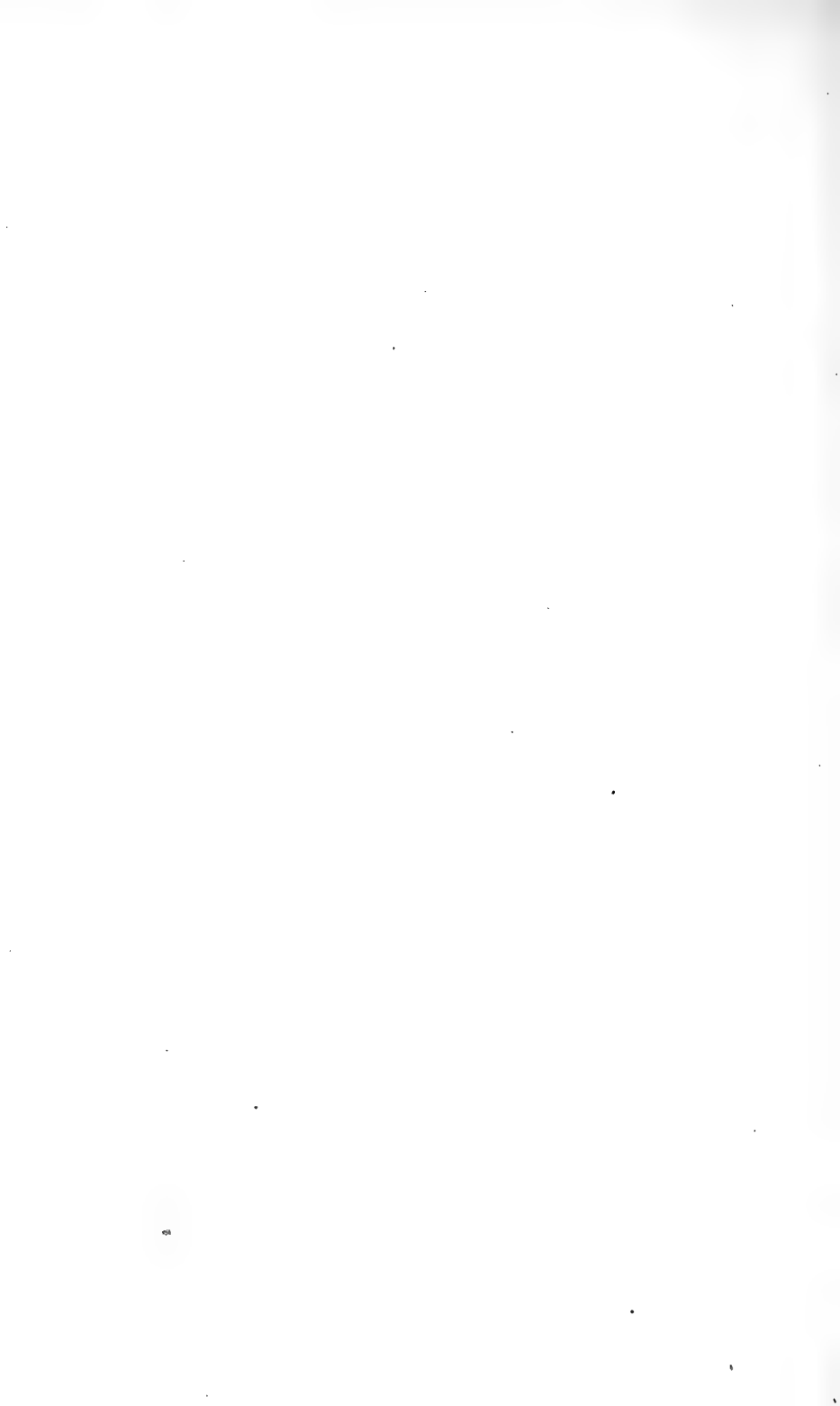
1877. — WILSON, ELLWOOD, M. D. Consulting Physician to the Philadelphia Lying-in Charity, to the Woman's Hospital, and to the Preston Retreat. 212 South Fifteenth Street, Philadelphia, Penn.

*Founder.* — WILSON, HENRY P. C., M. D. Gynecologist to the Union Protestant Infirmary and to St. Vincent's Hospital; Consulting Physician to St. Agnes' Hospital and to the Baltimore General Dispensary. *Vice-President*, 1879. 146 Park Avenue, Baltimore, Md.

Total, 55.



MINUTES OF THE PROCEEDINGS  
AT THE  
SEVENTH ANNUAL MEETING  
OF THE  
AMERICAN GYNECOLOGICAL SOCIETY,  
HELD IN THE HALL OF THE  
BOSTON SOCIETY OF NATURAL HISTORY,  
*Boston, Mass.,*  
On SEPTEMBER 20th, 21st, and 22d, 1882.



## SEVENTH ANNUAL MEETING.

WEDNESDAY, *September 20, 1882.*

*Morning Session.* The meeting was called to order by the President, Dr. Thomas Addis Emmet, of New York, at 10 A. M. The following Fellows were present:—

FORDYCE BARKER . . . . .	NEW YORK.
G. H. BIXBY . . . . .	BOSTON, Mass.
B. B. BROWNE . . . . .	BALTIMORE, Md.
S. C. BUSEY . . . . .	WASHINGTON, D. C.
JOHN BYRNE . . . . .	BROOKLYN, N. Y.
H. F. CAMPBELL . . . . .	AUGUSTA, Ga.
J. R. CHADWICK . . . . .	BOSTON, Mass.
T. M. DRYSDALE . . . . .	PHILADELPHIA, Penn.
T. A. EMMET . . . . .	NEW YORK.
G. J. ENGELMANN . . . . .	ST. LOUIS, Mo.
F. P. FOSTER . . . . .	NEW YORK.
H. J. GARRIGUES . . . . .	NEW YORK.
WILLIAM GOODELL . . . . .	PHILADELPHIA, Penn.
W. T. HOWARD . . . . .	BALTIMORE, Md.
A. R. JACKSON . . . . .	CHICAGO, Ill.
J. T. JOHNSON . . . . .	WASHINGTON, D. C.
GILMAN KIMBALL . . . . .	LOWELL, Mass.
C. C. LEE . . . . .	NEW YORK.
G. H. LYMAN . . . . .	BOSTON, Mass.
P. F. MUNDÉ . . . . .	NEW YORK.
THEOPHILUS PARVIN . . . . .	INDIANAPOLIS, Ind.
J. P. REYNOLDS . . . . .	BOSTON, Mass.
W. L. RICHARDSON . . . . .	BOSTON, Mass.
A. J. C. SKENE . . . . .	BROOKLYN, N. Y.
A. H. SMITH . . . . .	PHILADELPHIA, Penn.
T. G. THOMAS . . . . .	NEW YORK.
J. D. TRASK . . . . .	ASTORIA, N. Y.
E. VAN DE WARKER . . . . .	SYRACUSE, N. Y.
H. P. C. WILSON . . . . .	BALTIMORE, Md.

Total, 29 Fellows.

After a few cordial words of greeting the President called for the address of welcome upon George H. Lyman, M. D., who responded as follows:—

FELLOWS OF THE GYNECOLOGICAL SOCIETY: Owing to the illness of our honored friend, Dr. Storer, the duty devolves upon me of welcoming you to this, your second meeting in Boston.

A formal greeting to you as a Society is so much a mere matter of routine that I shall beg you to take it for granted, and allow me to do that which is much more congenial to me and to all of your professional brethren of this city, and that is, to assure you, individually, that we are heartily glad to meet you, and that we hope to make your sojourn so pleasant that you will not hesitate to come again.

Our Society, wisely, as I think, has a twofold design: scientific and social. Its prime object, of course, is to stimulate careful observation, and by free discussion and generous criticism to sift cautiously from the constantly accumulating experience of its members that which may be of lasting value,—something, at least, each year which shall tend to advance scientific medical and surgical treatment,—the secondary and subordinate object being to bring together at stated periods those who, though widely separated, are engaged in similar pursuits, that they may be stimulated and strengthened by the consciousness of that sympathy and personal good-will which can only come from direct social fellowship.

Boston, as you may perhaps have heard, claims an historic reputation for gatherings of all kinds, from the time of that turbulent salt-water tea party of December, 1773, when “the Boston tea-pot bubbled,” down through all the varieties, military, political, theological, and medical, all disagreeing with more or less of bitterness about many things, but always harmonizing at the last in a good dinner at the Music Hall. Tea-parties with Attic salt are not yet wholly obsolete; they can still be found for those who like that kind of diluted refreshment; for others, differently inclined, I have no doubt that opportunities will be furnished to test our old *blue* laws without restraint during the intervals which must occur between our more serious occupation. You may at any rate rely upon a cordial reception, and you are entirely at liberty to carry away with you from this city of notions any little *bric-a-brac*, philosophical, literary, or scientific, which you may

fancy. Harvard College and the Medical and Technological Schools, over the way, are open to the world and ready to furnish anything which you have the capacity to digest, from a lecture on food for infants to a solution of the differential calculus, which last would, I am sure, puzzle even Dr. Bigelow's latest stone breaker.

Our chief object is, however, to listen to and discuss each other's professional experiences, observations, it may be discoveries, since our last meeting. A year's added experience is no small measure of our professional life, and it will be strange indeed if this accumulated observation of so many active professional men, coming from widely separated States of the Union, some, indeed, from across the Atlantic, should not be fruitful in resulting good to the communities in which we live and move and have our *raison d'être*, by adding something to the science and art which we profess.

The range surely is wide enough. Gynecology, in our interpretation of its meaning, is no narrow specialism; it embraces all those general and constitutional relations without an intimate knowledge and practical experience of which no treatment, medical or surgical, can be successful.

Anatomy, physiology, psychology, and pathology are necessary prerequisites to anything but a purely routine local treatment, which is the starting point of all quackery. From procreation to parturition, from puberty to the menopause, the adviser needs these and all the other helps which our still imperfect science and art can furnish in order properly to appreciate the innumerable functional and organic changes inseparable from the female organism.

This being true, you will pardon me if I presume to ask whether there be not danger in the prevailing tendency to minute subdivisions of our professional work. If so, the influence of this Society, whose members are supposed to be practical men, should surely be in the direction of a sound conservatism.

That this annual meeting may be as successful in awakening general scientific interest as its predecessors have been is all that we can reasonably ask for; and in the name of the profession I bid you a hearty welcome to the work laid out for you as well as to the hospitalities which it may be your pleasure to accept.

The President announced that no gentleman could be nom-

inated as guest except by the Council. The following gentlemen were then, on nomination by the Council, invited by vote to participate in the discussions during the sessions of the Society: J. Knowsley Thornton, Esq., of London, England; Dr. E. C. Gehrung, of St. Louis, Mo.; Dr. M. D. Mann, of Buffalo, N. Y.; Dr. P. H. Ingalls, of Hartford, Conn.; Dr. S. Cooper, of Westfield, N. J.; Dr. F. E. Stewart, of Philadelphia; Dr. R. T. Wilson, of Baltimore, Md.; Dr. J. T. Whittaker, of Cincinnati, Ohio; Dr. W. E. Moseley, of Baltimore, Md.; Drs. H. Marion-Sims and E. H. Grandin, of New York; Dr. W. S. Brown, of Stoneham, Mass.; Drs. L. Wheeler and G. E. Francis, of Worcester, Mass.; Drs. L. S. Fox and W. T. Carolin, of Lowell, Mass.; Drs. F. H. Hooper and A. N. Pierce, of New Bedford, Mass.; Dr. G. E. Porter, of Providence, R. I.; Dr. Charles Jewett, of Brooklyn, N. Y.; His Honor, the Mayor of Boston, Dr. S. A. Green, Drs. H. J. Bigelow, O. W. Holmes, H. I. Bowditch, C. Ellis, G. C. Shattuck, G. B. Shattuck, J. C. White, J. C. Warren, H. W. Williams, R. M. Hodges, R. H. Fitz, J. Homans, F. I. Knight, B. Cushing, H. C. Haven, C. F. Withington, and the members of the Obstetrical Society of Boston, Drs. S. L. Abbott, G. J. Arnold, W. H. Baker, J. G. Blake, W. E. Boardman, F. H. Brown, H. Curtis, O. W. Doe, F. W. Draper, P. O'M. Edson, W. C. B. Fifield, E. J. Foster, R. L. Hodgdon, C. D. Homans, A. Hosmer, W. Ingalls, F. Minot, A. D. Sinclair, C. E. Stedman, J. Stedman, C. W. Swan, W. W. Wellington, and B. E. Cotting.

The President called for papers on —

1. "The Proper Use of Ergot in Obstetrics," by Dr. Joseph Taber Johnson.

Discussion by Drs. Reynolds, Barker, Emmet, Howard, Trask, Engelmann, and Johnson.

2. "Some Remarks on the Treatment of the Pedicle in Ovariectomy," by Dr. R. S. Sutton, which in the absence of the author was read by the Secretary.

Discussion by Mr. Thornton, of London, England, and Drs. H. P. C. Wilson, Lyman, Emmet, and Kimball.

The President appointed as Auditing Committee Drs. H. P. C. Wilson and J. D. Trask.

Adjourned at 1 P. M.

*Afternoon Session at 3 P. M.* The President in the chair.

3. "The Care of the Perineum in the Second Stage of Labor," by Dr. T. Parvin.



Discussion by Drs. Smith, Mann, of Buffalo, Chadwick, Howard, Mundé, and Parvin.

4. "Leucorrhœa: Its Constitutional Causes and Therapeutics," by Dr. Fordyce Barker.

Discussion by Drs. Lyman, H. P. C. Wilson, Jackson, Johnson, Smith, Emmet, and Barker.

Adjourned at 5 P. M.

THURSDAY, *September 21.*

*Morning Session* at 10 A. M.

President Dr. Emmet in the chair.

5. "The Relative Value of Hysterectomy and of the Complete Removal of the Uterine Appendages for the Cure of Uterine Fibroids," by J. Knowsley Thornton, M. B., C. M., of London, Eng.

Discussion by Drs. Goodell, Thomas, Kimball, Engelmann, and Mr. Thornton.

6. "A New Method of Exploration, with the Pathology and Treatment of Certain Lesions of the Female Urethra." Annual Address by the President, Dr. T. A. Emmet.

Discussion by Drs. Barker, Skene, Lee, and Emmet.

Adjourned at 1 P. M.

*Afternoon Session* at 3 P. M.

Vice-President Dr. Lyman in the chair.

7. "Notes of Twenty-two Cases of Extra-uterine Pregnancy," by Dr. T. G. Thomas.

8. "Electricity in Extra-uterine Pregnancy," by Dr. H. J. Garguies.

Discussion of the two papers by Drs. Campbell, H. P. C. Wilson, Goodell, Smith, Howard, and Mr. Thornton.

*Business Meeting* at the Medical Library at 8.30 P. M. with closed doors. The President in the chair. Twenty-eight Fellows present.

The Report of the Treasurer, with the affidavit of the Auditing Committee, was submitted and accepted.

The following Amendments to the By-Laws, presented at the last meeting, were adopted:—

1. That the first Paragraph of Article IX. be so amended as to read, "Every Fellow shall pay in advance the sum of twenty-five dollars annually."

2. That the following paragraphs be added to Article IX.:—

“Each Fellow shall pay on admission an initiation fee of twenty-five dollars.”

“Any Fellow who shall neither attend nor present a paper for three successive years shall, unless he offers an excuse satisfactory to the Society, be dropped from Fellowship.”

The Secretary, in behalf of the Council, presented a list of names in nomination for Fellowship, of whom the following were elected by ballot:—

To be Honorary Fellows, J. KNOWSLEY THORNTON, Esq., of London, England; and LAWSON TAIT, Esq., of Birmingham, England.

To be Fellows:—

DR. M. D. MANN, of Buffalo, N. Y. Paper: “Surgical Operations on the Pelvic Organs of Pregnant Women.”

DR. W. H. BAKER, of Boston, Mass. Paper: “Hyperemia of the Vesico-uterehral Membrane.”

A letter from Messrs. H. C. Lea’s Son & Co., Publishers, and a letter from Dr. H. R. Bigelow, of Washington, were read, requesting the Society to appoint an editor of the projected “System of Gynecology,” and to continue the project under its auspices. The proposition was laid on the table.

At the suggestion of the new publishers of the “Transactions,” Messrs. H. C. Lea’s Son & Co., it was voted that the Secretary and Treasurer have authority to insure the volumes in stock, and that the publishers have authority to buy such copies of Vol. II. of the “Transactions” as come into the market.

The resignation from Fellowship of Dr. A. D. Sinclair, of Boston, was read and accepted.

It was voted that the Publishing Committee have authority to sell the electrotype plates of Vols. I., III., IV., V., and VI., if it deems best to do so.

The Election of Officers for 1883, by open ballot, resulted as follows:—

*President*, GILMAN KIMBALL, of Lowell, Mass.

*Vice-Presidents*, A. H. SMITH, of Philadelphia, Penn.; THEOPHILUS PARVIN, of Indianapolis, Ind.

*Secretary*, FRANK P. FOSTER, of New York.

*Treasurer*, PAUL F. MUNDÉ, of New York.

*Other Members of the Council*, JOHN BYRNE, of Brooklyn, N. Y.; W. T. HOWARD, of Baltimore Md.; A. R. JACKSON, of Chicago, Ill.; H. F. CAMPBELL, of Augusta, Ga.

It was voted that the sympathy of the Society be communicated to Dr. D. Humphreys Storer, Honorary Fellow, in view of the illness which prevents his attendance upon the meeting of the Society.

Dr. H. J. Garrigues was appointed to act with the Secretary as the Publishing Committee, with full power to draw upon the Treasurer for such sums as may be needed to publish the seventh volume of the "Transactions."

It was voted that Dr. G. J. Engelmann have the privilege of purchasing, and using as he sees fit, the plates of his paper, entitled "Posture in Labor," published in Vol. V. of the "Transactions."

It was voted that the President and Secretary address an official communication to Congress urging (1) that of the two copyright volumes that now go to the National Library, one copy of all medical books be deposited in the Library of the Surgeon-general's Office; (2) that the application for a fire-proof building for the conjoint accommodation of the Army Medical Museum and the Library of the Surgeon-general's Office be granted; (3) that the proposition to transfer the Library of the Surgeon-general's Office to the building to be provided for the National Library is unadvisable; (4) that this Society approve in the most emphatic terms of the present management of the Library of the Surgeon-general's Office, and deem that its continued prosperity and the interest of the medical profession of the country will be insured by its remaining under its present management.

The Committee appointed at the last meeting of the Society, to advise with the Editors in regard to the publication of the "Transactions" of the Society, reported:—

That at the time of the appointment of said Committee the printing of the "Transactions" was already under way in the hands of Houghton, Mifflin & Co., the former publishers.

That upon advisement it was considered best to place the publication and sale of the "Transactions" in the hands of some house which had greater facilities for increasing the sale and distribution of the volume, and as Messrs. H. C. Lea's Son & Co. offered to publish upon the same terms as the former publishers, with increased facilities for advertisement and sale, the "Transactions" were placed in their hands for publication after they had been printed by the Riverside Press. The result of this change has already been detailed by the Treasurer.

We would advise that in future the printing also be put into different hands.

ALBERT H. SMITH,  
T. GAILLARD THOMAS, } *Committee.*  
PAUL F. MUNDÉ.

It was voted that the same firm be employed to print the next volume of the "Transactions," as heretofore.

It was voted that the papers read at each annual meeting be handed to the Secretary within two weeks after the adjournment of said meeting, and that none be accepted after that date.

It was voted that the Society pay for the engraving of such illustrations as are suitable for insertion in the text, for which drawings accompany the manuscript.

It was voted that authors be allowed ten days, in addition to the time required for transmissions by mail, for the correction and return of all proofs.

It was voted that the stenographic report of the discussions be printed with a type-writer, and the transcript of each participant's remarks be sent to him for correction ; that each participant be allowed to make only such changes as do not essentially modify or add to the context of what he actually expressed in the discussion.

The following Amendments to the Constitution were proposed for action at the next meeting :—

"That the following be substituted for the fourth clause of the third section: 'All nominations for Fellowship shall be made to the Council by two Fellows one month before the first day of the meeting ; at that time a list of the candidates shall be sent to all the Fellows of the Society, and such as are recommended by the Council shall be balloted for at the annual business meeting of the Society.'

"That the fourth clause of the fourth section of the By-Laws be stricken out, and from the third section and fourth clause of the Constitution the words '*on recommendation of the Council*' be stricken out, so that it shall read: 'Candidates shall be proposed to the Council one month before the first day of meeting by two Fellows, and shall be balloted for at the following annual meeting, a list having been sent to each Fellow, with the notification of the time of meeting.'

"That the second clause of the third section of the Constitu-

tion be so amended as to read: 'The Fellows shall not exceed one hundred in number.'

It was voted to meet next in Philadelphia on the third Tuesday in September, 1882.

Votes of thanks to the Boston Fellows, to the Boston Society of Natural History, to the Boston Medical Library Association, and to the Obstetrical Society of Boston, for their hospitality during the sessions of the Society, were passed unanimously.

Adjourned at 11 P. M.

FRIDAY, *September 22.*

*Morning Session* at 10 A. M. The President in the chair.

The President appointed Dr. T. G. Thomas to prepare a memoir of Dr. James P. White, deceased, of Buffalo, for insertion in the next volume of the "Transactions."

The Publishing Committee was authorized by vote to appoint a bibliographer to prepare and edit, under the supervision of the Secretary, the "Index of Gynecological and Obstetric Literature of all Countries," published in each volume of the "Transactions," with an annual salary of two hundred dollars, who, if he be a Fellow of the Society, is to have the title of Bibliographer.

9. "The Influence of High-heeled French Shoes upon the Female Form, and upon the Relations of the Pelvic Organs," by Dr. S. C. Busey.

Discussion by Drs. Barker, Thomas, Mundé, and Busey.

10. "The Ovarian Corpuscle: Its Origin and Characteristics," by Dr. T. M. Drysdale.

Discussion by Mr. Thornton, of London, Drs. Engelmann and Drysdale.

Adjourned at 1 P. M.

*Afternoon Session* at 3 P. M. The President in the chair.

Mr. J. Knowsley Thornton, of London, England, Honorary Fellow elect, was invited to take a seat on the platform.

11. "The Theory of the Mechanical Treatment of Flexions," by Dr. E. Van de Warker.

Discussion by Drs. Campbell, H. P. C. Wilson, Mundé, Lyman, and Van de Warker.

Owing to the lateness of the hour, the following papers were read by title only:—

12. "A New Operation for Ruptured Perineum," by Dr. J. C. Warren, of Boston.

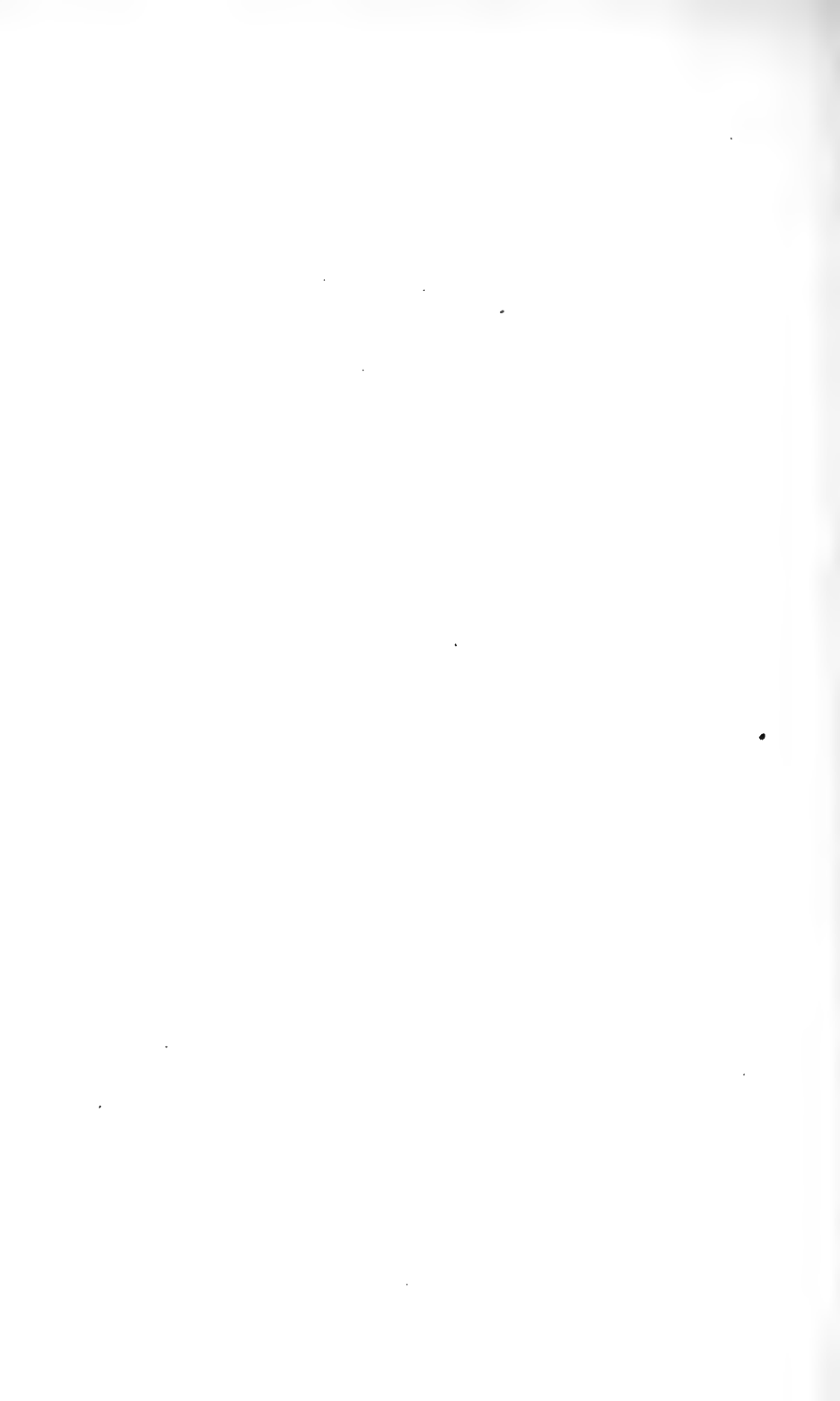
13. "Measurements of the Uterine Cavity in Childbed," by Dr. W. L. Richardson.

The President-elect, Dr. Gilman Kimball, of Lowell, Mass., was then inducted into office.

After a vote of thanks to the retiring officers, the Society adjourned to meet in Philadelphia on the third Tuesday of September, 1883.

JAMES R. CHADWICK, *Secretary*.

PAPERS READ  
AT THE  
SEVENTH ANNUAL MEETING  
OF THE  
AMERICAN GYNECOLOGICAL SOCIETY,  
HELD IN  
BOSTON, MASS., SEPTEMBER 20, 21, and 22, 1882.





## ANNUAL ADDRESS OF THE PRESIDENT.

---

### A NEW METHOD OF EXPLORATION, WITH THE PATHOLOGY AND TREATMENT OF CERTAIN LESIONS OF THE FEMALE URETHRA.

BY THOMAS ADDIS EMMET, M. D.,

*New York.*

FELLOW MEMBERS, — As your President, it is expected that I should address you in some form of greeting. In doing so it would seem in keeping with a time-honored custom for the presiding officer to present, in an annual address, a digest of special medical progress. But with the existing facility for rapid transmission of medical events to every reading member of the profession, this is deemed no longer necessary. Yet were the observance the more called for, I should hesitate, after looking over the "Transactions," where it is made evident that at each meeting a large number of papers have been read by title only and not discussed. As a rule, the discussion, if properly conducted, is of greater value than the paper itself, for it becomes the means of recording a more extended experience and of reflecting the ideas of others from different stand-points.

We have been heartily welcomed by our Boston friends, and we may well congratulate ourselves that this, our seventh meeting, bids as fair as any previous one to bring forth good fruit.

The presence of all at any one meeting could scarcely be expected under the most favorable circumstances. But while we note with regret the absent, we should be thank-

ful that death has exacted from us but a single tribute since our last meeting. It is a sad duty incumbent on me to announce officially the death of Dr. James P. White, of Buffalo, N. Y. Dr. White was one of the founders of the Society, and has attended each meeting from the beginning, with the exception of the last, at which time his health had become already impaired. The volumes of "Transactions" contain several articles from his pen, and bear full witness to the interest he took in the discussions of almost every subject presented. He occupied too prominent a position for his professional career to be summed up by me in a few words. It would be appropriate that some member, more familiar with his earlier professional course, should prepare a suitable memoir for our next volume of "Transactions."

Contrary to custom, but with the object to economize time, I shall postpone the presentation of all other matters pertaining to the business or welfare of the Society until we meet in executive session, where they will come up for discussion. And that you may be fittingly occupied during the time allotted for the usual annual address, I will offer as a substitute a more strictly professional subject. But I must crave your indulgence as to its length, for I have found it impossible to treat the matter in detail within the space I had first contemplated.

A NEW METHOD OF EXPLORATION, WITH THE PATHOLOGY  
AND TREATMENT PERTAINING TO CERTAIN LESIONS OF  
THE FEMALE URETHRA.

The general practitioner has yet gained but little accurate knowledge of the diseases connected with the female urethra. In fact, we may hold that the subject has remained to this day in as much obscurity, for the profession at large, as existed regarding uterine disease some forty years ago, and before the introduction of Sims' speculum. Individuals have doubtless attained dexterity in the use of certain instruments, and have been fairly successful in the treatment; but the existence of a profound degree of igno-

rance has been the rule, and consequently much damage has resulted from the frequent confusion of cause and effect.

We could scarcely credit the fact that the bladder has been heroically treated for disease when the cause of irritation has been due to a fissure of the anus. I have known of several instances where, with a pertinacity of purpose worthy of a better cause, the bladder has been injected with solutions of the nitrate of silver, week after week, until at length cystitis became established.

Many of you, and I, have fruitlessly treated a supposed diseased condition of the bladder, or urethra, when the seat of irritation lay in an unsuspected inflammation about the folds of the utero-sacral ligaments.

I have opened the bladder for supposed disease, by making a vesico-vaginal fistula, and have thus subjected the patient to months of annoyance from the escape of urine. Then, after a certain time, when by rest the disease had been removed, as I supposed, I have closed the opening, but with no relief to the patient. I have reopened the fistula, and have allowed the urine to escape freely for months longer, with the hope that the bladder might yet recover a healthy condition by a more prolonged rest, in the end to find that the cause of irritation lay in a urethral polypus, which the use of the endoscope, in the hands of an expert, had failed to discover.

Several patients have been admitted to the Woman's Hospital, that the fistula which had been made for the relief of a supposed cystitis might be closed, where the primary cause of irritation, at the neck of the bladder, had been due to a prolapse of the uterus from a want of support at the vaginal outlet. We now know that when the uterus settles below a certain point, or is carried above its natural position, so that traction is exerted in a direct line from the subpubic ligament, we have the symptoms attributed to irritation of the bladder.

A moderate degree of inflammation in any portion of the connective tissue of the pelvis, but more especially in the

utero-sacral ligaments, or on either side of the vagina, in front of the broad ligament, will also cause much irritation, and a frequent desire to empty the bladder.

We have growths in the urethra; thickening from inflammation of its mucous and submucous tissues; the canal may be dilated from before backward, and with more or less prolapse of the mucous membrane along the urethra from the bladder; its lining membrane may be diseased in part or throughout; or fissures may exist at the neck of the bladder; and we have had no efficient means to aid in forming a diagnosis. The true condition was likely to be overlooked entirely, and too frequently we have been misled, as I have stated, by reflex symptoms in locating the supposed disease in the uterus or in the ovaries.

It will be unnecessary to consider the various means that have been proposed, from time to time, for examining the urethral tract, for they have all proved inadequate for the purpose and of little practical value, even in the hands of those most experienced in their use.

It is now some six years since I first devised the plan of making a button-hole-like opening in the female urethra for the purpose of forming a diagnosis, or for facilitating any operative procedure.

In the first edition of my work on the "Principles and Practice of Gynecology," published in March, 1879, I simply referred to the procedure as an advisable one, but did not feel myself justified in placing on record the experience which had been gained, even at that time. In the second edition the subject was entered into at greater length, but since, or during the past two years, I have given it very careful study.

I have been told by my friends that I hold a fair reputation with the profession for being reliable and moderate in my statements. With the greatest desire to ever maintain such a reputation, I do not hesitate to announce the fact that the method I shall describe is the only one within our knowledge to-day which fulfills every indication, is safe, simple, and within the scope of any one possessing the least degree of surgical dexterity.

It is necessary to administer an anesthetic for the operation and then place the patient on the left side, using a moderate size Sims' speculum to bring into view the vaginal surface covering the urethral tract. An instrument has been devised by me for making an opening into the urethra. It is formed somewhat on the principle of the scissors used for cutting a button-hole, with the exception that the portion entering the urethra is made round and like the extremity of a large-size uterine sound. The vaginal blade has a portion removed, as in the button-hole scissors, so as to begin the incision about a quarter of an inch from the urethral entrance, from which point the opening is to be extended, in the median line, nearly to the neck of the bladder. This instrument answers the purpose, but has not yet been perfected to my satisfaction.

When the knife or scissors is to be used, the execution of the operation will be greatly facilitated by first introducing into the urethra a block-tin sound, of a sufficient size to put the tissues within the canal somewhat on the stretch. The instrument may be given the same short curve employed for entering the male bladder. Then, to dispense with the aid of an assistant, the curved portion should occupy the urethra and pass for a short distance beyond into the bladder, while the staff is supported by resting on the lower thigh and between the legs of the patient, which are to be properly flexed. The operation is begun by catching up with a tenaculum the tissues on the vaginal surface, about midway between the mouth of the urethra and the neck of the bladder, and dividing them through to the sound. After thus entering the canal the incision is to be extended, with a pair of straight-pointed scissors, in the median line backward, towards the neck of the bladder, and forward to within a short distance of the mouth of the urethra. It is necessary to avoid dividing the urethral outlet, as it would then be more difficult to close the opening properly at a future day. And it is still more important that the incision shall stop short of the neck of the bladder, without involving it, as the patient would then continue, after the operation, with

control over the escape of urine. I wish particularly to impress the importance of this precaution, not to extend the incision through the urethral surface too far backward. For if the consequences were no worse even than the temporary loss of control, this would prove a serious inconvenience and an objection to the operation. The line along the vaginal surface should be made nearly a third more in length than the one through the urethral mucous membrane, and it is important that the chief difference should be at the end of the line over the neck of the bladder. We thus gain, with the beveled angles, a great advantage for examining the urethral tract. Moreover, from the greater length of line being on the vaginal surface, we free the lower angle of the incision at the neck of the bladder, so that, if necessary, the finger, or a small speculum, can be passed into the vesical cavity with little fear of laceration or loss of control. So long as the vaginal surface is intact, the parts about the neck of the bladder remain bound down and unyielding, from the direct connection of these tissues with the sub-pubic ligament and pelvic fascia. Hereafter it will be shown that it is just at this point, in front of the neck of the bladder, that injury by laceration is sustained when incontinence of urine follows dilatation of the urethra.

Should we wish simply to make, by the operation, an exploration of the canal, we can, after doing so, unite the line of incision without delay by bringing the recently divided edges in contact with interrupted silver sutures, as is done when closing a vesico-vaginal fistula. But to unite these properly the urethral edges must be turned out, by means of a tenaculum, that the sutures may be passed so as to include the mucous membrane and bring its divided edges in a close line of contact. To insure this the sutures are to be introduced at some distance from the edge and entirely through the flap down to the block-tin sound, then across and through the other side to correspond, thus bringing the sides firmly together. In this respect we do not follow the rule observed in closing a vesico-vaginal fistula,

where the suture should only pass to the edge, without entering the bladder, through fear of establishing a sinus along its course for the escape of urine. But the condition is very different in the urethra, where the urine is only in the canal for a short time, in transit, and would necessarily escape easier through the natural outlet, with the certainty that each sinus would soon disappear by contraction, after removing the silver sutures.

The after-treatment is simple. It consists in the patient remaining quiet in bed for a week, until the sutures have been removed, and in being careful for a few days longer. While in bed she should be allowed to empty the bladder at will, using the bed-pan when possible, and avoiding the passage of a catheter, except under the most urgent circumstances.

When it is desirable to leave the opening patulous, to facilitate the after-treatment, we are to complete the operation by uniting the edges of the divided urethral mucous membrane to the vaginal surface. This is done by means of interrupted sutures, and the best material for the purpose is properly prepared catgut, or a small silk ligature which has been thoroughly carbolized. As the mucous membrane of the urethra is free, with loose connective tissue beneath, it can be easily drawn out and brought in contact with the vaginal surface. By covering the raw edges in this manner, union soon takes place, and the parts are protected from the contact of urine. When these surfaces were left to heal by granulation, as was formerly the practice, the patient was subjected to much discomfort in consequence of the irritation excited by the saline deposit left after evaporation of the urine which so frequently bathed the parts.

It is also necessary to keep the patient quiet in bed after this operation, and from assuming the upright position, or the sutures would readily cut out, leaving the surfaces to heal by granulation, and with more or less shortening of the canal afterwards from contraction. This of course could not take place to any serious extent, as after a slough, yet could do so to a degree sufficient to make the subse-

quent operation for closure the more difficult. Until union has taken place it is essential that the parts should be kept clean, and the swelling in check, by placing the patient on a bed-pan, and then allowing warm water to flow over the parts, several times a day. This may be done by the jet from a syringe, delivered without force, or by separating the labia with one hand, while the patient's hips are elevated on the bed-pan, so that a stream of water could fall upon the parts by compressing a saturated sponge. The surfaces should afterwards be carefully dried with a piece of soft linen, and kept smeared with Turner's cerate or with that made from the impure carbonate of zinc. Its use not only aids in keeping the parts cool, but serves also as a protection from the urine. In the application, the patient must be instructed to pass, by means of the index finger, a portion of this cerate into the button-hole-like opening before emptying the bladder, as the urine in its passage must necessarily escape from the urethra through this slit. Even after the parts have thoroughly healed, the continued use of the cerate is advisable, to protect the surfaces from excoriation. If, during the healing process, granulations should spring up at any point along the line of union formed by the edges of the two mucous membranes, it will be necessary to apply the solid stick of nitrate of silver to cicatrize the surfaces rapidly. Its free use can do no damage by causing induration, even if it be extensively employed, for the whole line must be removed afterwards, when the edges are denuded, preparatory to closing the artificial opening.

As a rule, these cases require but little additional treatment after the edges have once healed. A vaginal injection of several quarts of warm water, administered night and morning, is essential, and should be continued in use until the opening has been finally closed. These injections may be accepted as part of the routine treatment in every case, as it would be an exception to the rule not to find, at some point in the pelvis, cellulitis existing to a greater or less extent. We shall at least discover the product of some previous attack of inflammation, which may have been the



original source of irritation, and may yet be an obstruction to the circulation. Whenever the operation is done to relieve an existing inflammation in the urethral tract, or to improve nutrition in the surrounding tissues, rest to the parts and the simple revulsive effect attending the operation, after dividing the tissues, will be sufficient, as a rule, to restore the parts to a healthy condition within the space of a few months. But if more should be required, in the way of local applications, they can be administered at any time, with the greatest facility, through this opening, and equally well to every portion of the urethral tract.

In the last edition of my work on gynecology I classified in a general way the diseases of the urethra under the following heads :—

1. Inflammation of the mucous membrane, or urethritis.
2. Pedunculated, vascular, and neuromatoid growths.
3. Prolapse of the mucous and sub-mucous tissues.
4. Fissures at the neck of the bladder.
5. Urethrocele.
6. Laceration of the urethra from dilatation.

It is advisable that I should still adopt this classification, as the object of this paper is rather to supplement, by a record of additional experience, what I have already written, than to go again over the whole subject.

The first section, that of urethritis or inflammation of the mucous membrane from any cause, may be dismissed almost without further consideration. Already sufficient has been advanced to show that the free division of the swollen tissues, as made in the operation for opening the urethra, would be beneficial. And this opening would afford, in a serious case, the most efficient means for the application of the needed treatment directly to the seat of inflammation, thus arresting its progress not only in the canal but also its advance into the bladder.

The second, treating of pedunculated, vascular, and neuromatoid growths, has been considered at a greater length than any other division. I can only add, my more recent experience has but confirmed the opinion that no other

means gives the same facility for either diagnosis or treatment. Unless the operation had been resorted to in each individual case which has passed under observation, we should have remained in ignorance of both the seat and cause of irritation. The case of urethral polypus, to which I have already referred, would have demonstrated the necessity for the operation, even if we had no other instance.

This patient was sent to the Woman's Hospital by Dr. Foster Jenkins, of Yonkers, N. Y., and had suffered for several years while being treated for supposed inflammation of the bladder. During this time she had been under the charge of several physicians who had gained a large experience in the treatment of such diseases. A number of careful examinations had been made from time to time with the endoscope, and nothing had been detected beyond the existence of a certain amount of inflammation of the mucous membrane about the neck of the bladder. She had been a school-teacher, and it was supposed that her occupation, which would have necessitated being much in the upright position, with the habit of retaining the urine for too long a time, had been instrumental in establishing the inflammation. This diagnosis seemed a rational one, as there existed undue thickening of the urethra and neighboring tissues, with great tenderness when pressure was made up against the arch of the pubes. For some time after her admission to the hospital she was treated for this supposed inflammation by injection and applications to the canal. At length the irritation increased to such a degree that I determined to open the urethra, with the hope of finding some clew to the difficulty. The cause of irritation became evident as soon as the urethra was opened. A small polypus was seen attached just at the neck of the bladder, which had been pushed out of the urethra on the introduction of my instrument into the bladder, and was carried back again into the canal with the first passage of urine. Its presence in the urethra excited constant tenesmus, and this had gradually led to undue thickening of the tissues. It was but a question of time, under the circumstances, before se-

rious disease of the bladder would have been established, to be followed by dilatation of the ureters and death ultimately from some kidney lesion. Nothing could have been more simple than the application of the remedy, in the removal, or more satisfactory than the result.

During the past autumn an elderly woman, about sixty years of age, was sent to me by Dr. M. C. West, of Rome, N. Y., and was treated in my private hospital. The urethra had been previously dilated, and a growth of some description had been successfully removed by Dr. Marion Sims, and she came under my care in consequence of his absence from the city. She had been temporarily relieved after the operation, but in a few months the irritation of the bladder increased, and her general health became much impaired by the loss of sleep, due to being obliged at night to get up so frequently to empty the bladder. As only a moderate degree of thickening existed in the walls of the urethra, I was at first disposed to underrate very much the importance of the case by attributing a great deal to nervousness, and to what I supposed was the effect of being confined in the habits of an invalid. The only important feature I could detect in her case was a tenderness on introducing a uterine probe into the urethra, and this was confined to a very circumscribed spot, about half way between the entrance of the urethra and the neck of the bladder. The urethral canal was opened December 3, 1881. I found an elevated mass on the mucous membrane, not larger than the head of a pin, which resembled what might have been the stump or remains of a pedicle, from which a polypus had been removed. This was caught up with a tenaculum, ligated with a strand of fine silk, and cut off. The edges of the urethral and vaginal mucous surfaces were then united together around the button-hole opening, and the case was treated afterwards in the usual manner. She returned home as soon as the parts had healed, having been entirely relieved, after the removal of the mass, from all discomfort connected with the bladder. I subsequently closed the opening February 24, 1882, and she has since

increased in weight, lost all nervousness, and has continued as well in every respect as any woman could be at her age.

The same comments are applicable to this case as to the previous one, for the diagnosis could not have been formed, or any relief afforded, without having resorted to the operation of opening the urethra. Moreover, the consequences attending the cystitis which would have soon supervened would have been as inevitable.

I have operated in several instances for prolapse from the urethral outlet of the mucous and sub-mucous membrane by drawing back the excess of tissue through the button-hole-like slit and then securing it, as shown by an illustration in the last edition of my book. This operation is perfect, as it secures, by adhesion, the mucous membrane along the wall of the urethra in the line of union, so that farther prolapse is impossible. The first operation I ever performed of this kind was done June 17, 1879. The patient has remained under observation and had been free from prolapse to the time of my last examination, June 15, 1882. This is the case detailed on page 732, second edition of my "Principles and Practice of Gynecology."

It seems evident that this condition of prolapse is a consequence of child-bearing, where the tissues have been forced into the urethra from behind, causing dilatation of the canal, which may have been partial or have extended to the outlet; and with this condition splitting, or laceration of the sub-mucous tissues, in the long axis of the passage, is a frequent accident. The tissues being in abundance, and free to a great extent at the neck of the bladder, can be crowded as a plug, under favorable circumstances, into the canal by pressure of the child's head as it advances from behind, and in the same manner as the rectal canal is rolled out from the anus. Laceration through the sphincter ani and perineum is usually caused by the use of forceps, or, to be more explicit, it may be stated that the accident usually occurs where the instruments have not been removed when the head reached the perineum, and when the delivery has been completed by their aid. But this injury also occurs

from the head of the child crowding the tissues in advance through the anus as I have described. During the past twenty-five years I have seen several cases at the Woman's Hospital where the fourchette alone remained intact, while the recto-vaginal septum had been extensively lacerated, with the sphincter ani and the greater part of the perineum. We might naturally suppose that the urethra could sustain but little injury from pressure during the progress of labor, as it is situated so close under the arch of the pubes. But since my attention has been directed to this subject I have found evidence of urethral laceration as common as that of the perineum, and far more so than the injury through the sphincter ani. In fact, I have been surprised at the number met with where the urethral outlet was too patulous, a condition generally due to laceration on each side below, so that the meatus remained somewhat of a triangular shape with the apex above. More or less prolapse of the mucous membrane still existed in all these cases, as was shown by the deeper red color of the urethral surface presenting at the outlet. But as a portion of the canal beyond had also been lacerated, retraction to some extent had occurred as cicatrization took place. The effect, then, was the same in principle, but the prolapse could not be arrested to the same extent, as would be done by the operation already described, where the excess of prolapsed mucous and sub-mucous tissues is drawn out through the button-hole-like slit and secured.

For an indefinite period but little inconvenience may be appreciated after sustaining some such injury, and when realized the symptoms of discomfort may be long attributed to uterine displacement or other cause than injury to the urethral canal. But on close questioning the patient will be able, as a rule, to recall the existence of irritation at the neck of the bladder, coming on after some special labor, from which time more or less difficulty had existed.

Thickening of the mucous membrane and an increase of growth are not confined, however, to over-stretching or laceration of the canal. A patient was sent to me by Dr.

Lewis Fisher, of New York, in October last, where the first prominent symptom had been hemorrhage for several weeks, from the bladder as it was supposed. The urine had not been free from blood during this period, and after emptying the bladder she suffered from tenesmus, with frequent pain over the pubes and about the thighs. It was feared, after the report made from a microscopical examination of the urine, with the rapid development and symptoms of the case, that it would prove one of malignant disease of the bladder. She had given birth to two children, and the last labor had been about twelve years previous to my first examination. The only point in her history which I could obtain with any bearing on the case was regarding the first labor, which had been a very rapid one, and although she got up well, as it was thought, she realized, when questioned, that more or less irritability of the bladder had existed from that time, with tenesmus often coming on after taking any undue amount of exercise.

No stone was found in the bladder, but the presence of the sound in the vesical cavity caused bleeding, contraction of its walls, and much pain. Under the circumstances I determined to administer an anesthetic, that a diagnosis might be established, after exploring the walls of the bladder in search of an encysted stone. Under ether the urethral outlet was found rather smaller than natural, and the canal did not seem to be dilated, but the walls and neighboring tissues were much thickened, so that a urethrocele existed, to an unusual degree, near the neck of the bladder. Finding nothing in the vesical cavity, I determined to make the opening into the urethra. A mass of the thickened mucous membrane crowded up into the opening as soon as the canal had been entered. It had a cock's-comb-like appearance, bled readily on the slightest touch, and was so free that it could be drawn out of the canal to some distance. In fact, the thickened mucous membrane seemed to be detached to a great extent from the sub-mucous tissues. It had been developed to such a degree that it was thrown into long folds, extending in the axis of the hollow cylinder.

This growth had become an exaggeration, to a remarkable degree, of the longitudinal plicæ always found on the posterior wall of the urethra, near the neck of the bladder. Between two of these folds the sound had been passed on its introduction, thus giving no indication that the canal had been at all dilated. It was evident that the use of the endoscope would have proved of no greater value than the detecting of an increased vascularity of the lining membrane. After some difficulty I introduced a No. 12 block-tin sound through the urethral meatus into the bladder. While this was held in position I drew out, through the button-hole-like incision, this excess of tissue from about the neck of the bladder and on each side of the sound. This was cut away with a pair of scissors, and then I united the raw edges of the mucous and sub-mucous surfaces together, using four interrupted sutures on each side. When the operation had been completed, the appearance of the urethra resembled a large quill or tube from which a narrow longitudinal section had been removed, and through which was readily seen the interior of the canal. The deep red color of the lining membrane disappeared in a few days after the operation. An application of the nitrate of silver was made several times to some granular points, but she received no other treatment, except the hot water vaginal injections and the zinc ointment, which she applied herself. She had no bleeding or trouble with the bladder after the operation. On February 18th last I denuded the edges of the opening in the urethra and united them with interrupted silver sutures, secured by means of perforated and compressed shot. The thickening from the urethrocele had by this time entirely disappeared, leaving the edges of the opening so thin that it was even necessary to include a strip of vaginal tissue in the denuded surfaces. The sutures were removed at the end of a week, and the line was united throughout. At the present time she is perfectly well, and it would be difficult to detect the line of the operation, were it not for a small pin-hole-like opening situated near the outlet, which gives no inconvenience. Dr. Fisher

was present at the operation, and followed afterwards each step in the treatment of the case. But he has been the only family physician who could do so, as my other patients were from a distance.

In the classification made of these diseases, urethrocele should have followed properly the consideration of prolapse of the mucous and sub-mucous tissues. For it is but a sequence, where a degree of greater thickening has followed the overstretching of the urethral tissues with laceration of its walls. More or less of a pouch has been formed in all these cases, in which a certain amount of stale urine remained afterwards to add to the irritation. The formation of a urethrocele is frequently attributed to a previous laceration of the perineum, but this is not strictly correct, for the perineum was lacerated at the same time that the urethra was injured. From a want of proper support the condition of the urethra could not improve afterwards, and became exaggerated from the condition of the perineum. In the beginning of every case of urethrocele, I believe more or less laceration had taken place between the longitudinal muscular fibres of the urethra. I can recall one well marked case where I operated, some twelve or fourteen years ago, and found a slit existed through the walls nearly the whole length of the urethra, and to the vaginal tissue, thus forming a pouch in which a drachm at least of stale urine always collected. This condition is easily remedied by removing, with a pair of scissors, the excess of tissue, and by then denuding the sides of the opening in the urethral tract to a sufficient width, so that when the two surfaces are brought together by sutures the urethral canal will be restored to its natural calibre. By this means all prolapse of the urethral mucous membrane can be arrested, and the urethral wall restored to its natural thickness.

In this connection I might state the opposite condition, that of stricture of the female urethra, is rare in my experience, except as the result of violence. It is near the outlet where narrowing usually takes place, and follows the



use of nitric acid, other caustics, and the cautery, or after cutting off prolapsed tissue or a growth from the meatus. Any serious obstruction to the free escape of urine must eventually result in cystitis, and the condition therefore requires prompt relief. Where the outlet is narrowed, there is no remedy but to divide it backward sufficiently to restore it to its natural size. But with any degree of stricture it will be necessary to make a button-hole-like opening directly over the constricted portion, and after the edges have thoroughly healed it will be easy to form the canal of a proper size — an operation simple of execution in the female, but more difficult in the male; yet I succeeded perfectly in one instance in forming a good-sized canal where the urethra in a male subject had, before the days of the aspirator, been laid open through a number of strictures to relieve retention and urinary infiltration.

Where simple hypertrophy has occurred, as a product of inflammatory action; where from a want of proper support, from hemorrhoids, or from long continued attacks of tenesmus, due to some other reflex cause, it is only necessary to cut through the tissues, as I have described, to bring about a change of nutrition in the parts, and no other means can accomplish so much.

My last operation was at the Woman's Hospital. The patient had suffered from cystitis, and had been under treatment for over four years in Bellevue Hospital and other institutions of the city previous to being admitted to the service of Dr. C. C. Lee in the Woman's Hospital. She was then in a most miserable condition, with the urine phosphatic and filled with pus; she suffered greatly from tenesmus; the walls of the bladder were thickened, and in fact all the symptoms of long standing cystitis were present. Dr. Lee made an artificial fistula in the base of the bladder, and treated the case afterwards for a year or more. At the end of that time the cystitis had entirely disappeared, the character of the urine was again normal, and the walls of the bladder had been restored by rest to a healthy condition. The fistula was then closed, but the old irritation of the

bladder at once returned with all its attendant suffering. I believe a fistula was again made, further back towards the cervix uteri, so that the drainage might be more perfect, and shortly after I was asked by Dr. Lee to see the case in consultation. The bladder then seemed to be in a healthy condition, and the only apparent lesion was a large urethrocele, with a general venous congestion of the parts. To study the progress of the case, and to investigate the cause of failure, where so much had been gained, I requested that she might be transferred to my service. The fistula in the base of the bladder was closed, and then an opening was made through the thickened urethral tissues, over which the mucous surfaces were united, as I have described. One of the immediate effects of the operation, after cutting through the tissues and relieving the tension, was a speedy restoration of the circulation to a healthy condition. The parts were allowed to rest for several months until the urethral walls had regained their normal thickness. Early in May last the opening in the urethra was closed, with no return of the bladder trouble, and the result was perfect. Just before her discharge in June I had the pleasure of showing the case to Drs. Garrigues, Lusk, and Lee, members of this Society.

The history of this case is of much clinical value. The first symptoms began with a moderate degree of irritation of the bladder, which developed into a constant tenesmus—symptoms beyond question then due to some lesion in the urethra, which gradually, through a series of years, led to the cystitis and its consequences. So long as the urine in this case had a free escape from the bladder through the fistula, the condition of the urethra could not excite sympathetic irritation. Yet, notwithstanding the bladder had recovered its healthy condition, during its long period of rest, it was made to feel the effects of the original source of irritation in the urethra as soon as the fistula was closed. With the distention, from accumulation of urine, reflex irritation was at once excited in the muscular fibres of the bladder, and the tenesmus thus induced would have soon

reëstablished the cystitis in its worst form. The history of this case points out, in all probability, the unsuspected cause of irritation in a certain number of cases of cystitis of long standing, which are benefited only while the fistula remains open for the free escape of urine, and where it is asserted sometimes, in such cases of failure, that the artificial opening, with rest alone, cannot cure this disease of the bladder.

I can offer nothing more for the treatment of fissures situated at the neck of the bladder. Their exact locality is often difficult to detect, but the opening, when made as I have described, allows of more ready inspection, and by thus freeing so thoroughly the tissues about the neck of the bladder, they often heal without further interference.

We will now consider, as briefly as possible, the last section, that relating to laceration of the urethra from forcible dilatation, an accident which has frequently resulted in a permanent loss of control over the escape of urine. It is not necessary to discuss at any length the propriety of the procedure, for my views, and the experience upon which they have been based, are sufficiently well known. I will, however, state that with more experience I am the more confirmed in the unqualified opinion that the operation of dilating the female urethra is one which should not be practiced under any circumstances. No advantage can be gained by its aid which cannot be obtained by other means free from all danger of injury to the patient. The fact is not questioned, but admitted by all, that, in a certain proportion of cases, permanent incontinence of urine continues after the urethra has been dilated. It is well known also that the occurrence of the injury does not always depend upon a want of dexterity on the part of the surgeon; it cannot be guarded against, and will take place sometimes in the hands of the most careful operator. I have in all probability seen more cases of this injury than any other member of the profession, and I have been many years seeking to relieve the condition through the aid of surgery. For years past my service in the Woman's Hospital has

been seldom without one or more of these unfortunate patients under my care. After fifteen years of study, and after having instituted many operative procedures for the relief of this lesion, I am able to claim a number improved, but with only one patient permanently cured, where I had myself produced the injury. Another, rated as improved, kept dry about seven months after her discharge, and then, according to her statement, she suddenly lost all control over the escape of urine, but by a later account I was informed she could keep dry at night. The supposed failure must, however, be accepted with some allowance, for she retained full control of the urine from April until the following December. At this time she was anxious, I fear, to go into winter quarters by entering the Woman's Hospital, where she had been an inmate several years. From her knowledge of her own case, and with her dexterity, I feel that I am not uncharitable in the belief that she may have opened the urethra, and I believe may have had a hand in some of the previous failures. She lived at a distance, and has not been readmitted, so that I do not know her true condition.

Another patient under observation, with a small opening, may yet be cured, as she has kept dry at night and has done so during several hours in the day. All who have followed my service in the Woman's Hospital during the past three years will be able to recall the case of a young girl, who had a stone dragged through a dilated urethra when she was eight years of age. The result of the operation was splitting open the canal and lacerating the vesico-vaginal septum obliquely along the sulcus, on the right side, beyond the mouth of the ureter, with extensive sloughing afterwards. She has already taken ether thirty-three times, and has submitted to about thirty surgical operations instituted for her relief. I have made the urethral canal some ten times in this case, and have afterwards laid the whole open again, with a pair of scissors, in search of the cause of failure. At length my perseverance has been rewarded by finding the nature and exact seat of injury. As

I have detected the same lesion in two other cases, and the only instance I have seen since of loss of urine after dilatation, we may reasonably hope that the usual cause of difficulty in these cases has at length been ascertained.

There exists a superabundance of loose tissue about the neck of the bladder, which disappears, portion after portion, in the expanse as the viscus becomes distended. At length, when it is put on the stretch, the shape about the neck becomes not unlike that of a funnel, with the walls sloping on all sides towards the nozzle, and with a portion of it bent under the pubes to form the urethra. I once opened freely the vesico-vaginal septum, in a patient suffering from incontinence after dilatation, and in this instance I detected, by means of reflected light and a laryngeal mirror, a cicatricial line extending across several of these folds, at the neck of the bladder, which prevented them from coming together. The parts had evidently been lacerated in this instance at least, and I had supposed, until recently, that this was the usual accident occurring where incontinence had followed dilatation of the urethra.

It is a practice to leave an opening in the base of the bladder for the free escape of urine during the time necessary for forming a new urethra. But after the parts have become firmly united, I usually close temporarily this vesico-vaginal fistula, but without denuding the edges, to test by this means the retentive power and to dilate somewhat the bladder, which may have been long contracted. On one occasion, in the case of the girl who had retentive power for some time, finding that retention had not been gained, although the line of union in the urethra was perfect along the vaginal surface, I removed these temporary sutures, and passed my finger through the fistula into the bladder. During the examination I was struck with the unusual shape of the parts about the entrance into the urethra, which seemed to point or project into the bladder. As the finger was passed down towards the neck, from behind the pubes, the tissues seemed to have rolled out, and felt not unlike the anterior lip of a lacer-

ated cervix, but were much smaller in size. Judging from the passage of the sound along the urethral canal, it seemed to be so much dilated, beyond a certain point, that I supposed absorption had taken place in part of the line, so I again laid open the urethral tract. I then discovered that the expanded state of a portion of the canal was due to a transverse laceration of the urethra, by which a part of the anterior wall of the bladder had been torn away from under the arch, if not, in addition, partially from the inner face of the pubes. Until I had realized the existence of this laceration it was easy to have overlooked quite a concave surface, when only seen from in front, but a condition which would have been at once apparent if presented in profile. The injury was also less likely to have been recognized after the parts had been put on the stretch by the introduction of the speculum, while the depression entirely disappeared when the edges of the canal were held apart for inspection by means of a tenaculum on each side. But as soon as the lesion was suspected, and the tissues at the neck of the bladder were drawn forward to their natural position by means of a tenaculum, an extensive transverse laceration was at once made apparent.

With our knowledge of the manner by which the neck of the bladder is firmly bound down under the arch of the pubes, and with its close connection at this point to the unyielding pelvic fascia, it becomes simply a matter of surprise that laceration does not occur in every case where the attempt is made to dilate the female urethra. The finger must always meet with resistance along the line of the sub-pubic ligament, where dilatation cannot so easily take place as in other portions of the canal, and the parts must here be put on the stretch, as they are pushed away from the pubes. Then if laceration occurs it will naturally take place along the line of least resistance, which would be across the urethra, at the sub-pubic ligament, and in the connective tissue, so as to separate more or less of the bladder wall from the pubes.

I have attempted several times to repair this injury by

denuding the sides of the laceration, and then bringing these surfaces together with a number of interrupted sutures in a line transverse to the axes of the urethral canal. But I have never been able to gain a sufficient union of the sides so as to entirely obliterate this concave surface, and have attributed my failure to the close relation of these parts to the muscular action brought into play with each effort to empty the bladder and bowels. To overcome the difficulty, and to fill up this space, I have made the freshened surfaces, which were to be brought together in forming the urethra, much wider at this point, so that the canal might be of a uniform width, and in profile a convexed line would occupy the concavity. By adopting this plan I fully expected that a certain amount of urine would accumulate before it could escape, and before reaching that point the bladder would rise sufficiently in the pelvis to give retentive power by drawing back the urethra somewhat and compressing its sides under the arch of the pubes.

We should bear in mind that in the case where retention was gained for seven months after the operation, the urethra had been fully developed before being lacerated, and I simply brought together the sides of the urethral canal, which had been previously laid open, through the meatus backward into the bladder, with some object in view unknown to me. It was therefore reasonable to expect that retentive power would be gained under these circumstances, if the operation proved successful in narrowing the canal at the seat of transverse laceration, and that the natural desire to empty the bladder would exist, as was afterwards proved to be the case.

But the accident of the laceration occurred to the young girl while a child, with sloughing afterwards of the whole vaginal portion of the urethra. I therefore expected, if retentive power was established, after forming the urethral canal from the neighboring tissues, that there could be no appreciation of the degree of distention, or desire to empty the bladder; consequently it would be necessary to remove

the urine by aid of a catheter at regular intervals, and frequently to wash out the cavity, to guard against the accumulation of phosphatic urine. These views were not theoretical, however, but based on my previous experience in certain cases where I had formed the urethral canal from distant tissues, after the soft parts under the arch of the pubes had sloughed away to the periosteum. But when I temporarily closed, for a few days, the artificial fistula left after forming the urethra in the case of the young girl, I was surprised to find that the natural desire to empty the bladder, when sufficiently distended, had been but little impaired. I therefore feel more confident that she will be ultimately cured. The appreciative power in this case was evidently due to the preservation of a long narrow strip or surface, which had formed that portion of the urethral canal in close contact with the sub-pubic tissues. And notwithstanding the anterior surface, or two thirds of the whole calibre of the canal, had been destroyed, and a deep laceration had taken place directly across the remaining portion, indirect communication was established between the neck of the bladder and the urethral tissue through some ganglion anterior to the seat of injury.

This case proves an important one, as from it we may draw the inference that the desire to empty the bladder in the female is due to an impression made upon nerve fibres situated in that part of the urethral canal in close contact with the sub-pubic tissues, and between the neck of the bladder and the urethral outlet. It would therefore seem that along this tract the fibres of the sympathetic are chiefly distributed from the neighboring ganglia, and are sparingly given to the vaginal portion of the urethral canal where they would be more exposed to injury.

Moreover, this supposition seems to be confirmed by observation in other instances, for I believe every case, which has passed under my observation, of growth, or other disease of the urethral canal, which has been accompanied with reflex disturbance, has been situated along the distal portion of the canal, or that part in direct relation with the pubes.



I have been assisted in all the operations bearing upon the subject of this paper by my two assistant surgeons at the Woman's Hospital, Dr. George T. Harrison and Dr. Bache Emmet, or by my son, Dr. J. Duncan Emmet.

Before closing I will briefly reiterate certain points which should be made prominent, and which may have been lost sight of in consequence of the various subjects treated of, and from the length of the paper.

I have presented a mode of exploration for the female urethra, the advantages of which are not urged upon theoretical grounds, but from actual experience and close observation extending over several years. I would therefore ask that, in testing the method, the directions given may be first carefully carried out, to gain the necessary experience before judgment can be impartially rendered.

It is claimed that the advantages from the operation for exploration are greater than can be gained by any other method yet known to the profession, as the whole canal can be fully exposed, and any mode of treatment suggested by the condition of the parts can be easily applied.

That the operation is perfectly safe, and can be executed without difficulty by any one possessing an ordinary amount of dexterity. It certainly can be performed with safety by any one fitted to take the responsibility of forcible dilatation.

That if properly performed, and according to the directions given, the control of urine will not be in the slightest degree impaired, and that the bladder can be emptied afterwards at will without difficulty. In this respect the condition is different from where an apparent urethral fistula has occurred in consequence of childbirth, and where, as a rule, the retentive power is lost. In the operation on the urethra the neck of the bladder must never be involved, while sloughing at this point, the one most exposed to pressure, always occurs where the injury has resulted from parturition, and it is only after cicatrization has taken place that the opening would appear to the superficial observer as being confined to the urethra.

That no difficulty has been experienced in closing the urethral opening afterwards, an operation which has been performed by the house surgeons in the Woman's Hospital, and given to them for practice as one of the simplest. Where the fistula has been made, and its closure seems afterwards of too great magnitude, or it may not be convenient to close it, no harm can occur from leaving it open until a favorable opportunity is presented:

That on inquiry all who have been operated on have stated that, after the edges had healed, they were unable to appreciate any difference in the passage of the urine, although the greater portion, if not all the fluid, must naturally have escaped through the opening. More or less urine, however, must pass back into the vagina, and this fact would necessitate the daily use of vaginal injections for cleanliness. It occurred to me that the rolling out of the urethral mucous membrane, from the opening, might expose it in sexual intercourse, but on inquiry I learn this even does not seem to have been the case after the parts have cicatrized.

That it is not intended this opening in the urethra should in any manner supersede the forming of a vesico-vaginal fistula for treating cystitis, or for the removal of stone from the bladder. The opening of the urethra cannot be of the slightest advantage for drainage in the treatment of long standing inflammation of the bladder, unless the canal be also involved. Under such circumstances where the opening is made in the urethra, and one is also needed in the bladder, the incision is to be extended by a continuous line along the vaginal wall, but not through the neck of the bladder. At least half of the thickness of the septum must be left at this point, and then the base of the bladder can be entered beyond to form the fistula, which opening is to be extended by incision, as far as deemed necessary, towards the neck of the uterus. To keep this fistula in the bladder from closing, its mucous membrane must be drawn out and attached by interrupted suture to the vaginal membrane in the same manner as described for covering the edges in the

urethral opening. Not only will the fistula be kept patulous by this procedure, but the patient will be saved from much suffering by thus protecting the raw surfaces from urinary deposits.

#### DISCUSSION.

DR. FORDYCE BARKER, of New York. — I wish to detain the Society for a few moments only, with reference to this important and interesting address to which we have just listened, and it is in behalf of one of our Fellows, who is prevented from being present. It is several years since our President proposed this operation, but it is only about two years since it has been fully described. Since that time it has received but little attention from the profession, and the President's plan has not been reported in print by any one else. This is the reason for making the statement which I am now about to make in behalf of Dr. Lusk. The President referred to one case which had been under Dr. Lusk's care for a long time, in Bellevue Hospital, and in which this operation was performed. The result was one that so delighted Dr. Lusk that, having another patient in his service in Bellevue, he at once performed the operation upon her. This patient had been in the hospital for three months, having been a great sufferer for months previous to her admission. She was unable to sit up, and had been unable to walk for several months. He had treated her to the best of his ability, and she had been treated by others for a long time before she came under his care. Dr. Lusk performed the operation just described by Dr. Emmet, namely, making a button-hole slit in the urethra. Now, Dr. Lusk is not apt to be carried away by personal enthusiasm, but he said that the result was one of the most astonishing he ever saw. The first night after the operation the woman slept, and at the end of the first week she was able to go out and resume her domestic duties. Since that time he has performed the operation twice, and with the same success. It was Dr. Lusk's great desire to be present, but he was unavoidably detained; and I, therefore, take the liberty to communicate his clinical experience to the Society.

DR. ALEXANDER J. C. SKENE, of Brooklyn. — The unqualified condemnation, by Dr. Emmet, of all preëxisting methods of diagnosis and treatment of urethral diseases in women would incline

any one of ordinary courage to shrink from discussing so positive a paper. But, on the other hand, the extreme liberty which the author takes with all co-laborers in this department invites a like freedom and frankness in dealing with his assertions.

In regard to the blunders which he has seen in the practice of others, they only serve to show the incompetence of some who practice gynecology. But this does not, by any means, represent the actual state of our knowledge of the diseases of the female urethra.

When he claims that his method of exploring the urethra is the *only* satisfactory one, it becomes at once apparent that he has been so fully occupied with his own investigations that he has failed to make himself acquainted with the achievements of others. It is certainly a fact that the diagnosis of many diseases of the female urethra and bladder has been for years as clearly defined as anything in gynecology. Indeed, surgeons understood this long before gynecology became a special department in medicine. In view of these facts I may reasonably inquire what the merits of Dr. Emmet's method of diagnosis are compared with those formerly in vogue in the profession.

Laying open the urethra for purposes of exploration is claimed to be a simple, easy, and safe operation. To Dr. Emmet it may be all this, but the general practitioner and even some experts do not find it so. It is, no doubt, as difficult for the surgeon, and more disagreeable to the patient, than any other method of exploration. Inflicting an important injury (which requires to be repaired by a delicate operation) in order to detect a disease is not a "simple" procedure.

As a means of diagnosis this operation approaches perfection in cases of urethral polypus or any of the neoplasms. These can be detected with great facility by this means. For this purpose the method of Dr. Emmet surpasses all others, but its claims to superiority, in my judgment, end here. In diagnosing ulceration, and, especially, fissure at the upper end of the urethra, it is certainly very inferior to the endoscope in facility of employment and accuracy of results. The facts are, that in making this button-hole there is hemorrhage, which, although trifling in quantity, keeps on and obscures the surgeon's view. And when to that is added the flow of urine, which keeps up when the neck of the bladder is held open for inspection, very little can be seen by the ordinary observer. In searching for a

fissure, under such circumstances, it is very difficult to find it in the loose folds of the mucous membrane. With the endoscope the urethra is distended, and the fissures, which are usually located in the folds of the mucous membrane, are brought clearly into view, no matter how small they may be. So it is, also, in ulceration at any portion. In fact the endoscope is sufficient for diagnostic purposes in all affections of the urethra, except neoplasms at the neck of the bladder. This is not a theoretical notion of mine, but a matter which can be demonstrated.

Some practice is necessary to acquire facility in the use of the endoscope, but I can teach a student how to explore the urethra with this instrument much more easily than he can be taught to perform the operation recommended in the paper. I know that Dr. Emmet does not regard the endoscope as a diagnostic means possessing any practical value. I might make the same statement regarding my personal experience with the ophthalmoscope. I have used that instrument, but never have been able to recognize any disease of the fundus oculi with it. Still I should be the subject of your derision if I said that the instrument was useless. That mistakes are made by those who use the endoscope is true; the case recorded in the paper which came to Dr. Emmet from Dr. Jenkins illustrates that fact. Still that only shows that there are few means of diagnosis that are infallible in the hands of ordinary men. I presume the usual number of such blunders will, in time, be credited to Dr. Emmet's method when it comes to be practiced by others.

As an aid to the diagnosis of diseases of the bladder this method has some value, I believe. I do not understand how the upper end of the urethra and neck of the bladder can be dilated with impunity after making the button-hole opening in the middle third of the urethra. I have always believed it to be dangerous to dilate the neck of the bladder to any great extent. Perhaps Dr. Emmet has made his observations in cases in which the parts were abnormally dilated before he operated.

As a therapeutic agent I recognize the very great value of this operation. In the removal of polypi, and the relief of urethrocele, it is, no doubt, invaluable. I can also understand how the alterative effect of the operation might be quite efficient in arresting some of the irritable states of the urethra. In regard to that injury of the urethra which resembles, in its pathology, laceration of the cervix uteri, I have had no experience. I can

say, however, that if Dr. Emmet can, by this or any other operation, relieve that form of downward displacement of the urethra which often follows child-bearing, then surgeons and patients will accord him the highest praise.

I would also take exception to some of the doctor's views in pathology: for example, I do not think that displacement of the urethra and bladder is due to mechanical causes alone, such as occur in labor. I incline to the belief that the development of the cellular tissue in the pelvis which takes place in pregnancy gives an increased laxness to the parts, and predisposes to displacement.

I also entertain a doubt regarding the existence of pure neuroma in the urethra, which the doctor has mentioned in his classification.

In answer to the question in regard to forcible dilatation of the urethra, I would say that I agree with Dr. Emmet in believing that it is a dangerous operation, but I cannot say, as he does, that it should never be performed. With due care, and in properly selected cases, it can be practiced.

Finally I may refer to the fact that the doctor reminded us of that which we all knew, namely, that his friends and those who know him best have always given him credit for honesty in all that he does and says. In this respect I desire to be among the foremost to do him honor. At the same time it must be borne in mind that honesty of purpose does not always secure accuracy of observation or soundness of judgment. Knowing this, I have dared to entertain the impression that this remarkable contribution by Dr. Emmet, while it does not embrace all that is known on the subject, will take a high position among the accepted means of diagnosis in gynecology.

THE PRESIDENT. — In my closing remarks in the paper I state that it is not intended that this opening in the urethra should, in any manner, supersede the use of a vesico-vaginal fistula in the treatment of cystitis.

Of course the existence of cystitis can always be diagnosticated by the use of the microscope determining the presence of pus and casts in the urine, but I have not advanced the method mentioned in the paper for the cure of cystitis, and I do not know any way of curing cystitis, except by making a vesico-vaginal fistula. The point which I wish to make is this: A serious irritation existing in the urethra will, in time, spread to the bladder

and cause inflammation ; you may then cure the cystitis, but so long as the irritation in the urethra is not removed, the cystitis will return on closing the fistula. I am perfectly aware how much we are indebted to Dr. Skene for work in this particular direction, but he stands almost alone with his skill, for we know that the knowledge in the profession at large is almost next to nothing. But all cannot place their patients under his charge, nor can all the patients reach him. It is for the general practitioner that I advance this method. The paper is not, therefore, on the treatment of diseases of the bladder, but it is on a new method of exploring and treating diseases of the female urethra, and I do not know of any other means so good.

## THE PROPER USE OF ERGOT IN OBSTETRICS.

BY JOSEPH TABER JOHNSON, M. D.,  
*Washington, D. C.*

THE proper use of ergot in the practice of obstetrics has long been a subject of controversy, and the following contribution is modestly offered, to aid in a settlement of this important though hackneyed question. I have nothing new in the line of discovery to offer, but shall hope to bring the knowledge we do possess into such shape as to show the powers of this drug for good and evil, and shall suggest rules for our guidance in its administration to women in labor. With its other varied uses in the general practice of medicine this short paper will not attempt to deal.

The history of its early use details the varied experiences of obstetricians of great skill and wide reputation. It was declared by some, after repeated trials, to be without result. Others said it acted only through the imagination. An effect was claimed for which the patient was prepared, and soon after its administration the tired organ would renew its efforts with a vigor which was attributed to the medicine. While still others declared that it was chiefly valuable on account of its inability to do harm. We know now, with the great number of cases of recorded accidents attributed to its abuse, that it is not incapable of doing harm. The failure to produce results in the hands of those declaring it ineffective must have been owing to the employment of impure or spoiled preparations. It is certainly in evidence that the specimens have to be selected with care, and are difficult to retain in their purity after the most skillful manufacture, especially when given in the powder or infusion, as is still the habit of many practicing in the country.



That schools differ in teaching the indications for its use, text-books in their instructions, and obstetricians in their practice, none familiar with the subject will deny. Some authors advise its exhibition to hasten slow pains in the first and second stages of labor, others say it should never be given in these cases. Some try to overcome uterine inertia with it; others say it is little short of murder to give it, when the child is viable, to any woman in labor. Some advise its use to expel a retained placenta, and always give it immediately after the birth of the child's head, and as a prophylactic against hemorrhage; others say it does harm in these cases. Some claim it to be the remedy in threatened and actual abortion, and especially valuable in causing the expulsion of the fetal membranes, while others say *these* are the cases in which ergot is positively contra-indicated. Some recommend its use in placenta previa and accidental hemorrhage, while others declare that it seriously damages the chances of the child in its race for life, and prevents the safe and successful manipulation necessary for version and extraction, should they become necessary.

With all of these contradictory statements before us concerning the action of and indications for the use of this remedy in obstetrical practice there would seem to be no apology necessary for bringing to the attention of the Society the subject of the use and abuse of ergot in the lying-in chamber, and to appeal for such a discussion of this highly important topic as would authoritatively settle disputed points in practice.

In the beginning it would be desirable, if possible, to ascertain what is the real effect of this drug upon the muscular fibres of the uterus and upon the child within its cavity. Recent text-books upon materia medica and obstetrics agree in the statement that ergot produces in a uterus already in labor a persistent tonic contraction, which, if sufficient be given, finally becomes tetanic in character; also that the *kind* of contraction produced is diametrically opposite to the intermittent rhythmical contractions of the normal parturient uterus.

When naturally acting, expulsion of the fetus is produced by the repeated shortening or contraction of the longitudinal uterine muscular fibres, while at the same time the circular ones are retracted over the presenting part as the cervix and os become dilated. The phenomena of the labor pains constantly succeed each other in increasing power and rapidity until the organ is finally completely emptied of its contents. "When these pains lose their rhythmical quality and become continuous they cease to belong to the domain of physiology." Lusk remarks, that "whenever the alternating relaxation ceases, and the uterus passes into a condition of tonic contraction, no work is accomplished, and the pains are ineffective." In the persistent tonic contraction produced by ergot, *all* the muscular fibres of that organ act equally upon its contents, which are held as in a vise, instead of expelled as above described. In most cases this effect is produced, but in some instances the child has been suddenly expelled after its use. In these exceptional cases, the uterine forces must have acted energetically *before* the force of the contracting wave had reached the lower uterine segment, causing it also to contract, thus closing instead of dilating and retracting.

In normal contractions the child and placenta are both compressed with considerable force, but they have time to recover fully during the interval between the pains. The placental circulation, interfered with for a time, goes on naturally as soon as the contraction ceases. The temporary acceleration of the fetal circulation under the effect of uterine contraction is familiar to all who have studied the subject or carefully observed the clinical progress of a normal labor. Not so with the ergot contractions. They, once thoroughly induced, may last for hours. The child, being equally compressed on all sides, cannot advance. The exchange of gases is prevented in the placenta; its circulation is gradually suppressed, and the child is as certainly asphyxiated as an adult when hung by the neck with a rope.

If there were no interference with the fetal circulation by the persistent contraction of the placental site, the long con-

tinued compression of the chest and brain of the child might alone so interfere with the operations of vital functions as to produce its death. Instances of injurious and fatal crushing, under these circumstances, have been recorded.

Intermittent uterine contractions, together with the softening, lubricating, and dilating processes natural to the parturient act, gradually prepare the cervix, vagina, and perineum for the safe passage of the fetus and its final emergence.

In the alternating relaxation of these tissues and the recession of the presenting part, thus relieving the agony of pressure and distention, does the safety of the process consist. No one has shown so satisfactorily and emphatically as our distinguished President, Dr. Emmet, the great danger of continued pressure *unrelieved* by the recession of the child's head in lingering or delayed labor. Necrosis of the soft parts from interference with the circulation takes place, and their more or less complete destruction follows in proportion to the amount and length of time the pressure is kept up. Whether vaginitis, pelvic cellulitis, or sphacelus occur will be determined by the length of time these tissues have been compressed and their nutrition has been interfered with. We may have so slight a fistula occurring as to be found with difficulty, or the greater portion of the anterior vaginal wall together with neighboring parts may become gangrenous and slough away. Ergot has frequently been substituted as the proper alternative for the forceps in these cases of delay or uterine inertia. Dr. Barker contributed a paper to this subject a number of years ago. A discussion of the danger of its abuse in these cases alone might occupy all the time allotted to my paper, if there were not a number of other points to briefly consider.

While the action of ergot, we have seen, is to produce a continued tonic contraction of the uterus, suspending its alternate relaxation, undoubtedly cases do occur where, from abundant use, such powerful pains have taken place as to propel its contents suddenly through the unprepared soft

parts with such force and rapidity as to produce any or all of the lacerations combined, in a single case, from rupture of the uterus to complete laceration of the perineum. I will not stop to quote cases or authorities upon these points. So many accidents have taken place, and have been so frequently attributed to the abuse of ergot, that I cannot be far wrong if I take it for granted that proof by the quotation of authentic cases on record is unnecessary. Its uncertainty of action is one of the principal dangers of its use. It may act upon the entire organ, or upon only a portion of its fibres about the cervix, internal os, lower uterine segment, middle portion (constricting it in the centre like an hour-glass), upon the fundus, or one cornu. Upon its reintroduction into obstetric practice in this country, the same fashion or craze seemed to control its use as has controlled the use of many other remedial agents before and since. There seemed to have been a general acceptance as a fact by the profession at large that ergot would originate and intensify uterine contractions, and therefore was the remedy to administer in cases of uterine inertia before and after delivery.

In some quarters warning notes were sent out that ergot was the cause of many still-births and accidents during labor. Cases were reported where it was given to hasten slow pains, and the children were still-born after a labor sometimes not particularly hastened.

The text-books have of late taught the correct use of this drug, but still many use it in the first and second stages of labor. Upon inquiry among physicians practicing in different parts of the country within the past few years, I have become convinced that the teachings of these authors, if read, are constantly disregarded; and that it is as true now as when Meigs wrote, in 1867, "that multitudes of unborn children are being destroyed" by the unwise, unscientific, and perhaps I ought to say criminal use of this medicine. There is no lack, within my own knowledge, of cases where its administration might be made the basis of a charge of malpractice, and the well-known opinions and practice of men

within the sound of my voice could be quoted as first-class evidence against the offenders. I know teachers who lecture their classes upon the criminality of the use of ergot before the birth of the child. I know physicians in charge of the lying-in wards of maternity and other hospitals who positively forbid its administration by their internes and nurses until *after* the birth of the placenta. On the other hand, I so firmly believe the opposite of this custom prevails to an alarming extent throughout the country, that I have ventured to write this paper as an additional warning to those already in existence.

My attention was drawn emphatically to this subject by a sad case occurring in the first years of my own practice, the chief points of which are as follows: The lady was a stout German who had previously been delivered of four children safely. The labor had been progressing well for some hours. The parts all seemed dilatible, and the child about to be born, when the pains began to be less effective, and seemed about to stop altogether. A condition of inertia was impending. I gave to this patient a teaspoonful of the fluid extract of ergot. Not much effect was noticed, and I gave more. She took in all about half an ounce. No real pains were produced, but the uterus from being soft became hard, and continued hard. She was in pain all the time, but occasionally it was intensified. It never, however, relaxed, or went off as in natural labor. *I* knew, and the *mother* knew, that the child was alive before she took the ergot. It seemed when given that a few more good pains would expel the child, but this tetanic action of the uterus came on, and the fetus was gradually squeezed to death or asphyxiated. I had finally to send for my forceps, but only then to extract a dead child. Had delivery been accomplished with it at the time the fatal dose was administered, I believe the child would have been saved. Manual compression, or a large dose of quinine, would probably have produced the same result.

I subjoin the history of two cases in illustration of this point, kindly furnished me by Dr. A. C. Adams of this city.

CASE I. — Mrs. S., primipara, blonde, aged twenty-three, height five feet three inches, weight 105 pounds, general health good, was awakened with labor pains early on the morning of March 10, 1881. Medical service was summoned at 12 M. Upon examination, the cervix was found dilated to the size of a twenty-five cent coin, and dilatable. 4 P. M. Cervix was dilated to the size of a silver dollar and somewhat attenuated during pains, which were now increasing in strength and duration. 8 P. M. Cervix dilated one half; bag protruding, but not making firm pressure upon the cervix during the pains. 10 P. M. Pains apparently sufficient, but lacking duration; pressure upon the cervix almost *nil*, and cervix remaining soft during pains; bag artificially ruptured; small quantity of liquor amnii escaped. 12 P. M. Character of pains unaltered; degree of dilatation the same; ext. ergotæ fl. administered in half-drachm doses at intervals of half an hour. Pains became more continuous and attended with a sense of bearing down. March 11, 5 A. M. Head tightly embraced by the cervix, but not descending. Patient wearied but strength preserved. By manipulation, internally, efforts were made to increase the dilatation of the cervix, and externally, by downward pressure to assist in expelling the fetus. 10 A. M. Head passed the cervix, and half an hour later escaped the vulva, when labor was speedily completed, with a still-birth. Efforts to resuscitate failed. A bright-red band half an inch wide marked the entire circumference of the child's head. The mother made the usual recovery.

CASE II. — Mrs. S., primipara, black, aged thirty. Height five feet seven inches; weight 130 pounds; general health excellent. Labor pains commenced 6 A. M., August 8, 1882. Medical service called at 3 P. M. Upon examination, the vulva and vagina easily admitted the whole hand; the cervix was found dilated to the size of a silver dollar, and dilatable; bag protruding with pains. 5 P. M. An extremity (an arm) was felt descending inside the amniotic bag, and the head not easily reached. Efforts to replace the arm were made during the intervals of pains, after which the head descended into the pelvic excavation. 7 P. M. Pains recurred regularly, but deficient in duration; bag protruded, but the pressure upon the cervix was not in proportion to either the strength of the pains or the duration of labor. 10 P. M. Pains complained of for the most part in the back. Cervix dilated one half, soft and thick; bag protruding during pains; was artificially ruptured; liquor amnii dribbling away. Ext. ergotæ fl. was administered

in teaspoonful doses every hour, one ounce being consumed. 12 P. M. Pains in back more continuous and annoying. Cervix not dilating; thick and soft. Uterus not contracting. Movements of fetus not felt since 6 P. M. August 8, 2 A. M. Dilatation aided by digital movements. Head engaged in pelvis; elongating and deficient in tone and resistance; not descending with pains. 3 A. M. By forced efforts at digital dilatation and external abdominal pressure the head was made to pass the thick cervix, and, owing to the size of the external soft parts, the child was immediately expelled dead. The mother made a rapid recovery.

In the cases of these patients, one small, the other large in stature, both in the enjoyment of perfect health, there was, in the first place, a failure on the part of the cervix to complete dilatation. Second, all efforts to increase the dilatation failed to evoke the action of the longitudinal fibres. Third, after full dilatation was reached, inertia of the uterus was complete. Now, sixteen and twenty hours elapsed before resort was had to ergot with the view to excite uterine contractions, in which it not only totally failed, but, *per contra*, its entire influence was concentrated upon the circular fibres of the lower segment of the uterus, as was evinced both by the band around the head of one child and the death of both. If the ergot, which undoubtedly was destructive, was employed too soon in the delivery, could instrumental interference have accomplished more, considering the failure of the cervix to dilate completely, and the inertia of the uterus?

As far back as 1845, Dr. Joseph A. Eve, one of our honorary members, wrote a long and exhaustive paper "On the Proper Use of Ergot in Obstetrics" for the "Southern Medical and Surgical Journal" which was published in June of that year, in which he warned the profession against its too frequent and indiscriminate use, and alleged that many fetal deaths were produced by it. He took the same ground that Beatty, of Dublin, did a few years before, that the fetus might be poisoned, even when no visible effect upon the uterus resulted, by the absorption of the essential oil into its blood, or might die soon after birth, in spasms, from its effects.

Hardy, in Dublin, reported 48 cases in which he had given it to hasten lingering labors, and out of this number 34 ended

in still-birth. McClintock reported 30 cases with 20 still-births. Busche, 175 cases in which the fetus was known to be alive when ergot was given, and of this number 25 were still-born. West reported 64 cases with 9 still-births.

Meigs declared in papers and also in his work on Obstetrics that "multitudes of children were dead born from this cause, by the imprudent exhibition of a medicine which as certainly excites spasm of the womb as nux vomica does in other muscles of the body."

As far back as 1850 the Academy of Medicine of Paris directed a commission to investigate the influence of ergot on the life of the child, which reported "its life endangered both by compression and narcotism." In 1853 the Academy formally adopted the conclusions of M. Depaul, that "except in miscarriage, in certain labors attended with hemorrhage, and occasionally at the conclusion of natural labor, parturient women would be the gainers by the complete disuse of ergot." I cannot help referring to the very full and learned paper of Prof. E. N. Chapman, of the Long Island College Hospital, published in the "Medical and Surgical Reporter" of Philadelphia, in January, 1861, vol. v., p. 415. He refers to Dr. Stearns who reintroduced this remedy into notice, and who used it more cautiously than many do at the present day, lost his practice from a strange mortality amongst the children, and from childbed fever which followed him like an evil genius from door to door. He declares that "there can scarcely be any doubt that one hour's ergot pain would be fatal to one half the children born, for they are literally smothered, since they are effectually shut out from the very source whence their blood can be supplied with oxygen." Beatty placed it at two hours. Chapman said in 1861 that "we should never use ergot as an expulsive agent, never where the pains have been and are vigorous, never to overcome impediments such as a narrow pelvis or rigid perineum, and never in a primipara under any circumstances."

No arguments are necessary to prove the correctness of the teachings of our text-books in reference to the danger of its use in cases of mechanical obstruction from tumors, deformed pelvis, and rigidity of soft parts.



I have taken some pains to run over the literature of this subject, which is much more extensive than I had any conception of, and I find many instances reported, chiefly in journals, of the administration of this drug in cases of undilated cervix, delay in the pelvic cavity from unyielding soft parts, and rigid perineum. It seems therefore to be yet the practice of some to give ergot freely to produce dilatation of the os, drive the child more rapidly through the unprepared cervix, vagina, and perineum of primiparæ even, and I hope to attract the attention of this Society to the great harm which is being done in these cases.

Among the poor who do not employ physicians in natural confinements, the midwives use this remedy largely. The health officer of our city informs me that the midwives report to his office a great majority of the still-births which appear in his monthly reports, and that upon inquiry he believes that their free use of ergot is the cause of many of their fetal deaths. It has been my misfortune to be called to a number of cases where a little delay had induced them to take from their capacious pockets their ergot bottle, which they all carry, and to quicken the pains by a few doses. No progress being made a physician would be sent for, and I have several times extracted a dead child with the forceps, after relaxing the soft parts as well as I could with chloroform and the warm douche.

I am convinced that this subject is not thoroughly understood, or, if understood, not fully appreciated. We have seen above that ergot acts in such a manner as not to be relied upon for aid in the class of cases just referred to. We should cause dilatation or relaxation of the soft parts by other means, and not attempt to make an exhausted uterus expel its contents by calling into requisition the powers of an agent which actually causes it to tighten its grip and refuse to open its door and let the fetus go. By the time the ergot pain relaxes the child has too often been asphyxiated.

Can we hope to benefit a patient by its use in cases of threatened or actual abortion and retained placenta or membranes? I think not.

When we consider its physiological action upon uterine muscular fibre we must be convinced that, instead of expelling the ovum or secundines, we run the risk of securely shutting them up inside the uterus, thus preventing, for a time at least, the use of safer means which should have been employed instead of the ergot.

In cases of retained membranes after an abortion I am positive that the labor of their extraction has been made tenfold more difficult, and to that extent dangerous, by giving ergot with the expectation of causing their immediate expulsion. Before its exhibition the examining finger could distinctly feel the retained mass through the partially dilated cervix. It could be felt, but could not be grasped for removal. Whereas after its effect had been produced I could not even reach or feel it, the fibres of the lower uterine segment and internal os being in a state of firm, tonic, unyielding contraction. If an exact dose could be prescribed which would reproduce suspended pains resembling normal intermittent uterine contractions, this remedy would, in such dose, be an unalloyed blessing, but such, unfortunately, is not the case.

In these cases the risk of doing harm is so great that it would be much safer to rely upon other well-known means for extraction, or, if there be hemorrhage, to tampon the vagina securely and await the action of nature, watching meanwhile for any symptoms of danger.

As a prophylactic against post-partum hemorrhage it is quite the custom of many to give it as routine practice, but we cannot rely upon it. In the fifteen or twenty minutes which it takes to act the patient might be lost even if her stomach were in a condition to absorb it. Unfortunately for its reputation it frequently produces vomiting, and thus adds to the exhaustion and danger of the patient. If she be much weakened by loss of blood it will not be absorbed, and the golden moments are lost which might have been profitably spent in the use of better means. Authors who recommend it for this accident advise that no dependence be placed on its controlling the flow, but that, while waiting

for its action, we proceed as though it had not been given. The hypodermic use of ergotine acts more quickly, and with the advantage that it cannot be vomited or lie unabsorbed in the stomach. In desperate cases this advantage would outweigh any damage which it might do. The risks of the intra-uterine injection of Monsel's solution with its attendant evils are to be welcomed rather than speedy death by hemorrhage.

In the floodings of pregnancy, namely, threatened abortion, placenta previa, and accidental hemorrhage, I do not see that ergot is indicated.

When this drug is prescribed it should be with a full knowledge of its powers, and not with a simple belief that it quickens and intensifies uterine contractions, and is therefore to be used in all cases where it is desired to accomplish these results.

So far as my own opinion is concerned, I am free to say that I think the human race would be better off if ergot should be utterly abolished from the lying-in room. I believe that as at present employed it does vastly more harm than good to parturient women and their unborn children.

It certainly should never be given to a primipara. It would be safer to give it to no woman in labor ; but in careful hands, when its powers are fully known and its dangers appreciated, it might perhaps be administered in the second stage with advantage, to overcome uterine inertia, but only then in cases where the soft parts are relaxed, and we are quite certain both from present appearances and the history of former labors that the child will be born in half or three quarters of an hour. Even then for the full protection of the child frequent auscultation should be practiced, and upon its heart becoming slowed or enfeebled it should at once be extracted with the forceps.

Similar advice is substantially given in the later textbooks, but my advice would be, under such circumstances, to deliver with the forceps without subjecting the mother and child to the dangers of ergot. In the dilated and relaxed conditions of the soft parts in which these authors ad-

wise the use of this oxytocic the forceps could be employed easily and safely. In cases, however, where patients fear or refuse to have it applied, ergot could first be employed with the understanding that if the child were not born in half or three quarters of an hour, or exhibited symptoms of asphyxia, it should be extracted at once.

In my case above referred to reliance was placed upon speedy delivery. A few good pains only seemed necessary for its birth, but the uterus was thrown into violent spasmodic action whereby the child's expulsion was prevented and its only supply of oxygen effectually cut off. When the danger was fully appreciated and the forceps applied, a dead child was extracted.

It may be claimed that this is not always the case, and that good results have followed the use of ergot. I am free to admit this, but when we can accomplish the same result by safer means, I hold it to be our duty not to jeopardize the life of the fetus, and the parts of the mother, by resorting to a treacherous and, according to abundant testimony, a dangerous remedy.

Professor Penrose, in an able lecture on this subject, some time ago, reported two fatal cases of ruptured uterus, in which he attributed the rupture solely to the use of ergot. Many reports of similar and other lacerations could be quoted did time permit and the occasion require, but enough has been said on this topic to prove the danger of ergot in the second stage of labor. It should never be used in threatened abortion so long as there is any probability of saving the conception, and its energy should be invoked only when the fetus is dead, and the safety of the mother becomes our first duty. In cases where the fetus has been expelled and the membranes remain imprisoned within the uterine cavity it has been largely relied upon to cause their expulsion. But in this class of cases I am persuaded that we do harm by its exhibition. The tampon, and the subsequent complete evacuation of the uterus by mechanical means, accomplishes the desired end in a safer and better way. After the uterus is empty and bleeding continues from atony of its walls, the

unyielding tetanic contraction which ergot produces acts beneficially by occluding the orifices of the bleeding vessels. Lusk advises that "it should be withheld until *after* the expulsion of the placenta or membranes lest the uniform uterine contractions lead to their prolonged retention or interfere with manual efforts for their extraction."

The use of ergot is contra-indicated in retained placenta. It keeps up a state of painful contraction after natural labor, annoys and exhausts the patient needlessly, interferes with the normal discharge of the lochia, and perhaps aids in the causation of septicemia. Atony of the uterine walls, which is overcome by ergot in certain cases of abortion, may exist to an exaggerated degree after an otherwise natural labor, and in these cases ergot is an invaluable remedy, when great exhaustion is not present or collapse from loss of blood imminent. It would then make matters worse. Chapman directs in most emphatic terms that it should not be used until reaction is brought about by opium and stimulants, as its sedative tendency would prevent reaction and directly and positively augment the prostration.

In placenta previa and accidental hemorrhage ergot is not indicated if the child is viable or the possibility of preventing its birth exists. As the principal indication in all cases of uterine hemorrhage from relaxed muscular fibre is to make the uterus contract and stay contracted, ergot will long retain a prominent place in our list of remedies; but in these very cases the woman's safety consists in an empty and firmly contracted uterus. The action of ergot previous to the complete evacuation of the uterus would interfere with, if it would not for a time prevent, the manual efforts necessary for the turning and extraction of the fetus and placenta. Should bleeding continue subsequently, ergot is indicated.

Midwives should be taught in some manner, by legislation if necessary, the dangers of indiscriminate use of this drug. A few convictions for infanticide by a coroner's jury would have a very salutary effect, if they could be reached in no other way. Its sale might be regulated by law, so that it could be obtained only upon a physician's prescription.

## DISCUSSION.

DR. JOHN P. REYNOLDS, of Boston. — In common, I am sure, with all the members of the Society, I express my obligations to Dr. Johnson for calling attention to the abuses of ergot. Every physician can bear witness to the existence of the facts which have been so carefully stated, and to their importance. I most cordially assent to the general teaching of the paper, that ergot ought not to be employed in labor until the uterus has been wholly emptied; but while I do this, I cannot help admitting that cases at times occur in which small doses of this drug, cautiously repeated, fulfill, even during labor, a valuable indication. If it is certain that no disproportion or deformity of child or pelvis exists, if especially male children have been previously safely delivered, if the soft parts are thoroughly prepared, and if important delay is, in the judgment of a competent attendant, due only to want of uterine action, as small a dose as ten drops of the fluid extract of ergot, repeated at intervals of ten minutes, will now and then render signal service. Careful watching of the case will soon show whether the remedy promises good results. It cannot be too strongly urged that instances of this kind form excessively rare exceptions, and that they by no means weaken the force of that general rule which the reader of the paper has so impressively laid down.

It has seemed to me that in this immediate neighborhood resort to the hypodermic use of ergotin as a chief reliance for the control of post-partum hemorrhage has not been as general as its recognized value deserves. I shall be glad to learn, from gentlemen who often employ it, the details of its administration in their hands. The value of ergot, in cases where portions of an early ovum are retained in the uterus, is generally conceded. Theoretically, a judicious resort to opiates would seem as reasonable. If in these accidents due attention is paid to the early use of simple means of restraining loss of blood, the routine of manual interference, which is now so commonly enjoined, will in a large proportion of cases be found unnecessary.

Ergot is advantageously given after delivery is complete to lessen the liability to after-pains by insuring prompt and thorough uterine contraction. In common with many of my

colleagues, I believe this to be good practice, even though these contractions be made, at first, more sharp under its use. Common prejudice especially authorizes this procedure when the long administration of anesthetics has been demanded. I have been glad to follow this habit, though I have seen no reason for thinking that ether, if suitably used in labor, predisposes to post-partum hemorrhage.

DR. FORDYCE BARKER, of New York.—I will not take up the time of the Society by any protracted remarks, because the subject is so broad, and affords opportunity for the discussion of so many points, that it will be utterly impossible to enter into any complete discussion of it at this time. All will agree that it is most desirable that we should have formulated if possible, and perfectly fixed, certain rules which will govern us in our practice. This should be the case with reference to all measures to be used in that class of cases in which we are required to act promptly and most decidedly; but at the same time there is difficulty in laying down positive rules which may not have exceptions that are most important. I suppose it is agreed that ergot should never be administered in advanced parturition under certain circumstances; that it should never be used to induce uterine contraction in the first stage of labor; that it should never be used except in vertex presentations; that it should never be used where there is the slightest disproportion between the fetus and the passages of the mother; that it should never be used unless the soft parts are perfectly prepared for dilatation; that it should never be used unless all mechanical conditions are such that if sufficient uterine forces are present the fetus will be expelled rapidly, say within half an hour. All these principles are fixed, at the present day, among obstetricians. But when I hear it said, and laid down as an absolute rule, that ergot should never be given for purposes of exciting uterine contraction in labor, I think it is going a little farther than I should deem wise. It is exceedingly rare that I give ergot for the purpose of expelling the fetus, and yet there are some exceptions where, as I think, it can be administered with great advantage. All of us meet with patients in whom labor is retarded by morbid sensitiveness to pain, and often, under the moderate use of anesthetics, labor is assisted by calling into play all the accessory muscles which are under the control of the voluntary powers of the patient. But now and then we have patients who are so sensitive to pain that they re-

sist, by the voluntary action of their muscles, the progress of labor to a very great degree, and instead of bringing the voluntary muscles to the aid of labor so soon as pain approaches, they shrink from it; and, occasionally, after a certain time has elapsed, and a very great degree of suffering has been endured — perhaps they have been in labor some hours without accomplishing anything — the labor ceases, not on account of lack of uterine power, or muscular efforts, but because the nerve forces of the woman have become exhausted. Now, in these cases, I have found ergot, whenever this point has been reached, and there is no mechanical obstruction, or improper condition of the soft parts, to be a drug of very great service. I then put the patient under the influence of an anesthetic, giving chloroform in very minute doses until I overcome the morbid sensibility to suffering, and then I give free doses of ergot to stimulate the uterus to action, and all the accessory muscles soon come into play, and the labor is usually quickly and successfully terminated. If, however, there is any delay, then I apply the forceps, because the conditions implied in the statement which has already been made show that there is no danger in the use of the instrument. Certainly, therefore, I should hesitate about laying down positive rules concerning the use of ergot in the second stage of labor. Now, while I am almost in perfect accord with the paper which Dr. Johnson has read, yet there are certain points in which I feel I must disagree with the author, and upon these I will offer a few words, based upon my own experience in the use of the drug.

Dr. Johnson has expressed the opinion that the use of ergot favors after-pains, and contributes greatly to the suffering of the patient. Upon this point I will say that I habitually give ergot after the birth of the child, but it is not chiefly for the purpose of preventing hemorrhage, for, if the danger of this be imminent, we cannot wait for the action of ergot. I give it to secure permanent contraction of the uterus, and aid its effects by pressure, etc. I therefore give ergot, not expecting that it will prevent hemorrhage, but it is for the purpose of the subsequent effect produced by the drug. It is extremely rare now that I have patients suffer from after-pains sufficiently severe to prevent them from sleeping, and I have ascribed the effect to the attempt at securing fixed contraction of the uterus, and for this purpose ergot assists in preventing relaxation. The fixed contracted con-



dition of the uterus, therefore, which I aim to procure, is due partly to the ergot and partly to the other means employed ; and when these effects are completely obtained, any effusion of blood into the cavity of the uterus is prevented, and in that way the occurrence of after-pains is avoided. Aside from these points I agree entirely with the author of the paper.

I will now refer to one point not mentioned in the paper. In my own estimation, an immediate and valuable result from the use of ergot in parturition is its promoting rapid and speedy involution ; and, also, the effect which this drug has in combination with other drugs, such as iron and nux vomica, in cases in which involution has been retarded on account of post-partum hemorrhages, or from local causes. I think one of the most valuable effects which the drug can produce is the aid which it gives in causing involution, and I almost invariably administer it in the treatment of the puerperal woman during the first few days after labor in those cases in which the woman is feeble and has a slow getting up, as it is called ; and I have found ergot, combined with stimulants, iron, and strychnia, especially valuable.

THE PRESIDENT. — I would suggest that in the course of the discussion some of the members should consider the influence which the anesthetic has upon the action of ergot, such, for example, as is sometimes seen in connection with the use of opium. I throw out this suggestion because opium sometimes remains in the stomach apparently inactive, and, then, when the anesthetic is administered, the full effect of the opium will be produced, and at the same time the opium will increase the action of the anesthetic. Have similar results been observed with reference to ergot ?

DR. BARKER. — That was just one of the points, Mr. President, that I had intended to speak of, but it accidentally slipped from my memory, and upon it I will add only a few words. I see it constantly stated in various periodicals, etc., that the use of anesthetics greatly increases the dangers of post-partum hemorrhages. Now, I wish to say that for thirty-four years I have rarely delivered a woman without the use of anesthetics, never where there has been any considerable pain ; yet, I say boldly that I have never had a post-partum hemorrhage in my own practice — and I have certainly used anesthetics in several thousand cases — except in one case in which no anesthetic was used ; but it occurred just at the time of the expulsion of the child, the

labor being very short, less than one hour. I always, however, exercise the utmost care to prevent the occurrence of post-partum hemorrhage by following up the uterus by manual pressure, and its non-occurrence may be also partly due to the fact that I use ergot immediately after the expulsion of the placenta for the purpose of securing firm contraction of the uterus. I believe that instead of the anesthetic being the cause of post-partum hemorrhage it is, in a large proportion of cases, the best of all measures for preventing it. What is the cause of post-partum hemorrhage? In many cases it is due to exhaustion of nerve power, and this loss of nerve power is prevented by the use of the anesthetic. I have attended patients who, in previous labors, had had their lives very much endangered by post-partum hemorrhages, and who had been placed under my care for this very reason. All these patients I have watched with the greatest anxiety, and endeavored to see that they were in such conditions as best resisted the occurrence of post-partum hemorrhage when the time for labor had arrived. I questioned many of them, or some of their intimate friends, and found that their former deliveries had almost invariably been followed by extreme prostration, and that, when labor was completed, they were in an exceedingly feeble condition; that so feeble was their condition throughout the course of the labor the physicians had not dared to give chloroform on account of the peculiar idiosyncrasy and the tendency to the occurrence of hemorrhage — the very reason for which it should be given. In such cases these patients have invariably remarked to me, as soon as they have come from under the influence of the anesthetic, "How different I am from what I ever was before after confinement." They take nourishment, and express themselves as feeling comparatively in good spirits; so that instead of considering the danger of the occurrence of post-partum hemorrhage as being increased by the use of anesthetics, I consider anesthetics as one of our aids in preventing it. I have taken the liberty of making these remarks because of the so frequent expressions which I have heard that anesthetics increase the tendency to post-partum hemorrhage. I may add that chloroform is the anesthetic which I always make use of in obstetric practice.

THE PRESIDENT. — The point I would like to have brought out in the discussion is the effect of anesthetics in those cases in which ergot has been administered and failed; and the question

was, whether the ergot which had failed had been aroused to action by the anesthetic administered subsequently?

DR. W. T. HOWARD, of Baltimore. — I have always been greatly influenced by the instructions of my old teacher, the late Prof. Charles D. Meigs, with reference to most questions in obstetrics ; and I can say that I have never, in a single instance, used ergot for the purpose of increasing the expulsive powers of the uterus. It has always been my practice, whenever I desired to supplement the expulsive forces, to employ the forceps, and I do so because the action of ergot, when it is established, never ceases. In all those cases in which ergot has been given where there has been an impediment to the exit of the child, it has been, if not criminal, the most hazardous practice which could be adopted. Soon after anesthetics were introduced into obstetric practice I attended a lady in her first confinement. It was the second case in which I had used anesthetics. She had excessive post-partum hemorrhage ; and, upon this point, I am entirely convinced that in cases where chloroform is used it does increase the liability to the occurrence of this accident by relaxation of the uterus in common with that of the other muscles of the body. In all cases, therefore, I have ergot present ; so that if it becomes necessary to use chloroform, this drug can be promptly administered. If I know that the woman is predisposed to post-partum hemorrhage I begin with the hypodermic administration of Squibb's solid extract, five grains to eight or ten minims of water, as the head passes the vulva. And over and over again I have administered it ; and yet hemorrhage has threatened, or has occurred to a certain extent. I do not believe that the patient is entirely free from the liability to post-partum hemorrhage when under the influence of the anesthetic, and I very frequently give ergot hypodermically when urgently needed, because it will enter the circulation much more promptly than when administered by the mouth. Usually, when I use chloroform, I give, just as the head passes through the vulva, a full dose of ergot at once, a drachm of the fluid extract, for the purpose of securing prompt uterine contraction. Some obstetricians prefer hydrate of chloral to chloroform in cases of rigid, undilatable cervix ; but in a number of cases I have seen relaxation rapidly occur under the influence of that drug, even when ergot had been administered to counteract its effects.

There is another point to which I would direct attention, and

it is that the use of ergot diminishes to a certain extent the liability to some forms of puerperal fever, and it does so by preventing the tendency, which exists in some cases, to the retention of blood and putrefactive substances in the cavity of the uterus. In certain cases, when I desire to increase the contractile powers of the uterus, I have often seen good effects follow the use of the sulphate of quinine in ten to fifteen grain doses. I would say, then, that ergot should rarely be given for increasing the expulsive powers of the uterus; but in all cases in which chloroform is administered, it is safe to give it in full doses immediately on the completion of the labor.

DR. J. D. TRASK, of Astoria, New York. — It has been my practice of late years uniformly to resort to the forceps as an adjuvant to uterine pains in preference to ergot. In the early years of my professional life I was in the habit of using ergot for this purpose, but it is so uncertain in its effects, and its results are often so unpleasant, that I have given it up altogether. There is a practical point which I may mention, and it is this: I have been in the habit, during the last few years, of giving a drachm of the fluid extract of ergot immediately upon the expulsion of the head of the child, not to aid the expulsion of the placenta, for, if I had not confidence in the expulsive power of the uterus to eject the placenta before the action of the ergot could be secured, I should be unwilling to administer the ergot, fearing that it might prove a source of embarrassment rather than a help. It has occurred to me in cases of multiparæ, and I presume the same thing has occurred to others, to have a satisfactory expulsion of the child and of the placenta, and, as I supposed, a sufficient contraction of the uterus; and yet, in the course of three quarters of an hour, possibly, after leaving the house, I have been called back to find my patient suffering from severe but irregular pains in the abdomen, with all the symptoms of serious loss of blood, and, upon examination, found the vagina filled with blood, and the uterus with a hardened mass of coagula, the result of alternate relaxation and contraction. Now, since I have resorted to the practice of administering immediately upon the expulsion of the head a drachm of the fluid extract of ergot, I have not encountered a single instance of this kind.

I am greatly surprised at Dr. Barker's experience in the use of anesthetics. With me there has been a growing mistrust for years concerning the use of chloroform in obstetric practice. I scarcely

ever administer it without being made aware of the inefficiency of uterine contraction, and I have made up my mind that I will not employ it any more in cases of normal labor. It was only last winter that I was in attendance in a case in which I administered chloroform little by little, because the effects all seemed to be of the most favorable character ; but after a short time uterine inertia supervened, which finally compelled me to resort to the forceps. I administered a drachm of the fluid extract of ergot immediately after the expulsion of the head, and, although the patient was a primipara, there was a profuse uterine hemorrhage which I could not help attributing largely to the influence of the chloroform. These remarks do not apply to the use of sulphuric ether.

DR. G. J. ENGELMANN, of St. Louis. — There is one point which may be mentioned, and which has not yet been referred to. Dr. Johnson's paper treats especially of the great dangers of the use of ergot in the hands of unskilled persons, and secondly of its use in the hands of skilled obstetricians. In the first place he has well spoken of the great danger which arises from the use of the drug in the hands of midwives. Now, I think, with reference to the abuse of ergot by midwives, it would be better, instead of preaching concerning its dangers, to give information with reference to some more harmless remedy, such as the sulphate of quinine, or ipecac, or Dover's powder, which will, in many cases, answer the same purposes as ergot, and be attended with very much less danger. For the guidance of skilled practitioners it is difficult to lay down general rules concerning the administration of ergot. There are a few general principles which have been established and accepted. I have always carried it with me, but I have rarely used it ; and whenever I have done so, I have doubted whether any great benefit has followed its administration.

In cases of subinvolution I have also used it, and in those I believe we have equally efficient remedies in external manipulations, hot-water injections, etc. ; and hot water with disinfectants will do much to prevent the dangers which follow incomplete contraction of the uterus after removal of the placenta. I believe that hot water with carbolic acid, or salicylic acid, will answer a better purpose than ergot, and will at the same time prevent any danger which may arise from infection.

DR. JOHNSON. — I have but a word to say, in closing the dis-

cussion, referring to a remark by Dr. Engelmann. It was not my intention, Mr. President, to formulate rules for the guidance of members of this Society, but it was my purpose to draw attention to the great danger of the use of ergot in the hands of less skillful men who do not fully appreciate its dangers. For skillful men it would be impertinent to lay down further rules than we now have. With regard to the effect of chloroform upon the action of ergot — the point referred to by the President — I have had no experience. I have had little experience in the production of post-partum hemorrhage by the administration of chloroform, although I give it very frequently to women in the last part of the second stage of labor. Upon general principles, however, it would seem that chloroform might produce relaxation of the uterine walls, and I have given ergot, as a rule, for the prevention of such hemorrhage.

With reference to subinvolution — the point mentioned by Dr. Barker — it was a most excellent one, but it was not the intention of the paper to consider the use of ergot in connection with that class of cases. I only desired to draw attention to the use and abuse of the drug in the lying-in chamber. In the treatment of subinvolution it is certainly a most excellent remedy, as has already been mentioned by Dr. Barker. In conclusion, I would return my thanks to the Society for the kind reception which it has given my paper.

## THE OVARIAN CELL ; ITS ORIGIN AND CHARACTERISTICS.

BY THOMAS M. DRYSDALE, A. M., M. D.,  
*Philadelphia.*

IN fulfillment of a promise, made at our last meeting, this paper has been written in reply to the remarks of Dr. Garrigues on the ovarian cell.

It will be remembered that in his article on "Exploratory Puncture of the Abdomen," in describing the histological elements which are found in a "Myxoid Proliferous Cystoma," or multilocular ovarian tumor, he made the following statement<sup>1</sup>:—

"Besides epithelial cells ovarian fluid contains usually a large number of free nuclei; some of them have dark granules, others shining. The latter are the corpuscles known in this country as Drysdale's corpuscles. Dr. Drysdale described them himself under the name of 'granular ovarian cells.' They are small, roundish, or slightly angular (*i. e.*, globular or polyhedral) clear bodies with a small number of shining granules placed at some distance from one another. They have no nucleus, nor does any appear by the addition of acetic acid. Their size ranges from a little below a red blood corpuscle to a little above a pus corpuscle. In appearance they are entirely like the *pyoid bodies* described and delineated by Lebert, who, as early as 1846, indicated the test with acetic acid as characteristic of them, but Lebert says he found these bodies in the peritoneum, in the synovial membrane of the knee, in congestive and metastatic abscesses, and often mixed with common pus corpuscles,

<sup>1</sup> *American Gynecological Transactions*, 1881, vol. vi., p. 54.  
VOL. VII. 6

both in extravasations and in the false membranes seen on mucous and serous membranes. In ovarian fluids these bodies were first described and delineated in 1852 by John Hughes Bennett, with indication of the effect which acetic acid has on them. They are not cells but nuclei."

"Dr. Drysdale has himself pointed out the fact that they never have a nucleus, which is quite natural if they are themselves nuclei. These nuclei are in a state of fatty degeneration as seen by the clear, highly refracting globules in their interior. They are never found in the quite young, microscopical cysts, developed in the wall of larger cysts, while we seldom miss them in the latter. In Case XXXII. I was able to observe directly the identity of Drysdale's corpuscles, the colorless corpuscles with fine dark granules, and the nuclei of the epithelial cells. The fluid contained flakes large enough to be visible to the naked eye. Some of these showed still indistinct outlines of cells, some of which contained nuclei in every respect identical with the Drysdale corpuscles found in the surrounding fluid. In others, most of the cells were no longer recognizable as such, having been dissolved and blended together into a thready mass with holes in it. In this mass and in these holes were found nuclei, — some with fine dark, others with shining, granules. In a few places this nucleus could still be seen embedded in its cell, or a cell was seen without nucleus, but full of large, shining granules, in other words, changed into a large Bennett's corpuscle. I have followed the same process in the walls of minute microscopical cysts. When we examine them at their very first appearance, when a cavity begins to be formed in an epithelial pouch, we find that they contain exclusively colorless corpuscles without shining granules, and corresponding entirely in size and shape with the nuclei seen in the surrounding epithelium. In these minute cysts, then, a melting process is going on. The bodies of the epithelial cells are dissolved by what appears to be a colloid degeneration, and the nuclei set free. In secondary cysts as large as a hazel-nut, I have found large masses of the epithelial lining thrown off, and forming flakes



in the fluid. In due time these are also dissolved, producing a colloid fluid, and the nuclei become free. Later, these may undergo fatty degeneration, and then we have Drysdale's corpuscles."

"These bodies are not only not pathognomonic of ovarian cysts, but they do not even prove that the fluid examined has been taken from any kind of cyst. I have found them in a cyst of the broad ligament, in a suppurating cyst of the abdominal wall, in a case of cancer of the peritoneum, in a renal cyst, and in a vaginal cyst; and similar observations have been made by others. On the other hand, I have looked in vain for them in six cases of ovarian cysts. The result of my researches is, then, that there is *no pathognomonic morphological element* in the fluid of ovarian cysts."

In order to contrast these statements and conclusions with my own, and to point out clearly how they differ, I will make some extracts from a former paper. After stating that my remarks apply only to fluids removed from the abdomen by tapping, and describing the microscopic characters of ovarian fluids, I proceed: "*But no matter what other cells may be present or absent, the cell which is almost invariably found in these fluids is the granular cell.*"<sup>1</sup>

"This granular cell, in ovarian fluid, is generally round but sometimes a little oval in form, is very delicate, transparent, and contains a number of fine granules, but no nucleus. The granules have a clear, well-defined outline. These cells differ greatly in size, but their structure is always the same. They may be seen as small as the one five-thousandth of an inch in diameter, and from this to the one two-thousandth of an inch; in some instances I have found them much larger, but the size most commonly met with is about that of a pus cell.

The addition of acetic acid causes the granules to appear more distinct, while the cell is rendered more transparent. When ether is added the granules become nearly transparent, but the aspect of the cell is not changed. This granular cell may be distinguished from the pus cell, lymph

<sup>1</sup> Atlee, *Diagnosis of Ovarian Tumors*, Philadelphia, 1873, p. 458.

corpuscle, white blood cell, and other cells which resemble them, both by the appearance of the cell and by its behavior with acetic acid.

The pus and other cells which have just been named are often distinctly granular; but the granules are not so clearly defined as in the granular cell found in ovarian disease, owing to the partial opacity of these cells; and when the granular cell of ovarian disease and the pus cell are placed together under the microscope, this difference is very apparent. In addition to the opacity of these cells, we frequently find their cell wall wrinkled rather than granular; and further, in the fresh state, they are often seen to contain a body resembling a nucleus.

But if there is any doubt as to the nature of the cell, the addition of acetic acid dispels it; for if it is a pus cell, or any of the cells named above, it will, on adding this acid, be seen to increase in size, become very transparent, and nuclei, varying in number from one to four, will become visible. Should the cell, however, be an ovarian granular cell, the addition of this acid will merely increase its transparency and show the granules more distinctly. This ovarian granular cell I consider as diagnostic of ovarian dropsy, and have seldom failed to find it in this fluid.

"The compound granular cell, the granule cell of Paget and others, or inflammation corpuscle of Gluge, is also occasionally present in these fluids, and might possibly be mistaken for the ovarian granular cell; but it is not difficult to distinguish them from each other. Gluge's cell is usually much larger and more opaque than the ovarian cell, and has the appearance of an aggregation of minute oil globules, sometimes inclosed in a cell wall, and at others deficient in this respect. The granules are coarser and vary in size, while the granules of the ovarian cell are more uniform and very small. Again, the behavior of these cells on the addition of ether will at once decide the question; for while the ovarian granular cell remains nearly unaffected by it, or at most has its granules made paler, the cell of Gluge loses its granular appearance, and sometimes entirely disappears through the solution of its contents by the ether."

In another place<sup>1</sup> the ovarian cell is spoken of as "A cell which I have named the ovarian granular cell, to distinguish it from all other cells found in abdominal dropsical fluids; not meaning to assert that a cell having a similar appearance may not be found in cysts met with in other parts of the body. This cell, when found in this location, I believe to be pathognomonic of ovarian disease, and as such its diagnostic value cannot be overestimated."

Again, "A full and accurate description of this ovarian granular cell has, therefore, never been published, to my knowledge, except by me, nor any tests given by which to distinguish it from others, such as the pus cell, white blood corpuscle, and the compound granule cell, which often closely resemble it. This renders all descriptions of granular cells seen in ovarian fluids, heretofore given, of little value, as these last-named cells are frequently found in fluids removed from the abdomen, which might, on that account, be considered ovarian."

"I claim, then, that a granular cell has been discovered by me in ovarian fluid, which differs in its behavior with acetic acid and ether from any other known granular cell found in the abdominal cavity, and which, by means of these reagents, can be readily recognized as the cell which has been described; and further, that by the use of the microscope, assisted by these tests, we may distinguish the fluid removed from ovarian cysts from all other abdominal dropsical fluids."

The two statements in regard to the ovarian cell may be summarized as follows:—

I assert: 1. That a cell, called the ovarian granular cell, is almost invariably found in the fluid of ovarian cysts.

2. That this cell may be distinguished from the pus cell, lymph corpuscle, white blood, and other cells which resemble them, both by the appearance of the cell and by its behavior with acetic acid.

3. That it has been named the ovarian granular cell to

<sup>1</sup> *Transactions of the American Medical Association*, 1873, vol. xxiv., p. 179.

distinguish it from all other cells found in abdominal dropsical fluids ; not meaning to assert that a cell having a similar appearance may not be found in cysts met with in other parts of the body.

4. That this cell, when found in this location, I believe to be pathognomonic of ovarian disease.

5. That this granular cell in ovarian fluid was discovered by me, and that it differs in its behavior with acetic acid and ether, from any other known granular cell found in the abdominal cavity.

6. That a full and accurate description of this cell has never been published, to my knowledge, except by me, nor any tests given by which to distinguish it from others which often closely resemble it.

On the other hand, Dr. Garrigues asserts :—

1. That the bodies found in ovarian fluids, and known as Drysdale's corpuscles, *are not cells*, as Dr. Drysdale has represented them, but *are nuclei*.

2. That in appearance they are entirely like the pyoid bodies described by Lebert as early as 1846, and that the test for them, as given by him, is the same, *i. e.*, acetic acid. And further, that Lebert has shown that they can be found in various parts of the body.

3. That in ovarian fluids these bodies were first described in 1852 by John Hughes Bennett, with indications of the effect which acetic acid has on them.

4. That these bodies are not pathognomonic of ovarian nor any other cysts, as they may be found in various parts of the body.

It will be perceived that the first and last of Dr. Garrigues' statements merely express a difference of opinion, but the second and third amount to grave charges which I will endeavor to refute.

Whilst our views are antagonistic on all these points, it will be found that in one thing Dr. Garrigues, in common with the most careful observers, agrees with me. He says,<sup>1</sup> "Besides epithelial cells ovarian fluid contains usually a

<sup>1</sup> *Gynecological Transactions*, vol. vi., p. 54.

large number of free nuclei, some of them have dark granules, others shining. The latter are the corpuscles known in this country as Drysdale's corpuscles ;" and again,<sup>1</sup> "The only corpuscles in ovarian fluid I have found it really difficult to distinguish from Drysdale's so-called 'ovarian granular cell' are thorn-apple or rosette-shaped red-blood corpuscles, the knobs on the surface of the latter, seen from above, giving an appearance which is very like that of the shining granules in the interior of Drysdale's corpuscles. But, by paying close attention, we will find the contour of a rosette-shaped blood corpuscle scalloped, while that of Drysdale's corpuscles is even." He thus admits the existence of a peculiar body in ovarian fluids which can be readily identified as the one which I have described as the ovarian cell.

The question, then, is not as to the existence of such a body, but as to its true character and diagnostic importance. That the subject may be fully understood, it will be necessary to give my own views in regard to the origin and characteristics of the ovarian cell before replying to the remarks of Dr. Garrigues.

The reader of my former papers will have noticed that the origin of the cell was not alluded to in them. The reason for this omission was that they were intended to be entirely practical, and as concise as was compatible with clearness of description ; the principal object kept in view being simply to point out such peculiarities of the fluids and cells as could be recognized by other observers. I soon discovered, however, that in making the papers so brief, I had made a mistake. Even experienced microscopists misunderstood what, it was thought, was clearly described. For instance, in an early criticism I was accused of <sup>2</sup> "opening an elementary question in pathology long since settled, and representing as 'ovarian' the ordinary compound granule cell formerly improperly called 'the exudation corpuscle' or 'inflammatory

<sup>1</sup> *American Journal of Obstetrics*, January, 1882, p. 24.

<sup>2</sup> "Proceedings of the Pathological Society of Philadelphia," *Medical Times*, April 12, 1873, p. 445.

corpuscle' of Gluge, and," says the writer, "for some time determined to be nothing but a fattily degenerated cell, in whatever locality found, and liable to be found in any locality." An eminent professor of pathology in Glasgow wrote to me: "I do not quite see how your ovarian cell is to be distinguished from a cell just at the beginning of the process which ends in the compound granular corpuscle;" which proved that he did not understand the matter. Professor Otto Spiegelberg asserted in an article on the subject that I was "not up to the mark of the German researches."<sup>1</sup> Others supposed that I was describing a specific cell like the cancer cell.<sup>2</sup> Others, again, believed that it was merely an altered white blood or pus cell,<sup>3</sup> etc. It may be here stated that many of these writers have since changed their opinion. The author of the first criticism, in a more recent publication, recalled what he had said;<sup>4</sup> while Professor Spiegelberg, in a letter to me, which I have here, promised to correct what he had written. But enough has been adduced to show that what had been published was misunderstood.

In taking up the subject again, after ten years of silence, I trust that I shall be able to make my meaning sufficiently clear to convince you that my descriptions of this body were accurate, that my claim of priority of description was well-founded, and that I was correct in considering it a cell. Having already reproduced the *description* of the cell in the opening of this paper, it will only be necessary to treat of its *origin*.

In examining the inner wall of an ovarian cyst it will be found to have, like the Graafian follicle from which it is derived, an epithelial lining. This lining serves to secrete the contents of the cyst, and is itself constantly undergoing growth and decay. When we remember the enormous amount of fluid produced by these cysts, and the rapidity of

<sup>1</sup> *American Journal of Obstetrics*, November, 1873, p. 353.

<sup>2</sup> *American Journal of the Medical Sciences*, April, 1882, p. 430.

<sup>3</sup> *Ibid.*, April, 1882, p. 432.

<sup>4</sup> *Philadelphia Medical Times*, March 28, 1874, p. 411.

their growth in most cases, it will be readily conceded that they are possessed of an intense vital activity. The cell elements multiply rapidly, and are cast off, *pari passu*, with the increase of the cyst. In this hurried growth a great number of the epithelial cells do not come to maturity, but are thrown off before being completely developed, or, in other words, before a nucleus has formed in them. This rapid growth and shedding is, as is usual in such cases, attended by a partial fatty degeneration of the cells, giving them their granular appearance. Being immediately immersed in the albuminous fluid of the cyst they acquire, by maceration in it, that delicacy and transparency so peculiar to them. In short, the ovarian cell is not claimed to be a new cell, but an epithelial cell in an immature condition, produced in ovarian cysts by reason of their rapid growth. This is the origin of the ovarian cell.

But, it may be said, this is merely a theory of their formation. What proof can be given to show the correctness of this conclusion? The evidence may be found in a careful examination of the epithelial lining of an ovarian cyst, and of the contained fluid. This will reveal epithelial cells in all stages of development. They can be followed from the exceedingly small, aborted cell without nucleus, found in greatest abundance in the fluid, but also found in the epithelial layer, to the fully formed columnar epithelial cell, which, from its firmer attachment to the cyst wall, is often absent from the fluid. The various stages of development of these cells is best observed in a thick-walled cystoma of rapid growth, as it has been found that the fluid of a cyst of slow growth and thin cyst wall contains, as a rule, comparatively few of these cells, while that of a thick-walled cyst growing rapidly holds them in abundance. These gradations have been traced by me repeatedly in the numerous examinations which I have made of these fluids and cysts.

This conclusion in regard to the origin of the ovarian cell can scarcely be regarded as a hasty one, when it is remembered that these investigations were pursued by me for twenty years before a word was published on the subject.

For many of these years I also believed these cells to be the nuclei of the epithelial cells, but repeated examinations of the cyst walls and contents finally convinced me of my error. I was first led to doubt the fact of their being nuclei by the want of correspondence between their size and that of the nuclei of the matured epithelial cells, and from finding some of these bodies nucleated; and further search proved that in a few of them, apparently destitute of a nucleus, one could be discovered by coloring with carmine. Again, the presence of such an abundance of nuclei, if nuclei they were, in the fluid would indicate the existence of cells in great numbers undergoing the process of disintegration and leaving their nuclei comparatively unacted upon. But, although numerous epithelial cells which had undergone fatty degeneration were met with, in most of them the nucleus was still present, and, as a rule, equally degenerated with the rest of the cell. These facts could not be reconciled with the belief that these bodies were nuclei, and further research became necessary. This was undertaken, and resulted in the conclusion, which has been stated, that the ovarian cell is not a nucleus but an immature, or aborted, epithelial cell, which has undergone a certain amount of fatty degeneration.

But Dr. Garrigues in his first statement, and in fact all through his paper, asserts that I have erred in describing this as a cell. "It will be seen," he says, "that I do not regard Drysdale's corpuscles, as he does himself, as cells. I do not see any reason why this corpuscle should be looked upon as a cell, its most distinctive character being never to have a nucleus, while this peculiarity is quite easy to understand when it is itself a nucleus."<sup>1</sup> Or, in other words, if it has no nucleus it is not a cell. Many other writers have held the same opinion as to the nature of this body. Spencer Wells, for instance, in describing the ovarian cell, says, "We suppose these [bodies] to be simply the nuclei of the epithelial cells which line the interior of the cyst. The scales are thrown off, the cell wall breaks down, and the nu-

<sup>1</sup> *American Journal of Obstetrics*, January, 1882, p. 29.



cleus remains.”<sup>1</sup> Spiegelberg, and many other observers, also believed this to be true. As this view may be again advanced, even after what has been said in regard to the origin of the cell, and as, in fact, there seems to be a difference of opinion as to what a cell really is, a few words as to its definition will not be out of place.

What, then, is meant by a cell? Must we cling to the old definition, and consider a cell only as such when it possesses a cell wall, inclosing a cavity in which are fluid contents and a nucleus? Modern physiologists take a different view of the matter. Max Schultze takes the embryonal cell as the basis and starting point of his definition. “The most important cells,” he remarks, “those in which the fullness of cell life, the unlimited power of tissue formation, is most distinctly evident, are clearly the embryonal cells, which proceed from the division of the cells of the ovum. We may see in these the true archetype of a cell, and yet they only consist of a little mass of protoplasm and a nucleus.”<sup>2</sup> “Brücke goes a step farther in his definition of a cell, maintaining that no proof has been given that the nucleus is indispensable to our conception of it.”<sup>3</sup> “But if we desire to be logical,” says Stricker, “if we do not desire to advance the statement that the non-nucleated bodies of the lower plants and animals and the fertilized ovum occupy an unique and isolated position which is not assumed by any other being in the whole scale of creation, we must exclude the nucleus as an unnecessary factor in the ideal type of an elementary organism. We must also in future apply the histological term cell to the morphological elements of the higher animals or to independent living organisms, even if we are unable to discover anything more in their structure than that they are little masses of animal sarcode or protoplasm.”<sup>4</sup>

Carpenter, after describing a perfect cell, proceeds: “But

<sup>1</sup> *British Medical Journal*, January, 1878, p. 883.

<sup>2</sup> *Manual of Histology*, by Prof. S. Stricker, p. 28.

<sup>3</sup> *Ibid.*, p. 29.

<sup>4</sup> *Ibid.*, p. 29.

there is a large number of cases in which the cell shows itself in a form of much less complete development; the 'elementary part' being a corpuscle of protoplasm or 'germinal matter,' of which the exterior has undergone a slight consolidation, like that which constitutes the 'primordial utricle' of the vegetable cell or the ectosarc of the Amœba, but in which there is no proper distinction of 'cell wall,' 'cell contents,' or nucleus. *This condition*, which is characteristically exhibited by the nearly globular colorless corpuscles of the blood, *appears to be common to all cells in the incipient stage of their formation*; and the progress of their development consists in the gradual *differentiation* of their parts, the 'cell wall' and 'cell contents' being separated (as 'formed material') from the 'germinal matter,' which last usually remains as the 'nucleus,' — generally, however, contracting, and sometimes (when its work has been completely done) disappearing altogether.<sup>1</sup> Am I not correct, then, in naming this a cell, and in considering it an aborted or immature cell in which this differentiation of the parts has not had time to take place?

Having presented the proof that there is such a body as the ovarian cell, and that I have correctly defined it, it will be well to answer a question which naturally presents itself. If this is but an immature epithelial cell, why has it been called an ovarian cell and described as having no nucleus? This question has been partially answered in my first paper. Believing this immature cell to be the one which is characteristic of ovarian fluids, it was named the ovarian granular cell to "distinguish it from all other cells found in abdominal dropsical fluids," or, in other words, for the purpose of identifying it. And, as it was derived from the ovarian cyst, the name was thought to be appropriate. Again, it was described as it existed, not as an epithelial cell, for then a matured, nucleated epithelial cell would have been looked for, but as the peculiar cell which I found only, with one exception, and almost invariably, in ovarian fluids, and which differs so

<sup>1</sup> *The Microscope*, etc., by Dr. William B. Carpenter, London, 1875, p. 734.

widely from the epithelial cell in size, in appearance, and in having no nucleus, that it required patient and long continued search to discover its origin. Although it was occasionally found to have a nucleus, yet this was a rare exception, the greater number, by far, having no nucleus; therefore the rule and not the exception was described.

I now pass on to examine Dr. Garrigues' opinion in regard to the origin and nature of this body. The first remarks which he makes concerning their origin are contained in the following paragraphs:—

“If, instead of examining old cysts, we direct our attention to the very beginning of the formation of a microscopic cyst in the centre of one of the epithelial pouches which are developed from the epithelium lining the inside of the main cyst (Fig. 29), we find another process. The cavity is still so small that the opposite walls almost touch one another, and it contains exclusively colorless bodies without shining granules (Fig. 21 *a*) and corresponding entirely in size and shape with the nuclei seen in the surrounding epithelial cells. They are only four or five  $\mu$ . in diameter. In another of these minute cysts (Fig. 30), the cavity of which is a little larger, we find also larger bodies, but still of the same kind, without trace of shining granules. The finely granular bodies are here somewhat larger, either circular with a diameter of seven  $\mu$ ., or oblong, measuring seven by eleven  $\mu$ .. One of them has a nucleolus. At the same time we notice in the wall a much enlarged epithelial cell with nucleus and nucleolus. This nucleus corresponds perfectly in size and appearance with the bodies swimming in the cavity.

“In these minute cysts, then, a melting process is going on by which the bodies of the epithelial cells are dissolved, and the nucleoli set free. If we examine young secondary cysts which are large enough to form macroscopical tumors, say of the size of a hazel-nut, we may find whole masses of the epithelial lining thrown off and forming flakes in the fluid. In due time these will also be dissolved, and their nuclei set free. The nuclei may later undergo fatty degeneration, and then they become Drysdale's corpuscles.”<sup>1</sup>

<sup>1</sup> *American Journal of Obstetrics*, January, 1882, p. 28.

I have searched these paragraphs of his in vain for any evidence of the existence of this "melting process" which he asserts is "going on." If they are read carefully, it will be found to be mere assertion, for not a shadow of proof is offered to show that these epithelial cells are undergoing colloid degeneration or melting. Closely examined, his statement is simply this,—that he has seen microscopic cysts lined with nucleated epithelial cells, and in the fluid of the cysts free bodies of the same size as the nuclei of the cells, and, without tracing any connection between them, he at once arrives at the conclusion that the epithelial cells have melted and liberated their nuclei—a supposition entirely unsupported by facts, for even his drawings afford no evidence of it, but, in truth, serve better to illustrate the description which I have given of the origin of these cells.

Now it must be remembered that in most microscopical observations of these fluids and cysts a very large number of the epithelial cells are visible, and that the number I have seen in over two thousand examinations, made in the last twenty-nine years, must be almost infinite. Then, if the ovarian cell originated in the manner represented by Dr. Garrigues, and this melting process did really exist, it would be impossible not to have seen some cells undergoing the process and in the different stages of melting, from mature growth to final decay, and the liberation of the nucleus, but no such observation ever has been made. Even Dr. Garrigues does not assert that he has seen it, and his conclusion that the epithelial cell is melted down, liberating the ovarian cell of Drysdale, is not only without a tittle of evidence to support it, but the negative evidence against the truth of the assertion is overwhelming.

Apparently not entirely satisfied with this explanation of the method by which the nucleus is freed, in another part of his paper, as has been shown, Dr. Garrigues states that the epithelial cell undergoes fatty degeneration, and that in this manner the cell wall disappears, liberating the nucleus. But, it may be asked, what proof is there of the nucleus having a greater power of resistance to the process than the cell itself?

Again, does the cell wall undergo either form of degeneration, and leave the nucleus comparatively untouched? Even Dr. Garrigues does not agree with himself here, for in describing the process of fatty degeneration in the epithelial cells, he says, "*Usually, the nucleus is destroyed, but it may still be visible.*"<sup>1</sup>

I have seen the epithelial cells in all stages of fatty degeneration, but, as a rule, the nucleus was similarly affected and undergoing the same destruction. In fact the nucleus is frequently destroyed before the rest of the cell, as is well illustrated in Dr. Garrigues' drawings of the formation of Bennett's corpuscles.<sup>2</sup>

Having shown that in the descriptions which he gives of the liberation of the nucleus by colloid and fatty degeneration no proof can be found of the correctness of his conclusions, I pass on to consider the only remaining evidence of their being nuclei offered, which is contained in the paragraph in which he says, "I was able to observe directly the identity of Drysdale's corpuscles, the colorless corpuscles with fine dark granules, and the nuclei of the epithelial cells." He discovered this evidence in "a very thick, *colloid*, yellow-gray fluid." "In this swam flakes of epithelium large enough to be seen with the naked eye. Some of these flakes showed still indistinct outlines of cells, some of which had a *nucleus* identical with Drysdale's corpuscles in the surrounding fluid. In other flakes, most cells were no longer recognizable as such. They had been dissolved and blended together to a thready mass with large holes in it. In this mass and in these holes were found nuclei, some of the finely granular semi-opaque variety, others with shining granules, *i. e.*, Drysdale's corpuscles. In a few places the nucleus could yet be seen embedded in an epithelial cell, or a cell was found without nucleus, with large shining round granules, *i. e.*, changed to a Bennett's corpuscle."<sup>3</sup>

Let us examine this description. "Some of the flakes,"

<sup>1</sup> *American Journal of Obstetrics*, January, 1882, p. 28.

<sup>2</sup> *Ibid.*, p. 27.

<sup>3</sup> *American Journal of Obstetrics*, p. 31.

he says, "showed still indistinct outlines of cells, some of which had a nucleus *identical* with Drysdale's corpuscles in the surrounding fluid." This again is mere assertion. How does he demonstrate the identity of these nuclei, inclosed in a cell with an indistinct outline, with Drysdale's corpuscles? He does not say that he applied any tests. In fact, how do we know that these indistinct outlines were the outlines of cells? For nothing is more deceptive than the microscopic appearance of a colloid mass.

But admitting that they were cells, and that they inclosed nuclei, does he consider the nuclei identical with the ovarian cell because they resembled them in *appearance*? Then he should be an able judge of the appearance of an ovarian corpuscle. But examine his drawings of nuclei<sup>1</sup> entitled, "Transition from Nuclei to Drysdale's Corpuscles," and then read what follows. "I hold," he says, "most of these bodies to be nuclei of epithelial cells which undergo fatty degeneration. They vary in size from five to sixteen  $\mu$ ., and attain exceptionally still larger proportions. *Some of them are probably colorless blood corpuscles or lymph corpuscles.*" Now even with these cells before him, he acknowledges that he is unable to distinguish what he considers a nucleus, that is, an ovarian cell, from a lymph corpuscle or a white blood cell. How, then, does he identify the nucleus *in* the cell with the free nuclei? He does not enlighten us, but merely asserts that such is the fact.

"In other flakes," he says, "most cells were no longer recognizable as such. They had been dissolved and blended together to a thready mass with large holes in it." To a microscopist this description is, to say the best of it, peculiar. How did he know that the thready mass which he saw in the field of the microscope had formerly consisted of cells? It was mere surmise. To prove it from his account of it is simply impossible. The fact of a few broken down epithelial cells being present certainly did not show that the thready mass had formerly been epithelial cells, but rather the contrary. And the presence of Drysdale's corpuscles,

<sup>1</sup> *Transactions of the American Gynecological Society*, 1881, p. 54.

if such they were, entangled in this mass, indicates nothing but the fact of the fluid being ovarian. He falls short, then, of giving any reliable evidence that these bodies originate in the manner which he represents, and of course fails to prove that they are nuclei.

Believing that sufficient evidence has been advanced to show that I am correct in describing these bodies as ovarian cells, and also that Dr. Garrigues' assertion that they are nuclei is without foundation, I will pass to his next statement, which is, that "in appearance they are *entirely like* the *pyoid bodies* described and delineated by Lebert, who, as early as 1846, indicated the test with *acetic acid* as *characteristic* of them, but Lebert says he found these bodies in the peritoneum, in the synovial membrane of the knee, in congestive and metastatic abscesses, and often mixed with common pus corpuscles, both in extravasations and in the false membranes seen on mucous and serous membranes."

Could a statement be more positive? But to show how utterly groundless it is I will quote Lebert. In treating of pus and its varieties, he says:<sup>1</sup> "The element by far the most important is the one to which we have given the name of *pyoid globules*, and that we regard as a variety of *pus globules*, with which one often finds them mixed, but from which notwithstanding they differ by several of their chemical and physical characters." He then gives the size, which is almost the same as that of the pus cell. "They are spherical and composed of two elements, of a substance tolerably transparent, of a consistence rather solid than liquid, and of molecular granules varying from four to ten, and beyond, irregularly distributed in their substance; but they never show any nuclei, and the acetic acid above all, in rendering them a little more transparent, never changes them."

If we stopped here the quotation would certainly confirm what has been said by Dr. Garrigues, but we will read on: "They are larger and more spherical than the globules of tubercle, smaller and more granular in their substance than the white globules of blood, from which they differ by

<sup>1</sup> Lebert: *Physiologie pathologique*, vol. 1., p. 46, Paris, 1845.

another *essential character, their yellowish tint.*"<sup>1</sup> Is this *entirely* like the ovarian cell in appearance? Is not Lebert's statement clear, that they can be distinguished from the white blood cell by their yellow color, and if from the white blood cell, why not from the ovarian cell, which is even more colorless and transparent?

But another important fact in Lebert's description, which Dr. Garrigues appears to have overlooked, is that these bodies are only discovered in pus. Never are they alluded to as being found alone, or apart from pus; they are always spoken of as one of its constituents. Says Lebert, "We had at first believed that they were only met with in the purulent effusions of cachetic individuals, and principally the tubercular, but we are convinced nevertheless that they are present in *many of the different kinds of pus*, and in the most diverse constitutions. We have met with this kind in the peritoneum, in the synovial membrane of the knee, in congestive and metastatic abscess. Lastly, we have often found them mixed with the ordinary globules of pus in the extravasations, and in the false membranes of the mucous and serous surfaces." In no place does he say he found them independent of pus — an important distinction, and one apparently ignored by Dr. Garrigues. In short, Lebert states that he found a corpuscle in pus which he could distinguish from the pus cell by the addition of acetic acid, as the acid causes the pus cell to become transparent and reveal its multiple nucleus, while the pyoid body is only made a little more transparent and shows no nuclei, and that the *essential characteristic* of the *pyoid body* is its *yellow color*.

Hence these misleading statements, founded on an imperfect quotation from Lebert, are disproved by Lebert's own words. Nothing is found in his writings to support Dr. Garrigues' assertions, for the mere fact that Lebert discov-

<sup>1</sup> "Ils sont plus grands et plus sphériques que les globules du tubercule, plus petits et plus granuleux dans leur substance que les globules blancs du sang, dont ils diffèrent par un autre *caractère essentiel, leur teinte jaunâtre.*" Lebert : *Physiologie pathologique*, vol. i., p. 46. Paris, 1845.



ered a corpuscle in pus which he could distinguish from the pus cell by the addition of acetic acid does not invalidate my statement that the ovarian cell "can be distinguished from the pus cell, lymph corpuscle, white blood cell, and other cells which resemble them, both by the appearance of the cell, and by its behavior with acetic acid." Dr. Garrigues appears to have also overlooked some remarks of Lebert in speaking of this very cell, which are pertinent to the subject. "It is of the greatest importance," he says, "to be *very exact* in these investigations, which can serve to enlighten several doubtful points of pathology with a nearly mathematical precision."<sup>1</sup> If Dr. Garrigues placed any faith in his statement why does he say, "The only corpuscles in ovarian fluid I have found it really difficult to distinguish from Drysdale's so-called 'ovarian granular cell' are thorn-apple or rosette-shaped, red blood corpuscles, the knobs on the surface of the latter, seen from above, giving an appearance which is very like that of the shining granules in the interior of Drysdale's corpuscles. But, by paying close attention, we will find the contour of a rosette-shaped blood corpuscle scalloped, while that of Drysdale's corpuscles is even."<sup>2</sup>

If in appearance they are entirely like the pyoid bodies of Lebert, and the test, acetic acid, is the same in both, how is it that he finds no difficulty in distinguishing them? Of course Dr. Garrigues does not intend to mislead, but his manner of quoting, so as to cause the reader to infer that these bodies were found in the peritoneum, synovial membrane of the knee, etc., independent of their admixture with pus, certainly seems disingenuous.

Before leaving this part of the subject it may be well to state:—

1. That if an abdominal cyst should be met with which had undergone suppuration we should find in the fluid pus cells in abundance, and, in all probability, many of these pyoid bodies of Lebert. This is also true of the inflammatory effusions in the peritoneal cavity, but the mere fact of the

<sup>1</sup> Lebert: *Physiologie pathologique*, vol. i., p. 47.

<sup>2</sup> *American Journal, of Obstetrics*, January, 1882, p. 24.

presence of the pus cells would put us on our guard, and he would be a careless observer who would be misled by these pyoid cells, even if their yellow color should not be sufficient to distinguish them.

2. That there is a cell which resembles the pyoid cell in some of its characters, but which differs from it in its want of transparency and color. It is granular, but the granules are not distinct, their outlines are not sharply defined. Acetic acid has very little influence on it. But its general appearance will distinguish it from the ovarian cell to a careful observer, and the acetic acid test will differentiate it from the pus cell, white blood cell, etc. I have described this cell in my paper on "Dropical Fluids of the Abdomen," in the following words:<sup>1</sup> "Specimens of ascitic fluid are occasionally met with containing objects which, in size and appearance, resemble the pus cell, but which show no nuclei on adding acetic acid. Their surface is generally granular, but occasionally is finely wrinkled. They differ from the ovarian granular cell in being semi-opaque, in their not presenting the clearly defined granules of the ovarian cell, and in their being of an uniform size, one two-thousandth of an inch in diameter. These cells are here described particularly, not that they are believed to be peculiar to this fluid, but in order to guard against an error in diagnosis, as they have been mistaken for the ovarian cells." But, as I have shown, there is but little risk of an observer who has an eye well trained to this kind of research mistaking the one cell for the other.

His third statement is even more calculated to mislead than the last. "In ovarian fluids," he says, "these bodies were *first* described and delineated in 1852 by John Hughes Bennett with indication of the effect which acetic acid has on them."<sup>2</sup> This is a direct charge that I have claimed credit for what I must have known belonged to another, as Bennett's writing had been referred to in my first paper.

To sustain this charge, Dr. Garrigues says, "In his clini-

<sup>1</sup> *Diagnosis of Ovarian Tumors*, by W. L. Atlee, p. 451.

<sup>2</sup> *American Gynecological Transactions*, 1881, vol. vi., p. 55.

cal lectures on the 'Principles and Practice of Medicine,'<sup>1</sup> Bennett draws both large granular cells with or without a nucleus, and *small bodies invariably without a nucleus*, which latter are *entirely like Drysdale's corpuscles*. Fig. 172 on page 172 shows very distinctly Drysdale's corpuscles, *after addition of acetic acid* [the italics are Dr. Garrigues'] without nucleus. The text describes them as 'pale, round, and oval corpuscles, the outline of which becomes stronger on the addition of acetic acid.'"<sup>2</sup>

Notice the construction of this paragraph. The reader will get the impression, and it seems to be intended that he should, that the same cell is referred to in the drawing at page 91, and the one on page 172. It reads, "Bennett draws both *large granular cells with or without a nucleus*, and *small bodies invariably without a nucleus*, which latter are entirely like Drysdale's corpuscles. Fig. 172 shows Drysdale's corpuscles after addition of acetic acid."

What could the reader infer from this, but that Bennett had drawn and described the ovarian cell, and had used the acetic acid test as Dr. Garrigues has asserted? The paragraph is entirely misleading, and is well calculated to deceive. The drawing on page 91 has no connection whatever with that on page 172, and it will be found that they refer to two entirely distinct varieties of cells.

To understand the matter clearly, the paragraph must be separated. The *first* part of it refers to a drawing on page 91. In regard to this, Dr. Garrigues says, "Bennett draws both large granular cells with or without a nucleus, and small bodies invariably without a nucleus, which latter are entirely like Drysdale's corpuscles." But how does he know that they are entirely like Drysdale's corpuscles? Bennett does not describe them, nor even allude to them, certainly he never applied a test to them. Therefore, it is impossible to say what they were. Dr. Garrigues offers no proof, it is a mere assertion.

The fact is simply this: Bennett gave a drawing of some

<sup>1</sup> Second edition, New York, 1858, p. 91, Fig. 70.

<sup>2</sup> *American Journal of Obstetrics*, January, 1882, p. 38.

nucleated cells which he believed were characteristic of ovarian fluid. Mingled with these cells in the drawing are seen a few granular cells and some granular matter, which are almost always present in ovarian fluid, and for this reason were probably sketched by Bennett, but to which he attached no importance, as he does not mention them in his text. The mere fact of his seeing them in the field of the microscope and drawing them proves nothing, for many other observers had done the same thing before him, but *he* also failed to detect their true character. The cells which he did describe, and which he thought were diagnostic of ovarian tumors, were the *large nucleated cells*.

But here are his own words: "The fluid removed by tapping from the abdomen of Jessie Fleming," he says, "contained flocculi which, when examined with the microscope, were found to be composed of numerous cells varying in size from the one hundredth to the fortieth of a millimeter in diameter. The great majority were about the fiftieth of a millimeter. They were slightly granular, of round and oval shape, unaffected by water, but becoming more transparent on the addition of acetic acid, and *exhibiting a distinct nucleus* about the one hundred and fortieth of a millimeter in diameter (see Fig. 170)," <sup>1</sup> the very one alluded to by Dr. Garrigues in support of his assertion. These were nucleated cells, and are the only ones he refers to, which proves that he made no allusion to the ovarian cells, which are destitute of nucleus.

That Dr. Garrigues was aware of this fact may be seen from his own words. In speaking of this very description, he says, <sup>2</sup> "This applies *exclusively to the large bodies* we find in ovarian fluid. He (Bennett) *did not notice* any of the *nuclei* which *are so important a part of this fluid*, and the statements, that the bodies were slightly granular, that they contained a nucleus, and were embedded in a granular matter, apply only to some of these corpuscles, whilst others exhibit quite different characters as shown above. But imper-

<sup>1</sup> *Bennett's Clinical Medicine*, second edition, New York, 1858, p. 700.

<sup>2</sup> *American Journal of Obstetrics*, January, 1882, p. 37.

fect as the description is, it is clear enough to *enable us to recognize the bodies the author describes*, and, as he is the first who has done this, I have in this paper throughout called these *large bodies Bennett's bodies*." Knowing, then, what Bennett referred to, and also knowing that he made no allusion to these small granular cells, yet Dr. Garrigues unjustly attempts to give Bennett the credit of first describing the ovarian cell simply because a few granular cells, the nature of which is unknown, have been included in the drawing.

The *second* part of the paragraph refers to an entirely different cell. "Fig. 172 on page 172," he says, "shows very distinctly Drysdale's corpuscles, *after addition of acetic acid*, without nucleus. The text describes them as pale, round, and oval corpuscles, the *outlines* of which become stronger on the addition of acetic acid." To show how unfair this whole statement is, and to prove that Bennett has reference to an entirely different cell, the colloid corpuscle, which is found in colloid matter, compare this garbled quotation with the context, and see what he really says. In describing cystic growths in general, he observes:<sup>1</sup> "The contents are more or less gelatinous, sometimes slightly so, like weak gelatine, at others firm, capable of being cut with a knife like tolerably strong glue, or firm calves-foot jelly. Sometimes this matter is structureless, at others it may be seen to contain *very delicate filaments, combined with pale oval bodies, the outlines of which become stronger on the addition of acetic acid*. (Fig. 172). This reagent frequently causes the gelatinous mass to coagulate into a firm white fibrous structure, capable of being separated by needles, and presenting all the structure of filamentous tissue. This kind of contents is common in the thyroid gland and ovary, and we have seen it in the kidney and other organs." It is stated in a foot-note that the drawing represents "Delicate oval corpuscles in amber-colored, transparent, *colloid* matter of the ovary."

<sup>1</sup> *Clinical Lectures on Medicine*, by J. Hughes Bennett, second edition, New York, 1858, p. 172.

To call this a description of the ovarian cell is certainly a stretch of the imagination. It is simply that of the cells of colloid matter. Paget<sup>1</sup> depicts them thus: "These, the so-called colloid corpuscles, are small, granular, moderately transparent cells of irregular shape, from one five-thousandth to one two-thousandth of an inch in diameter, with small nuclei or none." A reference to the drawing in Bennett's work will show that they have but little resemblance to the ovarian cell. There is, then, not the slightest proof that Bennett was acquainted with this cell, for, as has been shown, he has never alluded to it in his writings, nor delineated it for the purpose of description. And yet Dr. Garrigues concludes, "There is no doubt that Bennett has known these bodies, but he does not claim that they are characteristic for ovarian cysts"<sup>2</sup>—a conclusion worthy of the erroneous premises upon which it is founded.

That Dr. Garrigues attaches much importance to this statement of the priority of Bennett in this description of the ovarian cell may be seen from a foot-note, in which he says,<sup>3</sup> "The first edition [of Bennett's 'Principles and Practice of Medicine'] was published in London in 1852. Through the courtesy of Mr. George Bullen, of the British Museum, I am informed that Fig. 70 of the second edition is found as Fig. 89 on page 218 of the first edition, and Fig. 172 of the second edition as Fig. 92 on page 219 of the first edition. Thus it is proved," says Garrigues, "that Bennett has known these bodies before Beale's first edition was published (1854)." From this we might infer that Beale had also described these cells, but in another place<sup>4</sup> I have shown that Beale, like other observers, never recognized the true nature of this cell, that his description of it was inaccurate, that no claim was made by him that it was peculiar to this fluid, and that he gave no test to distin-

<sup>1</sup> *Surgical Pathology*, p. 775.

<sup>2</sup> *American Journal of Obstetrics*, January, 1882, p. 38.

<sup>3</sup> *Ibid.*, p. 38.

<sup>4</sup> *Transactions of the American Medical Association*, 1873, vol. xxiv., p. 182.

guish it from other granular cells. Thus all of Dr. Garrigues' laborious attempts to prove that Bennett described these cells, either in 1852 or at any other time, fail, as it has been shown by Bennett's own words that he never even alluded to them.

Having now proved from the evidence which has been adduced, —

1. That the bodies found in ovarian fluid and described as ovarian cells *are cells* and *not nuclei*, and that, from the nature of their origin, they are diagnostic of this fluid ;

2. That they are easily distinguished from the pyoid bodies of Lebert by what he describes as their "*essential character*," *their yellowish tint* ;

3. That John Hughes Bennett never referred to these bodies in his writings, nor represented them for the purpose of description in his drawings, —

It follows, that Dr. Garrigues' statements in regard to these points being proved to be erroneous and without foundation, his conclusions, "That these bodies are not pathognomonic of ovarian nor any other cyst, as they may be found in various parts of the body," and "That there is no pathognomonic morphological element in the fluids of ovarian cysts," are entirely destitute of value.

There are some other statements in regard to the ovarian cell in Dr. Garrigues' paper which may be briefly alluded to. The first is that concerning the tests which I have recommended to distinguish it from other cells. He questions their practical value. To the acetic acid test, he objects that it is the same as that used by Lebert to distinguish his pyoid cell, but, as Lebert states that this is never found except in pus, and as the color of this cell is sufficient to identify it, the objection is groundless. But it may be here remarked that cells, which have some resemblance to the ovarian cell, are occasionally met with which remain almost unaffected by acetic acid, and are far better calculated to deceive than Lebert's. I would, therefore, put observers on their guard against them. For instance, the cells which I have described as being found in ascites may

also be present in other fluids, but a close study of them will show that in appearance they differ so materially from the ovarian cell, that a careful observer cannot mistake them. As they have been already treated of in this paper it is unnecessary to say more about them now.

In addition to these cells we sometimes meet with pus cells, which have been retained in collections of pus in the body for a long time, and have undergone fatty degeneration. These do not become transparent and show their nuclei when acetic acid is added to the fluid, and consequently may be mistaken for the ovarian cell, but their uniform size, and the comparative dullness or paleness and want of clearly defined outlines of the granules, will help to distinguish them; besides, it is exceedingly rare to find all the pus cells thus changed. Generally, a sufficient number remain which show their true character on adding the acid, and thus put us on our guard. Should there, however, be any doubt in regard to the nature of the cell, the observer may distinguish them from the ovarian cells by first adding acetic acid, and following it by ether. Under this treatment the pus cell, which has undergone fatty degeneration, is dissolved, while the ovarian cell remains comparatively unaffected.

The test which I recommended to distinguish the ovarian from Gluge's or Bennett's cells is ether. Dr. Garrigues says he has found this a difficult agent to use, but his experience differs from my own. If a small quantity of ovarian fluid is put on the glass slide, and a few drops of ether added, and mingled with it by means of a tubular pipette, and the cover at once put on, there is but little more difficulty with this than with any other reagent. A few drops of ether occasionally applied to the edges of the cover will keep the specimen immersed long enough to discover its effect upon the cells.

In another place I have stated that "the ovarian granular cell remains nearly unaffected by it, or, at most, has its granules made paler, while the cell of Gluge loses its granular appearance, and sometimes entirely disappears



through the solution of its contents by the ether.”<sup>1</sup> To this statement, Dr. Garrigues objects. He says, “When ether is added we see some of Bennett’s corpuscles almost dissolved, but other corpuscles of the same kind are not affected at all, probably because they have not been reached by the ether, which mixes with great difficulty with the colloid fluid.”<sup>2</sup>

This objection has but little weight, for if a sufficient number are acted upon to show their true character, the evidence is sufficient. But, he adds, “Drysdale’s corpuscles are affected in the same way as the large granular cells. They become pale, their contour becomes irregular, their granules disappear, they shrivel and seem to become dissolved. Thus ether affects both kinds of bodies or none at all.” This differs entirely from my own experience. I have never seen ether produce such an effect on the ovarian cells, nor do I perceive how it can. Gluge’s or Bennett’s cells are epithelial cells which have undergone fatty degeneration. In other words, they are almost wholly converted into fat, which is soluble in ether, while the ovarian cell is an aborted epithelial cell, composed mainly of protoplasm, including in it minute globules of fat, the greater number of which are protected from the action of the ether by this albuminous covering. Of course, a few of them may be so far advanced in fatty degeneration as to be acted upon in the same manner as the cell of Gluge, but the majority of them are no more affected than has been stated. I maintain, then, that my description of the action of this test is correct, but this question can be readily settled by the further examination of the matter by other observers.

The last statement of Dr. Garrigues which I shall notice is, that “Drysdale’s corpuscles seem to have a little more value than Bennett’s, but they are by no means pathognomonic, not even of the presence of any kind of cyst, and still less of an ovarian cyst.”<sup>3</sup> “I have,” he says, “found

<sup>1</sup> *Transactions of the American Medical Association*, 1873, vol. xxiv., p. 181.

<sup>2</sup> *American Journal of Obstetrics*, January, 1882, p. 24.

<sup>3</sup> *Ibid.*, January, 1882, p. 35.

them in one of my cases of cyst of the broad ligament, in a case of suppurating cyst of the abdominal wall, in the above mentioned case of cancer of the peritoneum, in a case of renal cyst, in a congestive abscess extending from the spine to the femur, and in a vaginal cyst. Similar observations have been made by others. Dr. A. Erich, of Baltimore, has found these corpuscles in a case of encysted ascites. They were likewise disclosed to be present in a case of Dr. J. Byrne, of Brooklyn, which turned out to be hob-nailed liver with ascites. On the other hand I have missed these corpuscles in cases of simple ovarian polycyst, in another where the cyst wall showed cancerous degeneration, and in a case of sarcomatous cyst."

The assertion that he has found the ovarian cells in cysts of the broad ligament carries no weight with it, and needs proof, for in his twenty-third conclusion he makes the positive statement that "cysts of the broad ligament cannot be distinguished from those of the ovary,"<sup>1</sup> and again, "as to cysts of the broad ligament, I do not know of any character by which they can be distinguished from ovarian."<sup>2</sup> In another place he asserts, "It is impossible to tell, by the fluid alone, if a tumor is ovarian or a cyst of the broad ligament."<sup>3</sup> Now if the cysts cannot be distinguished, and if the fluids are identical, how did he know that these cysts which he describes as those of the broad ligament were not ovarian?

After such statements he should at least make it evident how he identifies these cysts, and that he has not mistaken an ovarian monocyst for one of the broad ligament, else his assertion that he has found the ovarian cell in cysts of the broad ligament is valueless. Observe, also, the discrepancy between these conclusions and a former statement in which he says, "There are two ways in which we can tell a cyst of the broad ligament from an ovarian cyst: one is the fact that we find the ovary beside the tumor, and the other is the

<sup>1</sup> *American Journal of Obstetrics*, July, 1882, p. 672.

<sup>2</sup> *Ibid.*, January, 1882, p. 37.

<sup>3</sup> *Ibid.*, April, 1882, p. 396.

character of the outer epithelium. A tumor covered with columnar epithelium is ovarian, and cannot be anything else, while the cyst of the broad ligament, being covered with peritoneum, has flat peritoneal endothelium." <sup>1</sup> As he does not state that he found the ovary beside the tumor in either of the cases which he describes, he must have relied upon the character of their epithelial coverings to distinguish them. Here is a very simple test which, if it proved reliable, would be conclusive, but it has proved fallible even in his own hands. The history of a case of the removal of an abdominal tumor will be found recorded in the American Journal of Obstetrics, October, 1881, page 876. This tumor, Dr. Garrigues, basing his diagnosis upon the character of the epithelium found upon its outer surface, pronounced a fibro-cystic tumor of the ovary. But Dr. Thomas, the operator in the case, stated that it was a fibrocyst of the uterus, growing almost exactly from the fundus of that organ, and showed that "it had no attachment whatever except to the fundus of the uterus." The test, then, is not conclusive.

But, leaving these contradictory statements out of the question, that he is not familiar enough with these cysts and their contents to warrant him in making such positive assertions may be inferred from his own words. He states that he has examined the fluid of *three* cysts which were removed by operation, but only *two* of the cysts. He further gives in his list of tapped cases ten, which he entitles fluid from "cysts of the broad ligament or ovary," or, in other words, doubtful. Yet from these few examinations, fortified by the opinions of various other observers, he arrives at the conclusion, which he has had printed in italics, that "*it is impossible to tell by the fluid alone if a tumor is ovarian or a cyst of the broad ligament.*" Having had considerable experience in the examination of these fluids and cysts, I can assert with the confidence lent by that experience, that all of these conclusions are unfounded, and that cysts of the broad ligament can be distinguished from ovarian by the fluid

<sup>1</sup> *Ibid.*, April, 1882, p. 392.

which they contain. This fluid I have described, in a former article, as perfectly colorless, transparent, and thin, like pure water. Its specific gravity is very low. Under the microscope a few epithelial cells are sometimes discovered in it, but generally it proves to be free from objects. I regard it as peculiar to cysts of the broad ligament as I have never found it in any other abdominal cyst, and further, in the examination of ninety-seven specimens of it, I have never met with the ovarian cell in an uncomplicated case.

But there is another variety of these growths in which an ovarian element adds to the difficulty of diagnosis. In these cases I have found the ovary incorporated in the wall of the broad ligament cyst, and, having itself undergone cystic degeneration, discharging its contents into that of the broad ligament. In this manner a tumor which commences as a cyst of the broad ligament may apparently be converted into an ovarian tumor, and lead the operator to suppose that his first diagnosis, based upon the character of the fluid, was erroneous. Case XXXIII., in Dr. Atlee's book on diagnosis, gives an excellent example of this complication, and I have met with a number of other instances of the same kind. For this reason a mistake is easily made by an inexperienced observer. Case LI., described by Dr. Garrigues as a multilocular ovarian cyst with watery fluid and ciliated epithelium, which he uses as a proof that this colorless, watery fluid can be found in an ovarian cyst, has every characteristic of a broad ligament cyst with the ovary intimately attached, and spread over its wall. In his description of the cyst, he says, "At the bottom of the main cyst was found a finger-thick solid mass, a development of the ovary." In his cases V. and XI., where he discovered the ovarian cell in the fluid, an ovarian element was probably present. Seeing, then, how readily a mistake might be made by one having but a limited experience in these cases, and having shown by his own words that he is unable to distinguish a cyst of the broad ligament from an ovarian cyst, but little importance can be attached to Dr. Garrigues' statement that he has found the ovarian cell in cysts of the broad ligament.

Dr. Garrigues tells us that he has also met with a cell resembling the ovarian cell in cysts of the kidney. This agrees with my own experience. In Dr. Atlee's work, page 140, will be found a description given by me of a fluid from a renal cyst, which reads as follows: "It was of a dirty light-brown color. Its specific gravity was 1.020. Its reaction was alkaline. Under the microscope it was seen to contain plates of cholesterin, coagulated fibrin, blood-cells, oil globules, and great quantities of granular cells, which, in appearance, resembled those found in ovarian fluid." Another specimen of the fluid, passed a few days later, was examined, and found to contain less cholesterin, and but few granular cells were present. Casts of the uriniferous tubes and crystals of uric acid were also discovered in the specimen. In these renal cysts, then, can be occasionally found cells which cannot be distinguished from the ovarian cell. It forms the only exception that I know of to the rule that the ovarian cell is diagnostic of ovarian fluid.

In the examination of these fluids for the purpose of diagnosis this exception must be borne in mind. But, fortunately, the exception is not such an important one as at first sight might appear, and for the following reasons: Renal cysts seldom attain such a size as to be mistaken for ovarian, and are rare in comparison with them, for in over two thousand specimens of abdominal fluids examined by me, but four were renal, and of these, but one contained this granular cell. The other characters of the fluid of these cysts are generally sufficient to distinguish it from that of ovarian disease, and if any of the constituents peculiar to urine are found in any quantity in the fluid, or if, as in the second specimen from the above mentioned case, casts of the uriniferous tubes are present, they will point out its true nature. In addition to these peculiarities the history of the case will usually indicate the origin of the cyst.

Dr. Garrigues also says that he has found the ovarian cells in a case of suppurating cyst of the abdominal wall, in a case of cancer of the peritoneum, and in a congestive abscess. These were all met with in accumulations of pus, and

are therefore unreliable. The fluid in the cases of Drs. Erich and Byrne, and in the vaginal cyst mentioned by Dr. Garrigues, are just the ones in which are found the cells which I have described as existing in ascitic fluid, and which have been so frequently mistaken for the ovarian cell. It requires a practical familiarity with all of these cells to distinguish one from another, for just as mistakes are made in the diagnosis of ordinary diseases for want of care in the examination of their characteristics, and want of practical familiarity with them, just so will mistakes occur in the diagnosis made by means of the microscope. Are we to condemn auscultation because many fail to recognize the sounds which indicate morbid changes? Would it not be equally absurd to condemn this sign of disease, indicated by a cell, because some observers have failed to identify it or have mistaken another cell for it?

And last, Dr. Garrigues states that he has missed the ovarian cells in a simple ovarian polycyst, in another where the cyst wall showed cancerous degeneration, and in a case of sarcomatous cyst. In the first, judging by the description of the growth, a cyst of the broad ligament was mistaken for an ovarian, and in the other, the cancerous degeneration in the wall of one, and the pathological character of the other, would account for the absence of these cells.

Having answered the statements of Dr. Garrigues in regard to the ovarian cell, I will briefly reply to the remarks made by Dr. Noeggerath during the discussion of the paper.<sup>1</sup> Dr. Noeggerath spoke as follows: "I would say a few words regarding the so-called ovarian corpuscle, which Dr. Drysdale considers characteristic of ovarian cysts, and Dr. Garrigues does not. I think the position which that question occupies is illustrated by the following incident: I sent a specimen to two of the best men in the country, whose names are connected with this subject, and they both sent me back the answer that it contained the ovarian corpuscle, and was, no doubt, the result of an ovarian tumor. Now what were the facts? The specimen was taken from a

<sup>1</sup> *American Gynecological Transactions*, 1881, vol. vi., p. 85.

*suppurating cyst of the thigh*, and yet it contained the ovarian corpuscle in such numbers, and in such perfection, that the best judges in the country mistook them for it." I inquired if Dr. Noeggerath had sent me one of the specimens. He replied, "I did." This requires explanation, which would then have been given had I had the necessary evidence with me.

I hold in my hand three letters from Dr. Noeggerath. The first<sup>1</sup> asking me to send him another copy of my paper on the ovarian cell, as he had loaned his to a friend. The copy was sent. This shows that he was familiar with the paper. In that paper it is distinctly stated that my remarks apply only to fluids removed from the abdomen. For instance: "This cell, when found in *this location*, I believe to be pathognomonic of ovarian disease, not meaning to assert that a cell having a similar appearance may not be found in cysts met with in *other parts of the body*;" and, again, it is spoken of as a "granular cell which differs in its behavior with acetic acid and ether from any other known granular cell *found in the abdominal cavity*." Now, asking you to bear these words in mind, I will state what occurred.

Dr. Noeggerath sent me a bottle of fluid, and with it this note:—

NEW YORK CITY, 42 WEST 35TH ST., 5, 5, '81.

MY DEAR DOCTOR,—I herewith send you a specimen fluid, drawn from a tumor, the origin of which is obscure. It looks to me as if it contained a large amount of ovarian corpuscles. Would you please examine, and let me know.

Some of the crystals are probably from the addition of thymol.

Truly yours, E. NOEGGERATH, M. D.

The fluid was examined, and my doubts about its being

<sup>1</sup> The following is a transcript of this letter:—

DEAR DOCTOR,—Will you permit me to ask you the favor of sending me another copy of your paper on the ovarian corpuscle. I lent my copy to one of my confrères who failed to return it after he left the city.

Have you made any addition to the subject since the publication of your pamphlet? I am, yours truly, E. NOEGGERATH, M. D.

NEW YORK, 42 W. 35th Street, October 20, 1879.

ovarian were so decided that I wrote to Dr. Noeggerath, and asked him if the fluid had been removed from a tumor of the abdomen. I received this reply:—

MY DEAR DOCTOR, — If I did not mention the fact that the tumor in question came from the abdomen, it was because I thought you knew that I am a specialist, only dealing with matters connected with the female genital organs.

Truly yours,

E. NOEGGERATH.

Supposing that Dr. Noeggerath was an honorable man, I took it for granted that his statement was true, and applied no further tests to the fluid. By this deception he obtained the reply that the fluid was ovarian. The facts are before you, and speak for themselves. In the letter to me, he states that the fluid was from an abdominal tumor. To the Society, he says it was from a suppurating cyst of the thigh. Comment is unnecessary.

#### DISCUSSION.

MR. THORNTON, of London, Eng. — I think that Dr. Drysdale has entered a field in which questions are in a decidedly unsettled condition, because of the great diversity of opinion among pathologists and histologists as to what constitutes a cell, and what is the mode of its growth. Without this definite basis of investigation it may, almost as a matter of course, be expected that I should differ with Dr. Drysdale in what he has said concerning the manner in which ovarian cysts grow and this ovarian granular cell is produced. I had reached the conclusion long ago that the nucleus, perhaps the nucleolus, in the formation of the cell was the first and not the last element, and that the cell body followed. As to whether or not the body described by Dr. Drysdale should be called a cell, I had, long before Dr. Garrigues read his paper, reached the conclusion that it was the nucleus of a rapidly degenerating cell of the cyst membrane. Then, coming to the action of reagents, or rather the lack of reaction, that fact of itself favors the view that it is a degenerated cell, and not, as Dr. Drysdale thinks, an immature cell, because in immature or rapidly growing cells the protoplasm is especially prone to take on the action of staining agents, and to react promptly when



treated with acetic acid. With reference to the ovarian cyst being derived from the Graafian follicle, I have thought my own observations, as well as those of recent authorities, seemed to prove that in the great majority of cases it had an origin independent of the Graafian follicle, and that it could be distinguished from it especially by its lining membrane. As to the aid this body, or Dr. Drysdale's corpuscle, may afford in making a diagnosis, I have finally found my failures so numerous that I have been obliged to abandon it, notwithstanding the great success which attended my earlier examinations. From my own experience in the matter, I think it must be accepted that the practical value of this body is often at least immaterial. I have found in cysts of the omentum and mesentery, and also in a multilocular cyst of the spleen, cells which could not be distinguished from Dr. Drysdale's corpuscle. However, I am prepared to go back and study the field over again in view of the positive statements made by Dr. Drysdale, and I hope that the results of further investigation may be confirmatory of Dr. Drysdale's views.

DR. ENGELMANN, of St. Louis. — Mr. Thornton has touched so thoroughly upon the points which I should have spoken upon that I have but little to add. Dr. Drysdale's paper is one which is so highly scientific, and gives us the result of so many years of study and careful examination, that it seems almost impertinent with the small experience which I have had to venture to differ with him, especially as I am myself much more at home in the mucous than in the serous membranes. Dr. Drysdale differs with all observers, and I would very seriously question whether any one has been able to see these bodies as he has seen them. He has had either great good fortune or scientific certainty in determining the nature of fluids which have been sent him; for he has rarely made a mistake in diagnosis, a rather deceptive success which reminds me forcibly of Losterfer's syphilitic corpuscle which was brought forward some years ago, and for which it was claimed that in ninety-nine one hundredths of the cases, almost invariably a correct diagnosis of syphilitic disease could be made, and yet what do we now hear of the syphilitic corpuscle? It has disappeared entirely. There were curious reasons, which I cannot here detail, why Losterfer could make his diagnosis correctly, but there was certainly nothing in the syphilitic corpuscle, and without much experience I have entertained the same ideas with regard to this body. How-

ever, accepting the position taken by Dr. Drysdale, how few there are who will be enabled to make a diagnosis. He stands alone. At present there is scarcely a single experienced microscopist who thoroughly agrees with the doctor. Either those sufficiently skilled otherwise have not had the experience with these bodies which is necessary to detect them or they have not been able to see them at all. As not every one is able to see with the ophthalmoscope or explain what he does see, so it is with the ovarian corpuscle. Now be it so, were we to accept the position which Dr. Drysdale takes, no one, unless he has devoted a lifetime to the use of the microscope and the especial study of these bodies, will be able to make a diagnosis from the examination of ovarian fluids. I can readily understand that it is an aborted epithelial cell of rapid formation and degeneration because that membrane is one which is active, constantly secreting, but the same is true of all other cysts and a great many other pathological formations. But I cannot understand why — yet he says it is so, and we must accept his experience — the lining membrane of ovarian cysts should form this body, while cysts of the broad ligament and cysts of the kidney with a similar membrane, and under similar circumstances, should not form the same body. I have not been able to see this cell and to make a diagnosis of fluids by it; I have failed entirely. I have seen bodies which I think I have seen in other cysts, and I do not understand why or how this body should appear so persistently in that one place. Dr. Drysdale has given us a means of diagnosis, but I have failed as others have, by inexperience perhaps, and I can only say if it is so, as his long experience seems to prove, I with others have been unable to see it and cannot accept the position, cannot myself use the test practically, nor have I found others who have been able to do so for me.

DR. DRYSDALE. — Mr. Thornton has stated that physiologists are in doubt as to what a cell is. As so much has been already said concerning this subject in the paper just read, all I would add is, that I have given as my authority some of the best physiologists living, and whom, I think, he will recognize as such, as Carpenter, Max Schultze, Stricker, and others. In fact, most of the present authorities in physiology agree with me upon this point.

With regard to the ovarian cell being a nucleus, — twenty years ago I would have agreed with Mr. Thornton in considering it as

such, but prolonged and laborious investigation of the matter has convinced me that this view was erroneous, and that it is a cell and not a nucleus. I therefore feel confident that the further study of this subject by others will prove that I am correct, and that they will agree with me that it is an aborted epithelial cell. I regret that in many instances observers have been unable to distinguish this cell, or have been mistaken in regard to it. In many of the published cases this was certainly due to a want of care in the examination, or want of experience in this line of research, and, consequently, the error was the fault of the observer. Indeed I have made the same mistakes myself when I have not been sufficiently thorough in the examination. A striking instance of this happened to me in a case of omental cyst, one like those referred to by Mr. Thornton. Some years ago a woman having an abdominal tumor came under my care, from whom I removed some fluid by tapping. This I examined carelessly and applied no tests; for, from the history and physical examination of the case, I was so confident that the tumor was ovarian that I did not think it necessary to confirm the diagnosis by any other means, so that I attached but little importance to the microscopic examination of the fluid; consequently I was led into a serious error and taught a useful lesson. I exposed the cyst and found it covered with a network of large vessels which gave it the appearance of a huge placenta. The mass really consisted of two tumors, formed by a cystic degeneration of the greater and lesser omentum. There was a loop of small intestine apparently running into the upper tumor and forming a part of its wall, and again appearing on the opposite side. This, of course, was quite different from what I expected to find, and I was led into this difficulty by neglecting to make a thorough microscopic examination of the fluid.

In order to avoid these errors I have attempted to point out, in the paper just read, how to distinguish the ovarian cell from others which resemble it. It has been asserted that this is impossible, but that it may be done has been proved by my own success in this matter, and I am confident that others may be equally fortunate if they will use the same care in the examination. If this is done the pyoid cell will not be mistaken for the ovarian, for, I may repeat, the ovarian is a white, transparent cell; you can almost see through it, apparently, while the pyoid cell of Lebert is yellow. The other cells spoken of may be distinguished

from the ovarian by their being semi-opaque and wanting in the small, strongly refracting and sharply defined granules so characteristic of this cell. If you add acetic acid to a pus cell which has undergone fatty degeneration and to the ovarian cell, the effect is almost identical ; but if, after treating the cells with the acid, you add ether, the pus cell will be dissolved, while the ovarian cell will be comparatively but little affected. But it is needless to further repeat what I have already dwelt upon.

Mr. Thornton disagrees with me in regard to the fact of ovarian cysts originating from the Graafian follicles. This is simply a difference of opinion, and although much might be said to prove that the majority of these cysts have this origin, yet our limited time forbids the discussion of the subject.

Now with regard to the existence of the ovarian cell in a renal cyst : The fact that it has been found in one I put upon record years ago in Dr. Atlee's work on diagnosis. I have met with no other instance of it, although I have examined over two thousand of these fluids. In many of these cases I have been able to follow them to the time of operation, and in only four were cysts of the kidneys discovered, so that the occurrence of renal cysts is certainly not very common. The fact of the occasional presence of cells of this character in renal cysts is the single exception that I know of to the rule that these cells can only be found in ovarian cysts. As to the syphilitic cell spoken of by Dr. Engelmann, practically I do not know anything about it.

## SOME REMARKS ON OVARIOTOMY, WITH SPECIAL REFERENCE TO THE TREATMENT OF THE PEDICLE.

BY R. STANSBURY SUTTON, M. D.,  
*Pittsburg, Pa.*

To review this subject with historical accuracy requires more time and literature than are at present at my command. But if what appears in this paper will lead to a profitable discussion, my object will be largely attained. From a careful study of the celebrated case of Robert Houston, of Glasgow, Scotland, I am unable to find that he treated the pedicle in any specific manner. That he did, in 1701, attack and destroy a cystic tumor of "the left ovary" there is no doubt.

There was no return of the disease, and his patient lived for thirteen years after his operation.

He must, through the four-inch incision which he made, have seen the pedicle, for he says it was a cyst "of the left ovary."

There is no evidence that he ligated the pedicle. It is clear that he did not clamp it. He says he closed the wound with sutures, excepting the lower angle, which he left open, and in which he inserted a tent. Had he simply evacuated the contents of the cyst, and thus dressed the wound, the secreting membrane of the cyst must have continued to pour out its fluid into the cavity of the belly, and this fluid would have escaped through the lower angle of the wound, which was kept open by the tent. This did not occur. He says there was only a serous discharge through the lower angle of the wound for "four or five" days. Then, what became of the lining membrane of the cyst?

He answers the question. Describing what he removed from the cyst, he says, "This was followed by nine full quarts of such matter as I have met with in steatomatous and atheromatous tumors, with several hydatids of various sizes, containing a yellowish serum, the least of them bigger than an orange, *with several large pieces of membranes, which seemed to be parts of the distended ovary.*"<sup>1</sup>

Assuming it is clear that the secreting surface of the cyst must have been destroyed, and that these "pieces of membrane" constituted that surface, I have concluded that he performed, unconsciously, *enucleation* of the lining membrane of the cyst, and thereby cured his case, and directed no further treatment to the pedicle. After Robert Houston's achievement the interest in the case was kept alive by both John and William Hunter, and subsequently by the pupil of one of them, Prof. John Bell, of Edinburgh, Scotland. In 1794, Ephraim McDowell was a student of Prof. John Bell, and heard him defend, in the light of Robert Houston's case, and post-mortem examinations on women who had died of ovarian cysts, the feasibility of removing these cysts by abdominal section.

In 1809 McDowell performed ovariectomy in Kentucky. It was the first *systematic operation* ever done for the removal of an ovarian cyst, and was nearly as perfect an operation as we do to-day. He tied the entire pedicle with a single ligature, the end or ends of which he left hanging out at the lower angle of the wound. For eleven years after this operation no other method of treating the pedicle was suggested.

In 1820 Chrysmar, of Würtemberg, tied the pedicle in two portions, but left the ends of the ligatures hanging out through the lower angle of the wound.

In 1821 Nathan Smith, a New England surgeon, tied separately the arteries of the pedicle with "strips cut from a kid glove;" he cut the ligatures off close to the knots, dropped the pedicle in, and closed the wound. During the following sixteen years the three methods enumerated were followed.

<sup>1</sup> The italics are mine.

In 1837 Stilling, of Cassel, in the Province of Hesse Nassau, Germany, used the cautery, and suggested stitching the pedicle in the wound. Nine years, again barren of new suggestions, elapsed, when, in 1846, Dr. Handyside, of Edinburgh, Scotland, carried the ligatures through the cul-de-sac of Douglas into the vagina. In 1848 Stilling again appears, and treated the pedicle, for the first time, outside of the peritoneal cavity. Two years later, in 1850, this method was inaugurated in London by Mr. E. W. Duffin. The inauguration of the extra-peritoneal method of treating the pedicle, by Stilling, in 1848, began a long and serious conflict, which is only dying out with the method at the present time.

In 1849 Maisonneuve, of Paris, had twisted the entire pedicle in one case, and Martin, of Jena, had stitched the pedicle in the wound.

About this time Langenbeck stitched the pedicle in the wound, and covered it with the skin from the margins of the incision. Eight years later, in 1850, Dr. John L. Atlee, of Lancaster, Pennsylvania, introduced the *écraseur* to divide the pedicle. He was imitated by a number of prominent operators: notably, by his brother, the late Washington L. Atlee; Mr. Spencer Wells; Dr. Keith; Professor Pope, of St. Louis, Mo.; and Professor Billroth, of Vienna. The year proved to be an unfortunate one for ovariectomy, for in the autumn of it Mr. Jonathan Hutchinson invented the clamp, which has perpetuated the extra-peritoneal method of treating the pedicle.

In 1860 Sir James Y. Simpson secured the pedicle within the cavity of the abdomen by means of acupuncture needles passed through the abdominal wall.

About 1865 Kœberlé, of Strassburg, invented his "*serre-nœud*," or wire constrictor, with which he grooved the pedicle prior to applying the ligature.

In 1864 Mr. I. Baker Brown, of London, reverting to Stilling, of Cassel, began the use of the cautery, of which I shall speak at length.

In 1868 Masslovsky, a Russian, amputated the pedicle

by double flaps, one on either side, and stitched the flaps together.

In 1869 Dr. McLeod, of Glasgow, Scotland, by means of two pairs of strong forceps, twisted the pedicle entirely off. During the same year Dr. J. C. Miner, of Buffalo, New York, successfully performed enucleation of the cyst, and the late Dr. Peaslee, of New York, devised and recommended his scabbard and knife, by means of which the pedicle was secured, and the ligatures were easily removed, after they had constricted the pedicle for forty-eight or sixty hours. Torsion of the separate vessels of the pedicle had also been practiced. In 1870 Dr. Thomas Addis Emmet reported eighteen cases in which he had secured the pedicle by means of silver wire. What the practice of my countrymen has been during the last decade I leave for those who are present to-day to say. But up to the present time every conceivable thing has been done with the pedicle. It has been tied entire, tied in sections, been twisted off, burnt off, crushed off, cut square off, cut off in flaps, left inside, left outside, and been made to slough off. The ingenuity of operators has found it a fertile field for experiment. At last surgeons have concluded to do with it what McDowell did with it at the beginning, namely, to tie it with a ligature and leave it inside of the belly, but following Nathan Smith (1821) in cutting off the free ends of the ligature.

The extra-peritoneal methods of treating the pedicle have had their day. The question is now resolved into the merits of the ligature cut short, or the clamp cautery, as introduced by Mr. I. Baker Brown in 1864.

What the practice on the Continent of Europe, and in Great Britain, is, I will illustrate by giving the method of each operator whom I have visited during the last year. Professor Billroth, of Vienna, uses both ligature and cautery to secure the pedicle, but no clamp cautery. When the cyst is delivered, the pedicle is grasped low down, at right angles to its vertical axis, with a pair of long-handled lock forceps. At a varying distance above this pair of forceps



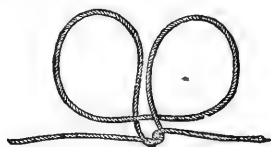
another pair is similarly placed across the pedicle. When the width of the pedicle is too great to be included within the jaws of a single pair of forceps, two pairs are used below and above. They are applied from opposite sides of the pedicle, and their points meet, so as to include the entire width of the pedicle.

A well boiled, double, carbolized silk ligature is now passed through the centre of the pedicle below, but touching the lower pair of forceps. The ligature is now divided into two equal parts, one for each half of the pedicle. As each half of the pedicle is firmly constricted by the ligature the forceps is lifted, and the former sinks into the groove made by the latter.

A wet sponge is now placed beneath the pedicle, and it is divided with Paquelin's cautery below the upper forceps, which is removed with the cyst. The free ends of the ligatures are cut off near the knots, and the pedicle is dropped in.

Professor Nussbaum, of Munich, ties the pedicle in sections with carbolized cat-gut ligatures, cuts off the free ends of the ligature, and drops the pedicle in. Professor Schroeder, of Berlin, holds the spread-out pedicle between his eye and the light as he passes carbolized silk ligatures through it; he thus avoids wounding its vessels. He cuts off the free ends of the ligatures, and drops the pedicle in. Professor Küster, and Dr. Martin, of Berlin, treat the pedicle in the same manner. Mr. Lawson Tait secures the pedicle with a double silk ligature, free from carbolic acid or wax, cuts the free ends off, and drops the pedicle in. His method of applying the ligature is peculiar, and I give it more fully. It is a constricting double noose, which he calls the "Staffordshire knot." A long-handled needle, with the eye near the point, is armed with a strong silk ligature, its middle point resting in the eye of the needle. Holding the pedicle with his left hand, with his right he passes the needle through the centre of the pedicle, slips his left index finger through between the ligature and needle, withdraws the latter, leaving the ligature caught

over the finger. Taking hold of the loop at the point where it is held by the left index finger, he draws the ligature through the pedicle sufficiently far to get a large noose, which he carries over the top of the pedicle, and places it between the free ends of the ligature. Taking hold of the free ends of the ligature, and winding them around his hand, he draws firmly upon them, and the pedicle is at once constricted by a double noose, which cannot slip. Taking the free ends of the ligature, one in each hand, he ties firmly against the pedicle a surgeon's knot, close to which the free ends of the ligature are cut away, and the pedicle is dropped in. The following wood-cut will illustrate the "Staffordshire knot."



TAIT'S STAFFORDSHIRE KNOT.

Mr. Thornton, of the Samaritan Hospital, treats the pedicle with the ligature, which is always carbolized. He cuts off the free ends of the ligature and drops the pedicle in. Dr. Bantock, of the Samaritan Hospital, treats the pedicle in the same manner, but the ligature is not carbolized, nor is it waxed. Dr. Bantock abandoned the use of the clamp in November, 1875; and Mr. Thornton, according to the "Transactions of the Medico-Chirurgical Society," abandoned it in July, 1876. Other operators whom I have seen in London use the ligature carbolized and cut short.

Mr. Spencer Wells,<sup>1</sup> in the last edition of his book, still recommends the use of the clamp,<sup>2</sup> and also the ligature. I think, therefore, that I am safe in saying that Mr. Wells<sup>3</sup> is the only prominent representative of the extra-peritoneal method of treating the pedicle, a method which began with Stilling in 1848. Mr. Wells has been the great apostle of the clamp, or of the extra-peritoneal method, emanating from Stilling.

<sup>1</sup> Second edition, p. 316.

<sup>2</sup> *Ibid.*, p. 317.

<sup>3</sup> I have not yet seen him operate.

Dr. Thomas Keith has been the great apostle of the cautery as used by Mr. I. Baker Brown, who for its suggestion also reverted to Stilling. Thus the two greatest of living ovariologists have followed directly opposite methods of treating the pedicle, both methods emanating from the same mind.

The best results in ovariectomy yet obtained are those of Dr. Thomas Keith. They have been obtained by the use of Baker Brown's cautery, aided by drainage, as taught Dr. Keith by Kœberlé, of Strassburg, about 1865. Had it not been for Dr. Keith, the teachings of Mr. Baker Brown would have been lost, and the intra-peritoneal method of treating the pedicle would have lacked the powerful argument of this great operator's experience.

His method of using the cautery is as follows: When the cyst is delivered, Dr. Keith places Brown's clamp around the pedicle, and screws the blades firmly together. He now cuts away the cyst, severing the pedicle a full half-inch above the clamp. He now loosens the blades slightly, and, with the forceps, draws the tissues of the pedicle toward the centre of the clamp, and again tightens the blades. With a cautery iron at a dull red heat he slowly cooks all that portion of the pedicle above the clamp, slowly heating the latter at the same time. With a second iron he slowly burns away the already cooked end of the pedicle. The charred edge, still remaining over the line of junction of the blades of the clamp, is now entirely burned away with a third iron, having a hatchet shape.

The clamp has now been heated to a degree sufficiently high to cook that portion of the pedicle between its blades, and to convert it into a substance resembling cold glue or a bit of cutting from a horse's hoof, and having upon its surface all the indentations of the serrated edge of the clamp.

The clamp is now carefully and slowly cooled, and the pedicle, having been secured from escape into the pelvic cavity sufficiently long for examination, is released. Only once in his experience has a vessel bled after the clamp was

removed. In this case the pedicle was very short, and was burned off under extreme tension. This case occurred during my visit to him.

The question of spray in ovariectomy is still an unsettled one. During the three months I spent with Dr. Keith he used spray in only two cases.

Both patients died, and they were the only deaths he had during my visit. In one of the cases a spray of boroglyceride was used, in the other a two and a half per cent. solution of carbolic acid. Both operations were done in the Royal Infirmary. I believe if they had been done outside of the Infirmary the patients would have escaped septicemia. At this time there were deaths occurring to other operators in the Infirmary from septicemia. Dr. Keith told me that the operations done by him in the infirmary were ruining his results, and that he would cease operating there. In general surgery he uses carbolic spray, and speaks well of it. But he does not like it in abdominal surgery, so far as he has given it a trial. His experience was limited to the use of a five per cent. solution in the bottle attached to the spray apparatus, excepting in the case I have already spoken of, in which he used a two and a half per cent. solution. He says the five per cent. solution poisoned some of his patients. The assertion that he used solutions of carbolic acid a tenth stronger than Mr. Lister advises, Dr. Keith pronounces "a lie." Leaving out or including his spray operations, his results are still the best which have been obtained. But as he treats the pedicle with the cautery, he probably requires antiseptic precautions less than other operators. Mr. Lawson Tait ridicules the whole Listerian practice, and he is as honest in his practice as he is in earnest in his denunciations. He uses only *plain tap water for instruments, sponges, and ligatures*. This I assert from a long personal observation of his operations, both at the Woman's Hospital and at his private hospital. If he has any regard for Listerism, I have not seen it. Carbolic acid does not touch his intra-abdominal cases. He is particular to have clean sponges, ligatures, and in-

struments. Dr. Bantock says that carbolic spray produces high temperatures, and has given up Listerism. Dr. Keith and Mr. Lawson Tait have had excellent results without spray. Dr. Keith has done fifty operations with but one death. Mr. Lawson Tait has done one hundred and four with only three deaths. These operations were all for the removal of ovarian cysts, parovarian cysts, and myomata.

Of those who operate with the spray, I will mention first Professor Schroeder, who has done one hundred operations with only seven deaths. Dr. Savage, of Birmingham, has done, up to June 30, 1882, one hundred and twenty-five operations for the removal of diseased ovaries, cystic ovaries, and diseased Fallopian tubes. One hundred and twenty patients recovered; the five who died had large ovarian cysts removed. All these were done under spray. Dr. Martin, of Berlin, told me that the spray had proved of advantage to him in improving his record of recoveries. Mr. Thornton saved ninety out of his last one hundred patients, and Mr. Wells saved eighty-eight out of his last hundred, all under spray. Dr. Keith did one hundred operations under the spray with only six deaths, then fifty without the spray with only one death; and if we add one case done by son and father together, it would have been fifty cases without a death. My own conclusion, from this year's observation, is that the spray, in a large number of cases, will make very little difference. The number of deaths from carbolic poisoning will not, under a proper spray, exceed two or three in a hundred cases, and it may save others who would die without it. This constitutes the enigma. Time will settle it. *Absolute cleanliness is the great thing after all.*

At the present time, with all this conflicting testimony in regard to the spray, it is difficult to be sure of anything. When I left Germany, at the close of last April, I would scarcely have dared to do an intra-abdominal operation without spray. My observations during the last four months have been to diminish my estimate of it *in intra-abdominal surgery*. Independent of the spray, I hope I may

never lose my appreciation for the teachings of Mr. Lister. On the Continent of Europe, spray or irrigation is met with everywhere, and with surgeons generally Listerism is not losing ground. In intra-abdominal operations Professor Billroth fills the room with spray prior to operating, but turns the spray off during the operation. I saw Professor Langenbeck operate without it in a public clinic. But Professor Nussbaum, Professor Schroeder, Professor Küster, Professor Esmarch, Dr. Martin, and others, all use it, and give unanimous testimony in its favor.

I regret that I cannot be present to enter into the discussion of this paper, but I would ask my countrymen to weigh all the points of difference between clean and skilled operators and careless and unskilled operators in reference to the necessity for any theory of special protection from ordinary surroundings. Certain other things there are, which we call conditions, that are favorable or unfavorable in reference to ovariectomy leading to success or failure, and of great importance.

Among the conditions leading to success I would place the following:—

1. Climatic influences.
2. Avoidance of the clamp.
3. Drainage.
4. The judicious use of purgatives after the operation, *dangerous ground*.
5. The judicious use of opium.
6. The presence at the operation of only those whose presence is required.
7. A good assistant, and always the same assistant.
8. A careful administrator of the anesthetic.
9. Absolute cleanliness, as to person, sponges, instruments, and ligatures.
10. Avoidance of the operation in public hospitals.
11. Doing the operation in well-regulated private hospitals.
12. Avoidance by the operator and his assistant of all septic diseases, and of the examination of women who are menstruating, or having lochial discharges.

13. Proper application of the ligature or cautery.

14. Complete cleansing of the cavity of the peritoneum after operating.

Among the conditions leading to failure I would place prominently the following : —

1. Climatic influences.

2. Extra-peritoneal treatment of the pedicle.

3. Insufficient regard to proper drainage.

4. Constipation not relieved prior to the operation.

5. The injudicious use of opium.

6. The presence of a crowd.

7. Want of cleanliness.

8. Overdoses of anesthetics.

9. Hospitalism.

10. Septic contamination of operator, assistant, or nurse.

11. Insufficient experience in operating, or want of practical knowledge of the operation.

12. Changing assistant and nurse.

13. Doing the operation at any time or place the opportunity offers.

14. Repeated tapping of the cyst.

15. Delaying the operation too long.

16. Operating in the presence of organic disease of other organs, especially of the kidneys.

I am only too well aware of the positiveness that characterizes this paper. My apology for it is a long and conscientious study of intra-abdominal surgery. A year ago I became dissatisfied with my own results,<sup>1</sup> and came abroad with the view of extending my study of the subject among

<sup>1</sup> Three successful ovariectomies out of five completed operations. One of the fatal cases was an old dermoid cyst, frequently tapped. The second fatal case was diagnosed as one of twisted pedicle, and proved to be such with a rotten cyst; local jealousies prevented, in this case, an operation a week earlier. The cyst was free from a single adhesion, but the patient's blood was already poisoned.

My sixth case was an incomplete operation, and the patient died.

My seventh case proved to be a mistake in diagnosis. An incision revealed a case of chronic peritonitis, with the small intestines glued into a mass, which, floating in the fluid in the cavity of the peritoneum,

the most successful operators on the Continent of Europe and in Great Britain. Through the courtesy of these operators, whose names are nearly all mentioned, I have had the opportunity of witnessing one hundred and two operations involving the abdominal cavity, of examining the growths after removal, and of observing the after-treatment and results of a large number of the cases. If this paper will aid my colleagues in their respective fields of labor, I feel sure it will prove no less a source of gratification to these operators than their *unbounded kindness* has proved beneficial to me.

was mistaken for a tumor. A post-mortem in this case, soon afterwards, revealed the tubes of Rosenmüller's body full of small cysts, varying in size from that of a small pea to that of a large grape, and their contents appeared to be a clear serum, slightly viscid. These constitute all the operations I ever did for the removal of ovarian cysts.

Two of the patients have since given birth to four children, the third was unmarried a year ago.



# LEUCORRHEA CONSIDERED IN RELATION TO ITS CONSTITUTIONAL CAUSES AND TREATMENT.

BY FORDYCE BARKER, M. D., LL. D.,

*New York.*

It is probable that many feel an apology is due for taking up the time of this Society in discussing so common a disorder, with which every medical man is familiar. But it has seemed to me that as leucorrhœa is not a distinct disease, but a symptom of many different and even opposite pathological conditions, there has been a neglect of its study by gynecologists for some years past, and practically a forgetfulness of the fact that it not rarely originates from constitutional causes, and that when long continued it becomes itself a cause of local and important pathological changes.

In the works of Sir Charles Mansfield Clark, Drs. Ashwell, Henry Bennet, and Tyler Smith, this affection is fully and most ably discussed; but the work of the last of these writers was published more than a quarter of a century ago, and no writer on diseases of women since that time has considered it, except incidentally as a symptom of some local disease, with the exception of Courty, Stoltz, and Dr. Robert Barnes, who call attention to some of its constitutional causes. I find this to be equally true of American, English, French, and German gynecologists. After a careful examination of all the writers in these different languages, and a thorough search for anything written on the subject referred to in the "Index Medicus," and the bibliography of the "Nouveau dictionnaire de médecine et de

chirurgie," I have been greatly surprised at the meagreness of the literature of the past twenty-five years on this subject.

The great improvement in physical exploration resulting from the introduction of Marion Sims's instruments and methods, and the use of the uterine sound, tents, bimanual examinations, and microscopy, have led to a careful study of organic changes as to structure and relative position, but seems to have been attended with a corresponding neglect of some other equally important points, and consequently their associated therapeutics.

If I may be pardoned for referring to personal experience, I will say that my opportunities for appreciating this fact, encompassed as I am by some of our most eminent surgical gynecologists, are probably somewhat exceptional, from the fact that for years past I see annually many patients who have previously been under the care of, and no doubt have received the best of surgical treatment from, men whom all regard as most eminent. Some have had the cervix incised, others have had it sewed up; others have had the cavity of the uterus scraped out, and others have only been treated by pessaries. Most have believed themselves, and no doubt have been, greatly improved for a time; but finding that their symptoms have returned, they have gone back to their former physician, and have again received local treatment. A large proportion of them have again thought themselves cured, but after a period varying from months to years, the leucorrhœa, the back-ache, the irritability of the bladder, and the nerve disturbances have returned as badly as before, and the patient has been wrongly inclined to regard her physician, whom she at first enthusiastically adored, as after all a fraud.

In a smaller number of cases I have had occasion to suspect that it was the physician who wrongly believed the patient to be a fraud. The regularity and persistency of her visits have worn him out, until he has come to that point that he would rather take an emetic than see her enter his consulting room, as the "damnable iteration" of

her symptoms is sure to give him a warning of Trousseau's vertigo *a stomacho læso*, and so he gets rid of her the best way he can, perhaps by sending her to me.

It must be frankly confessed that this class are not generally interesting either as patients or cases, and I always feel a deep sympathy and pity for myself when I have such to treat, although I know of some, more happily organized, who seem to build up a fine practice from just this class. It is a melancholy fact that duty demands of us to regard such from the stand-point of our patient and not from our own.

Leucorrhœa is the most constant of all the symptoms complained of by this class of patients, and usually it is regarded by them as the most important, and as being the cause of the debility, the back-ache, neuralgic pains, and menstrual disturbances from which they suffer. I am inclined to the belief that there is a larger measure of truth in their theory on this point than is usually considered by the profession, for in many but slight evidence of any organic disease, either from change of tissue or position, is found to explain the symptoms. Such disease probably had existed before I saw the patient, and had been cured by treatment. In a certain proportion careful inquiry would bring out the fact that for a while after treatment they had been quite free from all symptoms of disease, and that the first which attracted attention was the recurrence of the leucorrhœa, followed by back-ache, debility, various reflex pains, and menstrual disturbances — in some painful and scanty menstruation, in others profuse discharges, or diminished intervals between the catamenial periods. In this class there was always found some pathological condition of the organs in the pelvic cavity, and in many this disappeared after constitutional treatment, without any local applications except vaginal injections.

For many years I was an entire disbeliever in the opinion of Tyler Smith that leucorrhœa was in many cases the primary cause of morbid states of the os and cervix uteri; and while now I am not at all disposed to accept the state-

ment that this is the fact in a majority of cases, in the past few years I have been convinced that this is true in some. My observation and clinical experience have confirmed some of his views which I formerly rejected.

He expressed the belief that he was the first to call attention to the fact that long-continued leucorrhœa slowly induced inversion of the canal of the cervix, thus causing increased pain and distress. He asserts that "when the canal of the cervix uteri is thus inverted or everted so as to bring the penniform rugæ into view, an appearance is presented which might readily be mistaken for ulceration," and he suspected that "what has been called the cockscomb granulations or ulcerations is often formed in this way, the serrated edges of the so-called ulcer being in reality the penniform rugæ presenting at the os uteri denuded of epithelium, florid and enlarged." All remember that Dr. Emmet has graphically described this condition as generally one of the results of old lacerations of the cervix uteri, and I deem it quite probable that this was the unrecognized fact in the cases of Tyler Smith.

I distinctly recall the circumstance that when Dr. Emmet first had the kindness to show me one of his patients, I remarked, "Why, this is exactly what I have been accustomed to show to students as Evory Kennedy's cockscomb granulations," when Dr. Emmet repositied the canal, and, quite to my surprise, the apparent granulations disappeared.

I have seen two cases of this character in patients in whom Emmet's operation for the cure of laceration had been previously performed, in one by Dr. Emmet, and the other by Dr. Sims. In both the operation was successful in relieving them from all distressing symptoms; in one for over four years, and in the other for nearly three years. The history of these patients was singularly alike, in that both were afterwards broken down by attendance and nursing of ill members of their family. Soon after, they were annoyed by a profuse and irritating leucorrhœa. Then followed too frequent and prolonged menstrual periods, backache, and reflex neuralgias. From the appearance of the

cervix I should never have suspected that either ever had laceration, but in both the so-called cockscomb granulations were very characteristic, but I could only in a very slight degree reposit the canal of the cervix, as can be done when this condition is the result of an existing laceration.

In both the general health was perfectly restored, the menstrual irregularities were overcome, the leucorrhœa entirely disappeared, and the os tinæ regained a perfectly healthy color and form from constitutional treatment and the use of vaginal injections. In neither case was there any other local treatment. I may add, as a fact of some interest, that one of them gave birth to her only living child sixteen years before the operation. She afterwards had eight miscarriages, which, as she told me, Dr. Sims thought due, no doubt correctly, to the laceration. Emmet's operation was performed nearly three years ago, since which she has not again become pregnant until now, when, at the age of forty-three, she expects her confinement in November.

The influence of leucorrhœa in developing disease of the pelvic organs may have been over-estimated by Tyler Smith, who believed that in a majority of cases in which morbid states of the os and cervix were present, cervical leucorrhœa, or, in other words, a morbid and augmented secretion from the mucous glands of the cervical canal was the most essential part of the disorder, and that the diseased conditions of the lower segment of the uterus were often secondary affections resulting from the leucorrhœal malady.

In the cases that I have just mentioned, as well as in many others that I have seen, his assertion seems to have been confirmed, that a morbid condition of the cervix uteri may be remedied again and again with a tolerable certainty of the recurrence of the disorder, unless the cervical secretion be brought to a healthy condition. He believed that "leucorrhœa was often not only the cause of epithelial abrasion of the os and cervix and superficial ulceration, but, when long continued, by its consequent irritation it generally induced induration and enlargement of the os and cervix."

It is often very difficult to determine which given condition bears the relation of cause, and which of effect. But clinical experience has convinced me that his views on this subject have more foundation than I formerly supposed. Some years ago a lady from a Western town called on me in June only a few days before I was to leave the city for the summer. She had long suffered from uterine disease, and had been treated by many able physicians with temporary benefit. Two years before she had passed the winter in New York under the treatment of an eminent gynecologist and particular friend of mine, now dead, who had made applications to the cervix every fifth day — except during menstruation, which was profuse and prolonged — for several months. She returned to her home in the spring very much better, so that she thought herself cured, although the leucorrhœa was not perceptibly less. All her bad symptoms soon returned, and when I saw her she was in a miserable condition — extremely debilitated and anemic, a great sufferer from neuralgic pains, and from profuse but very irregular menstrual losses. The cervix was very low, resting on the perineum, very much enlarged, and painful on the slightest pressure. The vagina was filled with an offensive muco-purulent fluid, and the os patulous, presenting as marked an appearance of the so-called cockscomb granulations as I ever saw, which bled on the slightest touch. She also suffered greatly from gastric disturbances, obstinate constipation, and painful hemorrhoids. I may mention that I was obliged to put her under the influence of chloroform in order to make a satisfactory examination. I did not much care to have the responsibility of the case, and vainly endeavored to induce her to place herself under the treatment of the late Dr. George T. Elliot, who was to be in the city during the summer, but she was not transferable. So, after seeing her for a few days, I gave her such prescriptions as I hoped would be useful in overcoming her gastric troubles, the constipation, and the hemorrhoids, and, if these means proved successful, she was then to take continuously for months the chlorate of potash and the lactate

of iron in the infusion of columba. I advised her also to pass the summer at Long Branch. She had not been able to walk, and had been carried up and down stairs for more than eighteen months. Sea bathing was therefore impossible, but I directed that she should be sponged with sea water, and afterwards thoroughly rubbed, and that she should use a quart of sea water as a vaginal injection every night and morning, except during menstruation and the two days preceding and following this period. In September this lady greatly surprised me by walking into my consulting room so entirely changed in her appearance that I did not in the least recognize her. The change in her pelvic organs was equally remarkable. The cervix was still enlarged, but was reduced at least one half in size, and much higher in the vagina, and the os presented a healthy color and form. She had not been conscious of leucorrhœa for several weeks, an exemption which she had not had before for many years. She remained in New York for a few weeks only. I will add that this lady in early married life had two children, but lost both when young by scarlet fever. She had not been pregnant for twelve years, when I saw her first. She came to New York in January, two years afterwards, to be attended by me in her confinement, which terminated happily, and she has been in excellent health since that time.

This case has been a most instructive lesson to me, and in several others where circumstances have not permitted the use of any local treatment. I have seen leucorrhœa, and various morbid conditions of the os and cervix, disappear by the use of proper hygienic measures, and such treatment as was indicated for the improvement of the general health. Tyler Smith in positive terms states his belief that what is called the "irritable uterus" is nothing more than leucorrhœa, attended by a neuralgic condition of the os and cervix uteri. It must be understood that he uses the term leucorrhœa as signifying the same condition which Scanzoni calls "chronic catarrh of the uterine mucous membrane." I have long given up the treatment of

this troublesome class of cases which Gooch designated as irritable uterus, by topical agents, but I have had some success in constitutional treatment, and will presently refer to the physiological and anatomical reasons for this course.

While all accept the statement that local and constitutional causes combine to develop leucorrhœa, yet I think it may be questioned whether the latter be not too often disregarded in the present day, both in the diagnosis and the treatment of this disorder. Many of these constitutional causes, such as atmospheric changes which develop other and general catarrhal affections, a cold damp climate or residence, plethora in some, anemia in others, everything which induces defective nutrition and debility, as prolonged lactation, excessive fatigue from certain employments, the continued standing position for many hours of shop girls, are all so well understood as causes, that further reference to them would be a waste of time. The influence of nerve disturbance as a consequence of defective nutrition in causing this affection, is perhaps not so generally appreciated, although most practitioners know the fact that in some of their patients strong mental emotion is sure to bring on a troublesome leucorrhœa.

The anatomy and physiology of the organs of reproduction in women are no doubt well known to all practitioners, but I suspect that many overlook the bearing of certain points on the affections we are now considering. Mayrhofer calls attention to the fact that in virgins the arteries of the uterus have a straight course, but during pregnancy they are turned spirally, and after confinement they never recover their straight direction. He suggests that this may explain the reason why disturbances in the uterine circulation which have the character of retardation are more easily remedied in virgins than in parous women.

But the veins are of much more importance in the question of impeded circulation than the arteries, not only because they are much more numerous, but because they have no valves. They debouch into the uterine and pampiniform plexuses, which are situated outside of the peritoneum,



and when the pressure of the abdominal cavity is greater than that of the atmosphere it prevents them from being emptied. Preparations of the uterus injected with wax show an enormous preponderance of veins over arteries. Then it must be remembered that the uterus is a muscular organ, and that when there exists a deficiency in contractile power, as in an enlarged and flabby uterus, this contributes to a blood stasis and venous congestion, and consequently a morbid condition of its glandular secretions. It must be obvious that anemia, defective nutrition from bad blood, all the so-called cachectic conditions, any disease of the heart which weakens its propulsive force — all these conditions diminish the power of overcoming the impediments in the way of the removal of the venous blood from the pelvic vessels, and especially those of the uterus and its surroundings.

The importance of the liver and its portal circulation has long been known and insisted upon, notably by Rigby and Mackenzie.

There are numerous cases which come under the observation of medical men in which all these physiological and anatomical considerations have an important bearing, where local treatment is not practicable, or would be worse than useless. I will only allude to a few which may be mentioned as distinct classes.

Leucorrhœa to such a degree as to attract attention, with its associate symptoms, menstrual irregularities, back-ache, and irritable bladder, is not at all rare in young unmarried ladies. Every year many such are brought to me, chiefly from those who have come to the city to finish their education, as it is termed.

I may be permitted to remark parenthetically, that, contrary to what I believe is the general impression, my observation leads me to the conclusion that a large majority of such greatly improve in their appearance and health by coming to the city, when they have sufficiently large and well ventilated dormitories, and are not crowded in study rooms warmed only by furnace heat, or in an atmosphere vitiated

by gas-lights, and are not over-stimulated to study and practice at the piano; for they have an abundance of well-prepared food and regular open air exercise, and some, for the first time in their lives, have an intelligent supervision of their hygienic habits and conditions. There has been a wonderful change in these particulars in our New York schools within a few years past.

But exceptions are found under the most favorable surroundings, and the disorders we are now discussing are not rare, particularly during the first year of their school residence in the city. The moral depression from home-sickness, and exhaustion of nerve power exercised in unaccustomed directions, seem to me the most common of the constitutional causes in these cases. I suspect the most frequent error in the treatment of such cases is found in a disregard of the necessity of such remedial agents as will secure a healthy performance of all the organic functions—a neglect of the *morale*, and a routine prescription of some preparation of iron, which, under these circumstances, is sure to destroy the appetite and produce headache, sleeplessness, and other nerve disturbances. I have had many brought to me, taken away from school by anxious parents, where this has apparently been the history.

In very many cases in which leucorrhœa and other uterine disorders have been the consequence of parturition, local treatment is useless, and often positively injurious, but a cure results from appropriate constitutional treatment. Of course, a careful and thorough examination should be made of the organs in the pelvic cavity in all such cases, and if any lesion be found which local treatment can cure, it should be resorted to. But local treatment will not effect involution of a large flabby uterus, or contract its enlarged veins, and, to my mind, it is very doubtful whether it be useful in effecting restoration of defective tissue. But I do believe that these results may often be accomplished by proper constitutional treatment.

In women who have passed the climacteric, leucorrhœa is not an uncommon disorder, which not only greatly annoys

them, but often causes great anxiety of mind. I think that such women are generally much more averse to a physical examination of the pelvic organs than at an earlier period of life—I may even say than some of the virgins—partly from a fear that malignant disease may be found, but chiefly from psychological reasons. Fortunately, in a vast majority of cases, such examination is not necessary, as the disorder arises from constitutional causes. If it be due to such local conditions as prolapse of the vagina or uterus, vaginal cystocele, rectocele, or hemorrhoids, there will be other symptoms indicating the necessity for examination of the organs. If the leucorrhœal discharges are occasionally sanguinolent, or there are occasionally small losses of blood from the genitalia in women who have for months or years ceased to menstruate, I think that an examination is absolutely imperative.

I deem it quite unnecessary to take up the time of the Society in describing the numerous constitutional disturbances which cause this affection in women who have passed the climacteric, or in mentioning the various indications for treatment.

I have been tempted to detail some cases illustrating the various points which have been discussed, but before such a society as this, I deem it wholly unjustifiable to rehearse well-known elementary facts, and my only excuse for this paper is the belief that the very rapid advance which gynecology is making in other directions has led to a neglect of some considerations of great importance.

#### DISCUSSION.

DR. G. H. LYMAN, of Boston. — I have long been convinced that such a paper would be of great service to the Society, as I think we are too much in the habit of giving up old views concerning constitutional causes, and trusting too much to local treatment. The cases are numerous, and must come into the experience of every man, in which we can find no cause for the leucorrhœa, unless it can be accounted for by anemia, or the general relaxation of tissues with positively no local disturbance re-

quiring anything more than simple cleansing local treatment. If I understand the author of the paper correctly, he has made a step in the right direction, and has pointed out to us the necessity of more and more employing constitutional measures in these cases, rather than trusting to local treatment.

DR. H. P. C. WILSON, of Baltimore. — I was greatly interested in Dr. Barker's paper. Leucorrhœa is a condition which we frequently see. It may be a symptom of an overtaxed brain in a school-girl, a symptom of indigestion, or it may occur from various other causes. I have learned to regard it as merely a symptom of some other condition, which is the one requiring special treatment. I think we have all of us become too much absorbed in the local treatment of leucorrhœa, and that we have all forgotten the constitutional treatment which belongs to every case in gynecology. We find a retroverted, or a sharply anteflexed uterus, and we expect to rectify these mechanical troubles, and to cure our patients, but we very often fail. Frequently in these cases, after having resorted to general therapeutics and the proper hygienic management of the patient, and then having rectified the local trouble, if it be required, we find that we have succeeded the best. We all know that the woman who has local uterine trouble gets into a demoralized state of mind, more or less. Even after you have rectified a retroverted uterus this condition of things continues for a long time, her entire vital force is concentrated upon her genital organs, and she goes for months and years together from one medical man to another, and very often her mechanical trouble is finally removed, and she gets well by means of something which suddenly shocks her and brings about an entire change in her mode of life. If these patients could be occupied busily in such matters as divert their attention, and receive only such treatment as was necessary to keep their bowels in good condition, and correct indigestion, and be induced to take sufficient exercise, they would improve from hour to hour, and I am beginning to feel more and more that general therapeutics in gynecology are as important as local therapeutics.

DR. A. REEVES JACKSON, of Chicago. — I find myself always surprised to see the interest excited by old subjects, when they are presented by those who can make them attractive. Twice to-day I have been thus surprised. All of us have had cases of leucorrhœa which depended upon some local cause, and yet, although the local cause was apparently removed, that miserable

symptom still remained. I have had such cases, and have treated them topically by every means known to me, hoping that they were cured, but back the patients came soon afterwards, and at once spoke of the recurrence of the leucorrhœa. I have given attention to their bowels, but no benefit has followed, although the condition of constipation was improved; and in many cases I have been unable to remove the leucorrhœa after having carefully corrected all the local causes which I was able to find, and after resorting to such constitutional treatment as I thought the case required. All of our patients are not able to go to Long Branch, as was the patient referred to by Dr. Barker — some of them are not even able to obtain the tincture of columbo — and what we need is some instruction as to how they shall be managed. I had hoped that Dr. Barker would give us a little more explicit instruction with reference to general management in these cases. However, I think it is impossible to tell how to manage all of them, and, as I understand it, the principal object of the paper was to direct attention to the necessity of combining the two plans of treatment, namely, the local and the constitutional. The sermon which he has preached was a good one — just such a one as we need — and was as good as could be preached from the text. Personally, I am grateful to him for the opportunity of hearing his paper.

DR. JOSEPH TABER JOHNSON, of Washington. — I have nothing special to add to what has already been said, except to express my interest in the subject, and to say, with others, that I have seen cases of leucorrhœa which have already been through various kinds of treatment, and, in a number of instances, unsuccessfully. I have been surprised in one or two cases, where it was necessary for patients to withdraw from treatment and return to their work, that they finally got well, apparently at least, as the result of an entire change in their modes and habits of life. Whether it was the exercise, or the change in occupation and change of thought, etc., which produced the cure, I am not positive; but I think they had a great deal to do with their recovery. I recollect one patient particularly, whom I was unable to cure with any of the remedies which I had administered, but who got well after all treatment was stopped. I am certain that considerable constitutional treatment must be combined with local treatment, in order to cure these cases. If there is a local lesion it would seem to be common sense to direct our efforts

toward its cure, and, when constitutional remedies are necessary to complete the result, to administer them. It is certain that leucorrhœa continues after local lesions have disappeared, and leucorrhœa also occurs without local lesion; and both these classes of cases may require constitutional treatment. I am pleased to have heard the paper, and I have been very much instructed by it.

THE PRESIDENT. — The great point in this subject is that we should find out the cause of the leucorrhœa, and then the burden of responsibility remains with the surgeon as to the cure. There is one point which Dr. Barker includes, but which has not been fully elaborated, and it is that we must look upon the symptom leucorrhœa as caused by perverted or impaired nutrition in every instance. We can understand why the effect should centre upon the uterine system, be the cause whatever it may, whether too much grammar, too little exercise, or a constipated condition of the bowels. The sympathetic nervous system presides over nutrition, and also over the organs of generation; and the relation being so close, the one sympathizes with the other. We find that the blood vessels which go to supply the erectile tissue forming the organs of generation are covered with a network of fibres from the sympathetic, the same nervous system which presides over the organs of nutrition; and I can, therefore, understand fully why a young girl should have a functional disturbance, with a leucorrhœal discharge, if over-worked by mental labor, and that it would be a condition of perverted nutrition.

DR. BARKER. — It was not my intention to depreciate a most careful physical exploration, but simply to call attention to the fact that there are cases where, on account of peculiar circumstances, local treatment and a local examination are not possible, practical, or useful.

## CARE OF THE PERINEUM.

BY THEOPHILUS PARVIN, M. D.,  
*Indianapolis, Ind.*

ONE of the most important duties of the accoucheur in the second stage of labor is the preservation of the vulvo-vaginal orifice from injury during the passage of the head and shoulders of the fetus, or if injury must be, to have it the least possible.

Matthews Duncan suggests that in the Darwinian progress of the species, the head of the fetus has increased in size more rapidly than the orifices and passages through which it has to come have increased in size and dilatibility. Be this as it may, both he and Schroeder have shown that in primiparæ some tearing of the vaginal orifice is inevitable, only thirty-nine per cent. of women in their first labor, according to Schroeder, escaping rupture of the fourchette. Beside, there may be serious rents of the anterior margin of the vulval orifice, such rents sometimes causing fatal hemorrhage. The perineum is especially liable to rupture from the direction of the propelling force, the lesion generally being in the median line, for there is the greatest distention, and there the tissues are furthest from their points of attachment.

Even where the perineum receives no injury at once apparent, it may have been subjected to such pressure and distention that though entire even for a few days after delivery it finally gives way, and the resulting condition is similar to laceration. Dr. James F. Hibberd<sup>1</sup> has recently reported two cases of the kind; similar cases were previously<sup>2</sup> published

<sup>1</sup> *American Practitioner*, August, 1881.

<sup>2</sup> *Papers on the Female Perineum*, London, 1879.

by Matthews Duncan, but long before this the late Dr. Dewees<sup>1</sup> recorded in his well-known work an example due to delay in the use of the forceps.

The frequency with which rupture of the perineum occurs is an unsettled question, for even careful and experienced observers differ in their statements, while many practitioners after attending hundreds of cases of labor assert that they have never had a case of this accident, an assertion which can never be accepted unless the person making it can also state that he has carefully examined the perineum in every case immediately after labor. The following are among the statistics of eminent obstetricians: 34½ per cent. for primiparæ, 9 per cent. for the parous, Schroeder; 115 in 1,011 deliveries, Winckel; 21 per cent for primiparæ, 4.7 for parous, Olshausen; 7½ per cent., Hildebrandt; 31 partial, and only one complete in 400 deliveries, Swayne; on the other hand, Marduel, from whose paper<sup>2</sup> the preceding statistics have been taken, states that in 300 deliveries at the Lyons Obstetric Clinic he has not seen a single rupture of the perineum, a fact which is certainly very remarkable.

The causes of the lesion relate to the pelvis, the condition of the soft parts, to the fetus, to the conduct and the character of the labor.

As to the pelvis, the pubic arch may be acute, the sacrum too straight, or there may be lateral deviation of the coccyx.

Infiltration of the perineum, "rigidity from cicatrices resulting from traumatism, or consequent upon scrofulous or syphilitic disease, or from the advanced age of a primipara," and great prolongation of the perineum, are generally accepted causes.

In regard to the fetus, the chief causes are face and brow presentations, occipito-perineal delivery, great size of the head, as from hydrocephalus; nevertheless, mere size of the head is not, according to Hecker, in proportion to the frequency of perineal lacerations.

<sup>1</sup> *Compendious System of Midwifery*, 8th ed., p. 287.

<sup>2</sup> *Nouveau dictionnaire de médecine et de chirurgie pratiques*, vol. xxvi.



As to the conduct of the labor, delivery with the forceps offers a large contingent. But it should be remembered that in many of such cases the delivery was delayed until the tissues had become infiltrated, swelled, and the perineum had thus lost all facility or possibility of being stretched; in other cases immediate delivery was demanded in the interest of the mother or of the child, and art could not imitate nature in causing a gradual dilatation of the vulvo-vaginal opening.

The use of ergot in the second stage of labor has often caused tearing of the perineum; fortunately such use is much less frequent now than formerly, though obstetricians may hesitate to accept the rule of Pajot, "ergot is never to be given when there is anything in the womb."

Dr. Madden<sup>1</sup> regards a failure to properly support the perineum as the most frequent cause.

Finally, the great majority of perineal lacerations are caused by precipitate deliveries—force too great, time too short, the expelling power overcoming the resisting part not by stretching but by tearing.

It follows from the statement just made that in order to prevent these injuries, or to reduce them to a minimum, the most important duties of the accoucheur are to hinder the abrupt expulsion of the head of the fetus, and to promote gradual dilatation of the passage it goes through.

In attaining these objects one of the first things to be done is to have the patient lie on her side; generally the left side is preferred, though for other reasons than those relating to the protection of the perineum. The advantages of the side position are chiefly lessened abdominal pressure, and preventing wide separation of the knees; besides, in many cases a woman may prefer this position as being less offensive to her modesty, and in all it is the only one which permits inspection of the parts should this be necessary. Pressing with the feet on her part, or that upon the knees by another, must be forbidden. Frequent respiration and abstaining from all bearing down efforts must be enjoined, and

<sup>1</sup> *Transactions of the Edinburgh Obstetrical Society*, vol. ii.

if she does not refrain from the latter, chloroform or ether is to be inhaled; the anesthesia has, according to some authorities, the additional advantage of promoting relaxation of a rigid perineum.

If the dilatation be insufficient, the head is to be held back, and to be guided during its exit in the axis of the vulva. Hohl directed grasping the head, after the occiput has passed under the symphysis, with the hand, the thumb above and the fingers below extending to the anterior margin of the perineum, and thus holding the head back during a pain. Others apply a guiding pressure to the head with one hand, and with the other support the perineum in a way hereafter to be mentioned.<sup>1</sup>

Kleinwächter states that we have in the forceps an excellent means for regulating the descent of the head, and giving the soft parts time to dilate; and Barnes<sup>2</sup> suggests that occasionally the long double-curved forceps, by carrying the head well forward, may preserve the perineum. Dr. John Harvie,<sup>3</sup> the author of a brief tract, London, 1767, entitled "Practical Directions shewing a Method of Preserving the Perineum, and Delivering the Placenta without Violence," taught that the perineum was to be preserved by preventing its lengthening, and to this end he directed that "the perineum is by the palm of the left hand to be carried back toward the anus, and to be kept so all the time of a pain."

Others have advised furnishing more material to the perineum, some counsel pressing the tissues from about the anus, Siebold from the thighs toward the vulval orifice. Dr. Goodell directs hooking two fingers in the rectum and drawing the perineum forward, while the thumb on the head restrains, if necessary, its advance. Pugh taught that the vulval orifice was to be dilated with the fingers, "stretch-

<sup>1</sup> *Grundriss der Geburtshülfe.*

<sup>2</sup> *Obstetric Operations.*

<sup>3</sup> This gentleman was more famous from having married the niece of Smellie, and succeeding him as a teacher of obstetrics, than from his contributions to medical literature, the little volume from which I have quoted and two cases found in Smellie's *Midwifery* being probably all that came from his pen.

ing lengthways when the pains are off, circularly when the pains are on."

Smellie advised, not however with any thought of protecting the perineum, in certain cases where the head was drawn back after a pain, by the cord being round the child's neck, or by the shoulders being retarded at the brim of the pelvis, or when the uterus contracted around the child's neck, that one or two fingers be introduced to the rectum before the pain goes off, and pressure made upon the forehead of the child at the root of the nose; this measure detains the head till the return of another pain, which will squeeze it farther down, while the fingers pushing slowly and gradually turn the forehead round outwards and upwards. Ritgen, and more recently Olshausen and Ahlfeld have commended this method for the preservation of the perineum. It is used only at the close of the second stage of labor; the patient may be upon her side or upon her back, though the latter position is preferred; the index and middle finger are passed as far as possible into the rectum, and pressure made upon the forehead of the child, while the thumb is close to the fourchette to control that part of the head already born; as the head emerges pressure is made upon the superior, then upon the inferior maxilla until it is quite pushed out. The perineum is protected by delivering the head not during a pain but during an interval.

Dr. Lusk states that in cases of rigidity of the perineum he is in the habit of "alternately drawing the chin down through the rectum until the head distends the perineum, and then allowing it to recede," and that the parts become rapidly distensible by this to-and-fro movement.

Criticisms are not wanting as to the use of the fingers in the rectum to effect delivery of the head. Gardien objected because the coccy-pubic diameter was thus lessened, and because tending to impress on the head a different direction from that which nature gives it in disengagement. Nägele and Grenser class it among maneuvers that are painful or injurious; Kleinwächter says there is danger of injuring the rectum, and the method is not to be recommended;

Tarnier, that neither the Olshausen-Ahlfeld plan nor that of Dr. Goodell gives better results than others, and that they are painful.

Already the pressure of the child's head upon the rectum increases voluntary expulsive efforts, and the fingers within the rectum add to its resentment, as shown by these efforts, and thus a greater liability to precipitate delivery is caused.

Finally, the protection of the perineum is to be sought by supporting it during the expulsion of the head and of the shoulders; this practice is in accord, as remarked by Matthews Duncan, with that of the immense majority of the profession both now and in past times. Nevertheless, it is condemned by some of the most eminent living obstetricians, among whom may be mentioned Depaul, Leishman, Hewitt. Depaul says<sup>1</sup> that the first effect of supporting the perineum is to hide the part which it is important to inspect; the practitioner believing in complete security is deprived of certain indications which announce the imminence of danger, and very considerable rents occur under his hand which might have been prevented if a different course had been taken. He further says that attention should be directed not to increasing the resistance of the perineum, but to giving it time to be gently stretched; all our care is to be given to this, and for it to take place a certain time is required. Moderate the efforts when too violent, hold back the head when it receives too strong an impulsion, there is the secret of being master of the situation, and of doing something really useful.

Supporting the perineum is strengthening the weak part of an elastic ring, and relieving it of excessive strain. The hand should be applied directly, and with no intervening napkin; support is given only at the close of the second stage, and only during a pain. Supposing the patient to be lying on her left side, and with her hips near the edge of the bed, the practitioner applies his right hand so that the concave palm receives the convexity caused by the bulging perineum, the thumb is upon the right, the four fingers upon

<sup>1</sup> *Dictionnaire encyclopédique sciences médicales.*

the left labium majus, while the fold between the thumb and index finger corresponds with the anterior margin of the perineum. Great pressure is avoided, lest a thinned part of the perineum may rupture, but moderate resistance made to the driving force, and at the same time the head is gently pressed toward the pubic symphysis.

The left hand passed over the patient's right thigh, grasping the head after the method of Hohl, holds it back if necessary during a pain, and when it comes out guides it in the axis of the vulvo-vaginal orifice. As to pressing the perineum forward or drawing it back, it is to be remembered, as so admirably set forth by Dr. Garrigues,<sup>1</sup> that the orifice through which the head now moulded into somewhat of a cylindrical form, must pass, is an elastic ring, and that a cylinder will go through a ring most readily when the latter is at a right angle to the former: "Only if this relation between them does not exist, can it be of use to displace the posterior part of the ring forwards or backwards, according to circumstances."

In some cases the expulsive force and the resistance are so suitably related, the former not violent, and the latter gradually yielding, we may be confident there will be no tear even if the perineum be unprotected; nevertheless, it is better to have the hand applied to the fetal head after Hohl's method.

When rupture of the perineum is otherwise inevitable it is advised to prevent the accident by incision or incisions. This operation, though generally credited to Michaelis, 1810, was really first proposed by Ould in his "Treatise on Midwifery," 1742, as the following extract from this work shows: "It sometimes happens, though the Labour has succeeded so well, that the Head of the Child has made its way through the Bones of the Pelvis, that it cannot however come forward, by reason of the Extraordinary Constriction of the Vagina; so that the Head, after it has passed the Bones, thrusts the Flesh and Integuments before it, as if it were contained in a Purse; in which Condition if it continues long, the

<sup>1</sup> *American Journal of Obstetrics.* 1880.

Labour will become dangerous, by the Orifice of the Womb contracting about the Child's Neck ; wherefore it must be dilated if possible by the Fingers, and forced over the Child's Head ; if this cannot be accomplished, there must be an Incision made toward the Anus with a Pair of crooked Probe-Sizars ; introducing one Blade between the Head and Vagina, as far as shall be thought necessary for the present Purpose, and the Business is done at one Pinch, by which the whole Body will easily come forth." Ould also advised stitching the wound if the incision was made so near the rectum as to weaken its contraction. Most advocates of the operation have advised lateral incisions, but Tarnier<sup>1</sup> observes that they do not always prevent quite extensive lacerations, they may leave deformity and a painful cicatrix, or the duct of one of the vulvo-vaginal glands may be injured, causing a fistula ; and he therefore advises an incision of the perineum beginning at the raphe, and then not passing directly back but turning obliquely toward the side, so that if a laceration follow it will not involve the anal sphincter ; he wisely cautions against episiotomy unless it be quite indispensable, for he has sometimes seen the incised parts covered with eschars and become the medium of grave infectious accidents.

The late Dr. McClintock<sup>2</sup> stated that he had so often seen the perineum escape laceration where this accident seemed inevitable, he was led to doubt the possibility of recognizing the cases where incision is an absolute necessity. In view of this statement one might require conditions for episiotomy similar to those which Coleridge did for the Cæsarean operation : "I think there are only two things wanting to justify a surgeon in performing the Cæsarean operation : first, that he should possess infallible knowledge of his art ; and, secondly, that he should be infallibly certain that he is infallible." Playfair<sup>3</sup> says that when a distended perineum ruptures, its structures are so thinned that the tear is always linear ; and as a matter of fact the edges of the

<sup>1</sup> *Traité de l'Art des Accouchements. 3d fasciculus.*

<sup>2</sup> Sydenham edition of Smellie's *Midwifery.*

<sup>3</sup> *System of Midwifery.*

tear are always as clean and as closely in apposition as if the cut had been made by the knife. Of course the wound then heals as readily under favorable circumstances as will one made by the knife. Notwithstanding this high authority, ragged rents of the perineum sometimes do occur, and besides episiotomy might save the anal sphincter, whereas there is no security as to how far the rent may extend; it may also prevent bruising of tissues from the possible prolonged pressure before the rent happens.

As to the frequency with which the operation is required, obstetricians differ greatly: for example, it was resorted to by Dr. Johnston at the Rotunda Hospital three times in 2,246 deliveries, while in the Woman's Hospital, Philadelphia, it was done 56 times in 212 deliveries, that is to say in more than twenty-six per cent.

In case rupture occur, the importance of an immediate operation has been conclusively shown by the statistics adduced by Dr. Noeggerath.<sup>1</sup>

While not included in the title of this paper, a brief reference is made to the operation and to the after-treatment. In case sutures are used it is probable that horse-hair will answer quite as well as any other material; certainly it is generally readily had, for though the obstetrician may not always have good silver wire in his pocket-case, he usually has at the door a true cauda equina from which to draw his sutures.

Further, I believe it unnecessary to bandage the patient's knees together, for even if she were to widely separate them, a movement very unlikely to be made, it is doubtful if there would be any strain upon a single suture uniting tissues which have recently undergone such great stretching. The fixed approximation of the knees usually made after perineorrhaphy, is a great discomfort to the patient, and hinders the escape of the lochia as well as the thorough washing of the external sexual organs; possibly the use of the bandage might also be omitted after perineoplasty. It is well to have the patient lie upon her side when sleeping, and this is

<sup>1</sup> *American Journal of Obstetrics.*

the only precaution against separation of the limbs that is necessary.

If the patient can pass urine while resting upon her knees and face, the catheter ought not to be used.

#### DISCUSSION.

DR. JAMES R. CHADWICK, of Boston. — I have always regarded the term "supporting the perineum" as a misnomer. The whole secret of preventing laceration of the perineum lies in retarding the passage of the child, by which act the soft tissues will have time to stretch rather than tear. The orifice, being of nearly uniform thickness and pliability, stretches equally in all directions until it receives some support laterally from the ischio-pubic rami. The soft parts fit tightly over the child's head as it descends, and their so-called support by the hand does not in the least diminish the extent to which they must yield to allow the escape of the child. Such pressure by the hand does, however, unwittingly retard the advance of the head, and thus always accomplishes that end which I designedly seek. The head should be restrained in its passage through the vulva until the operator is satisfied that the parts have been sufficiently distended to enable the head to emerge without rupture. To render this procedure possible the head should never be permitted to escape during uterine contraction, but invariably in the interval between the pains. I have had very few ruptures, in consequence, as I believe, of acting upon this principle.

Dr. Parvin alluded to another point of great importance, that separation of the legs, unless extreme, does not put the perineum on the stretch; consequently that the tying of the knees together is a useless precaution. Flexion of the thighs upon the body does, however, drag upon the perineum; this is so noticeable during the operations for closure of a torn perineum that the thighs must generally be extended at the close of the operation while the deep sutures which approximate the denuded muscular tissues of the perineum are being tied.

DR. W. T. HOWARD, of Baltimore. — I think that laceration of the perineum is less apt to occur when delivery is completed with the woman upon the side than when she lies upon her back. This is a point which I obtained from "Schroeder's Midwifery,"



in 1873 ; and since that time, whenever I meet with a lacerated perineum, I almost always ask the woman whether she was delivered upon the side or upon the back, and it is very rare she says, "I was delivered upon the side." If the rupture is very bad I find that it is almost invariably the case that she was delivered while lying upon the back.

There is one point to which Dr. Parvin has not alluded, and it is this : when the perineum is rigid, it seems to me that the best method of preventing rupture is to put the patient profoundly under the influence of anesthetics. When the perineum is frangible, place the patient upon her side with a pillow between the knees, and profoundly anesthetize her, which will relax the perineum.

There is another point, and it is one that the author of the paper has not alluded to, the fact that the shoulders are the most efficient agent in producing rupture of the perineum. I first had my attention directed to this point by Dr. Ferdinand Chatard, Sr., of Baltimore, who had ascertained that out of more than fifty-five hundred labors he attended the large proportion of perineal lacerations was produced by the shoulders ; and, if I am not mistaken, Dr. Barker's experience will bear out the same statement. I invariably therefore pull out the shoulder which is nearest to the pubes, and since I have adopted that practice, I have avoided shoulder lacerations of the perineum.

How long after laceration has occurred is it proper to wait before performing the primary operation for restoration ? There seems to be a wide diversity of opinion upon this point. Dr. Graily Hewitt is of the opinion that there is very little use in the introduction of sutures some hours after the laceration has occurred, as then the operation is almost sure to fail. Dr. Thomas teaches that if the rupture has occurred through the recto-vaginal septum to such an extent as to make the operation serious and lengthy, the secondary operation should be performed. As far as my own opinion is concerned, I think the operation should be done as early as practicable. But there may be an error with regard to that ; for there are lacerations which, when they are examined the next day, will be found not to require any operation. In the performance of this operation I have latterly used the silk-worm gut, and with very satisfactory results. While, as a general rule, it may be best to unite the laceration by suture at the earliest possible time, I know perfectly well that sutures introduced on the second day

after the accident will give most excellent results. In general, if the sutures are inserted well, good results will follow this operation.

DR. PAUL F. MUNDÉ, of New York. — Dr. Parvin speaks of the use of the forceps in connection with prevention of rupture of the perineum, and I think the point in the use of the forceps for this purpose is that it prevents rupture in precisely the same manner as Dr. Chadwick has figured, and that is that the head of the child is checked from passing through the vulvo-vaginal orifice too rapidly, and therefore the perineum is less likely to be ruptured, no matter what means may be used for retarding the progress of the head, whether by the fingers or by the forceps ; the longer you can make the head rest upon the perineum until it is thoroughly distended, the child's head gradually dilating it bit by bit, gradually allowing the head of the child to slip slowly along, the better it is for the perineum. The usual method which I employ is to put the patient upon the side, generally upon the left, draw up the knees, put two fingers into the rectum, and, as soon as it can be reached, into the mouth or above the chin of the child, and manipulate the head gradually, endeavoring to keep it back in the pains, and between the pains endeavoring to extend it. If too hasty in this manipulation a brow presentation may be made, but if ten or fifteen minutes are consumed you may save a perineum which would otherwise be sure to be ruptured. The same can be done with the forceps. I will relate briefly the history of a case : A lady was sent me with complete laceration of the perineum through the sphincter and one inch up the rectum. I operated successfully according to the operation which Dr. Emmet has so fully described in his book, and cautioned her that she should not become pregnant during the next two years. She obeyed my directions so closely that when she found herself pregnant again the time for her delivery fell exactly two months beyond the two years allowed. She engaged me to attend her in labor, and was confined early last August. I was exceedingly anxious concerning the perineum. At the time of her labor the pains went on in the usual manner, and the head came down, but when it reached the floor of the pelvis it remained there. Finally I found that the proper rotation had not taken place. I applied the forceps and drew it down well upon the perineum, so as to protrude the latter, and then removed the instrument. Just here is where I wish to make a point which I

do not think the generality of practitioners observe. I removed the forceps at the moment the head of the child was well down upon the perineum, as soon as I could catch hold of the mouth of the child with the fingers in the rectum, and I then placed the patient upon the side, and in about half an hour gradually worked the head through the vulva without the slightest injury to the repaired perineum. I felt and plainly saw at that time that the danger of rupture depended entirely upon allowing the head to come through too rapidly. The child weighed eleven pounds, and was born without injury of any kind. With reference to the treatment of laceration after it has occurred, I should always perform the immediate operation.

DR. PARVIN. — I wish Dr. Barker had spoken as to the use of the forceps in preventing rupture of the perineum, and especially as to taking off the instrument before the head is delivered, a practice which, though highly commended by some obstetric authorities, seems to me questionable. By the forceps we can make the sub-occipital region hug the sub-pubic ligament ; we can retard the exit of the head until the vulvo-vaginal orifice is sufficiently stretched to yield without tearing. Dr. Matthews Duncan has pointed out the important fact that the sub-occipito-frontal diameter is the longest vertical diameter of the fetal head, and therefore while the perineum may be entire during the passing of the other sub-occipital diameters its greatest danger occurs from this.

As to the use of the fingers in the rectum to facilitate the exit of the head and to save the perineum, I doubt the accomplishment of the latter object. The fingers in the rectum decrease space and increase irritability ; the voluntary efforts at expulsion, efforts which you often at this stage of labor would prefer lessened, are almost inevitably made greater by the presence of the fingers in the rectum ; the practice therefore seems to me objectionable on this ground, even without reference to the injury that may be done the organ.

The criticism made by Dr. Chadwick upon the term "supporting" the perineum I cannot think correct. If we strengthen by a proper application of the hand the weakest part of an elastic ring, throwing the force which drives against that part elsewhere, and retarding the exit of the head until the ring is dilated, it seems to me we "support" the perineum ; the old term is the best expression of the fact.

THE RELATIVE VALUE OF HYSTERECTOMY  
AND OF THE COMPLETE REMOVAL OF  
THE UTERINE APPENDAGES FOR THE  
CURE OF UTERINE FIBROIDS.

BY J. KNOWSLEY THORNTON, M. B. C. M.,  
*Surgeon to the Samaritan Hospital, London.*

MR. PRESIDENT AND GENTLEMEN, — In bringing before you the relative value of two very different surgical procedures for the cure of fibroid enlargements of the uterus, I feel that I am confronting one of the most difficult questions in abdominal surgery, armed with imperfect weapons. Medicine has, however, long and vainly endeavored to deal satisfactorily with this disease, and now the surgeon's aid is invoked. I do not deny that many cases have been relieved by medical treatment, and that some have been cured while under such treatment. I do think, however, that it is an open question how many of the cases cured while under treatment were cured by the treatment; and I believe the majority of such cures have been due to the coincident interposition of Dame Nature. Be this as it may, a large number of cases remain altogether unaffected by the physician's art. The majority of these receive such relief in their more prominent and distressing symptoms, that they remain properly within the province of the physician. A very large number of patients never suffer pain, or even inconvenience enough to make them consult either physician or surgeon. But admitting all this, there undoubtedly remain a large number of cases urgently demanding surgical aid. Some patients are brought face to face with death from hemorrhage, excessive growth of

the morbid elements, or constant interference with rest from pain and discomfort. Others are gradually but surely reduced in strength, and have lesions of vital organs as the result of constant pressure and displacement. When surgical treatment is spoken of, we are told that we have no right to interfere with fibroids, as we do with ovarian tumors, because the latter surely kill if left alone, and the former do not. I am certain that this argument is only partly true, and every one who sees a large number of cases will bear me out in the statement that numbers of women die every year from the direct and indirect effects of fibroid enlargements of the uterus.

I would ask, How much of the general surgery of the day which is dangerous to life would continue if surgeons ceased to perform operations of expediency, *i. e.*, to operate for deformities and diseases which do not endanger life in themselves, though they deprive their victims of all the pleasures of life?

I affirm then that there are many cases of fibroid enlargement of the uterus which endanger the lives of their bearers, and that there are many more which make these poor suffering women so miserable and useless that *they* are justified in running the risks of operation, and that the surgeon is justified in operating.

I may say at once that polypoid tumors which can be removed by the vagina are not now to be considered. I wish to direct your attention solely to those cases which, if treated surgically at all, may be best treated by abdominal section.

1. Fibro-cysts of the uterus.
2. Fibroid outgrowths from uterus: *a.* Pediculate; *b.* Sessile. These are outside our present field, as they can be dealt with, in many cases, without either hysterectomy or removal of the appendages. These are:—
3. Groups of outgrowths surrounding and involving the whole organ.
4. Intra-mural fibroids.
5. Submucous fibroids.

6. General fibroid enlargement of the whole or the greater part of the uterine wall.

Now we will first take these altogether, and examine the records of those operators who have treated enough cases to make their statistics valuable, excluding reports of single cases, because it is unfortunately too much the fashion to report single successful cases, and hold back the unsuccessful. If, under these circumstances, we take the single cases, we shall get statistics which give too great a percentage of success on the total number of operations tabulated. I have arranged the names of the operators according to the number of cases:—

Operators.	Operations.	Recovered.	Died.
Péan, up to November, 1879 . . . . .	46	30	16
Spencer Wells, up to November, 1881 . . . . .	39	19	20
Billroth, up to March, 1880 . . . . .	25	10	15
Knowsley Thornton, up to August, 1882 . . . . .	25	16	9
Bantock, up to August, 1882 . . . . .	21	15	6
Kœberlé, up to December, 1877 . . . . .	19	9	10
Schroeder, up to December, 1879 . . . . .	18	11	7
Hegar and Kaltenbach, to September, 1881 . . . . .	12	11	1
Savage, up to August, 1881 . . . . .	9	6	3
Thomas, up to September, 1880 . . . . .	7	4	3
Total . . . . .	221	131	90

These are very imperfect statistics, and probably they do not give the best results of many of the ten surgeons, but they are the best at hand at present, and the result is certainly not very encouraging, as the mortality is over forty per cent. We must remember, however, that these operations are usually undertaken in extreme cases, and when the patients are worn out with disease and suffering, and still we have one hundred and thirty-one lives preserved. I fear that if the real mortality of ovariectomy could be published, it would be found to be not so very far behind the above. And if we look back to its first ten years, in the hands of the greatest of ovariectomists, Mr. Spencer Wells,

we find a mortality of 31.97 per cent., only 9 per cent. lower than that of these ten surgeons in operations for fibroid.

Now we will glance briefly at results in some of my special classes; unfortunately statistics here are still more imperfect, for so few of the operators accurately describe the nature of the operation, and state how far the uterus itself was involved in it.

#### FIBRO-CYSTS OF THE UTERUS.

Spencer Wells . . .	8 cases.	5 recovered.	3 died.
Knowsley Thornton . . .	6 cases.	6 recovered.	0 died.
Bantock . . . . .	8 cases.	6 recovered.	2 died.

Total . . . . . 22 cases. 17 recovered. 5 died. Per cent. 22.72

This is the disease which most closely resembles ovarian tumor, and most urgently calls for operation, and we find that the mortality is only about half that of the mixed cases.

Wells, Bantock, and Thornton, 85 cases, 35 deaths, per cent. 40.70.

If we now take the complete hysterectomies, so far as the statistics enable us to pick them out, we find the mortality still higher, so that we must conclude that in many of the operations only outgrowths with or without one or both ovaries were removed, the uterine cavity not being opened. We may then, I think, say that up to the present time the mortality of abdominal section for fibroids of the uterus is somewhere between 30 and 40 per cent., and that in cases in which the supra-vaginal portion of the uterus is removed, or in which the uterine cavity is cut into, the mortality is considerably higher than this.

I have then affirmed that surgical aid is justifiable, and even necessary in a certain number of cases, and yet I have to admit this grievous mortality. Clearly we must improve our methods, or the operation will not hold its own. This necessary improvement has already commenced; for the operation of complete supra-vaginal hysterectomy with removal of both ovaries has become, when properly performed, one of the most successful of the great operations.

Hegar and Kaltenbach, by their new extra-peritoneal method, have saved eleven cases out of twelve, and the surgeons at the Samaritan Hospital have in the last year had equally successful results, also by the extra-peritoneal method, using Kœberlé's wire *serre-nœud* in much the same way that Hegar uses the elastic ligature.

These operations of hysterectomy and complete supra-vaginal hysterectomy still remain, however, very formidable operations. They are terrible mutilations, the patients are slow in convalescence, and there is the objection which must always be taken to any method which leaves a stump in the abdominal cicatrix, *i. e.*, the risk of ventral hernia. Is there then no operation of less danger, of quicker convalescence, and of better and more perfect results, which we as conservative surgeons can recommend to our patients? Thanks to American surgery, the brilliant conception of Blundell in 1823 was made a recognized surgical procedure by Battey in 1874, and from the labors of Hegar, Trenholm, Tait, Savage, and others, I am able to present to you a perfected operation which will render this formidable hysterectomy still less often necessary in the future than it has been in the past.

The complete removal of the uterine appendages, when efficiently performed, cures fibroids of the uterus with a rapidity and certainty that Blundell, in his most sanguine moments, could not have dreamed of. I propose briefly to record cases in support of this assertion; but first I will place before you the statistics of this operation as far as I have been able to collect them, and we will compare them with those we have been studying. And I will ask you to remember that this operation is not such a serious mutilation, and does not leave behind it any mark except a small linear scar on the perfectly closed abdominal parietes.

STATISTICS OF REMOVAL OF THE UTERINE APPENDAGES FOR FIBROIDS  
OF THE UTERUS.

Battey's table, p. 285. "Transactions of Inter. Med. Congress, 1881," vol. iv., 46 cases, 32 recoveries, 14 deaths.



Add to this cases published since, or now published for first time : —

Tait, 13 cases, 12 recoveries, 1 death.

Savage, 9 cases, 9 recoveries, no deaths.

Thornton, 8 cases, 8 recoveries, no deaths.

Grand total, 76. 15 deaths, just under 20 per cent. mortality.

There are 25 complete operations by Tait and 5 by Savage included in Battey's table, so that we have as the totals for three operators : —

Tait, 38 cases, 33 recoveries, 5 deaths.

Savage, 14 cases, 14 recoveries, no deaths.

Thornton, 8 cases, 8 recoveries, no deaths.

Total, 60 cases, 55 recoveries, 5 deaths. Mortality 8.16 per cent.

Three surgeons perform 85 operations of various kinds for fibroid, and lose 35 patients, a mortality of 40.70 per cent., and the same three surgeons perform 22 operations for fibro-cystic disease of the uterus, the least dangerous of all these operations, and lose 5 patients, or 22.72 per cent., a mortality more than three times as great as that of three surgeons who remove the uterine appendages in 60 cases for fibroid.

I know that it is said that statistics can be made to prove anything, and those which I am able to place before you are very imperfect. I think, however, that they show quite clearly that the removal of the uterine appendages is attended with infinitely less danger to life than are the various operations for the removal of uterine fibroids. I have already pointed out other advantages possessed by the less dangerous operation. Are we then justified in subjecting our patients to the formidable operation of supra-vaginal hysterectomy, when we can cure them by removal of the uterine appendages? Some will ask, Can we cure them with any certainty by the latter operation? I was myself extremely skeptical at first, and watching the results in the hands of other operators did not increase my faith. Then I met with a case in which Battey's operation seemed to me to offer the only hope of saving a valuable life. Dr. Matthews Duncan saw the patient with me, agreed that the danger was great, and that the operation should be tried.

The result was so perfect that I tried again, this time selecting a different kind of case ; again the result was equally satisfactory, and I was encouraged to try what the operation would do for a fibro-cyst of the uterus. In a few months this patient also presented herself with a perfectly normal uterus. In my two last cases the operation has been too recently performed to speak with certainty as to the result, but the diminution in the size of the tumor has been so rapid, and the other changes have so exactly followed the course of those which I have observed in the other six cases, that I have no reason to doubt that the cure will be as complete.

Having thus briefly glanced at the leading features of my own cases, I wish to say a few words in conclusion as to the selection of cases, the method in which the operation cures, and the special points to be attended to in its performance to insure a good result. Before I attempted the operation myself I had carefully studied what had been written about it, and I had watched other surgeons perform it, and I had come to the conclusion that it was no use merely removing the ovaries. In some cases this succeeded by bringing on the menopause, but it was a slow and uncertain cure. It was still less useful to remove parts of the ovaries, but I have seen this done many times, and then the operator complains that the operation is a failure.

The most important point to secure is the complete ligation of all the enlarged vessels, which will be found in the broad ligament between the ovary and tube. As soon as these are tied the chief blood supply is cut off ; but in order to tie them efficiently the tubes and ovaries are also so thoroughly strangled at their bases, that they are better cut away. Whether the removal of the tubes is so important as Lawson Tait thinks I am not prepared to say ; but my own faith in success hangs entirely upon the great diminution of blood supply.

The removal of the ovaries is necessary to check the monthly rush of blood to the uterus, and thus complete the work which is started by the stoppage of the regular sup-

ply. Either an imperfect removal of the ovaries or an imperfect ligature of the enlarged vessels may cause the failure of the operation. The mere removal of the ovaries, even with the chief part of the tubes, does not, in every case, entirely stop menstruation, as some of my own double ovariectomies have proved, but it does in the vast majority of cases; and in the few exceptions the function is so imperfectly and irregularly performed, that I doubt whether it will interfere with the success of the operation under discussion; and so far as my own experience goes, the operation efficiently performed thoroughly disposes of menstruation.

It is better to transfix deeply, and make the ligatures include all the large vessels, tying the inner loop on the tube as close to the uterus as possible. It may be necessary to transfix more than once, but, as a rule, the two interlocking ligatures are sufficient. No. 3 Chinese silk soaked in one to twenty phenol solution for an hour before the operation is strong enough, and has the great advantage of being thin and quickly absorbed. In every case where it is possible both sides should be securely ligatured, and the peritoneum sponged out before anything is cut away, as the distal portion of the pedicle is often much shorter than in ovariectomy, and the strain upon the ligatures much greater, for they are tied at the apex of a cone. I always apply a separate ligature round the whole stump over the interlocking ligatures just after cutting away the ovary and tube.

Before carefully observing the condition of the pelvic vessels in cases of fibroid of the uterus, I had thought that the ligature of the uterine arteries in their continuity might be the best method, but observation shows that even with very large tumors they are seldom large; it is the ovarian and tubal arteries and veins which are so enormously dilated, and fortunately they are much easier to get at than the uterine arteries, and in tying the latter there must always be great risk of including the ureters. As to the selection of cases it is better to operate before the tumor has attained any great size, or it may be extremely difficult or impossible

to reach the ovaries. There is no difficulty in turning out and replacing a tumor of moderate size, and this procedure greatly facilitates the efficient application of the ligatures ; but it also, I am convinced, greatly increases the shock of the operation.

My small experience would seem to prove, what theory would lead us to expect, if the stoppage of blood supply is the important factor in the cure, namely, that the operation is applicable to all the varieties of fibroid enlargement of the uterus, and also to fibro cysts, if provision be made for the drainage of the latter during the shrinking and absorption of the solid material. Possibly farther experience may show that this drainage is not necessary. I should in future prefer this operation to that of enucleation *per vaginam* for intra-mural and submucous tumors, unless they had already become partly exposed by thinning or necrosis of the mucous membrane.

I trust that to most of those who are interested in this special subject my faith in perfect Listerism is too well known to need any reference ; but I will say, that I hold this to be an operation of all others in which Lister's method should be rigidly adhered to. It is one of which the mortality should be *nil*, and though good results may be obtained for it without Listerism, and with occasional drainage, I do not think it will be possible to avoid mishaps from some variety of septicemia, unless we make our operations rigidly aseptic.

To sum up a paper which has far exceeded the limits I had assigned to it, and has trespassed too long on your patience, — the operation of complete removal of the uterine appendages for fibroid and fibro-cystic tumors of the uterus is indicated in all cases which need the surgeon's aid, as an equally certain cure, and a more conservative and less dangerous operation than that of supra-vaginal hysterectomy. The latter operation should only be performed in cases in which the former has been tried and failed, — if larger experience should prove that such cases do occasionally arise, — or in cases in which, during the removal of the

uterine appendages, some accidental complication, such as uncontrollable hemorrhage from uterine surface, should render the major operation absolutely necessary.

It occurs to me, on reading over my paper after it has been laid aside for a few weeks, that I have hardly sufficiently defined the operation of hysterectomy. I would include then all cases in which the uterine cavity is laid open, and more or less of its wall removed along with the fibroid. Whether one or both ovaries is also removed is a matter of no consequence. Sometimes it is more convenient to remove one or both. I would reserve the term "complete supra-vaginal hysterectomy" for cases in which the fibroids, the uterus, and the uterine appendages are all removed, and it is therefore a combination of the two operations which we consider as rivals to-day.

TABLE I.  
*Cases of Removal of the Uterine Appendages for Fibroid and Fibro-cystic Disease of the Uterus.*

No.	Age.	Condition.	Children.	Date.	Condition demanding the Operation.	Primary Result.	Final Result.	Remarks.
I.	32	Single.	—	Oct. 1880.	Severe hemorrhages, and extreme anemia. General vascular enlargement of the uterus.	Recovered.	Cured.	There has been no return of the menses. The uterus is perfectly normal, or slightly atrophic, and the patient is in robust health. Slight flushing occasionally.
II.	33	Single.	—	Feb. 1881.	Rapidly growing subperitoneal and intra-mural fibroids. Much dysmenorrhea, but no hemorrhage. Menstruation regular.	Recovered.	Cured.	When seen within the year the uterus was small. No return of menses. Slight headaches and flushes occasionally at the months. Health perfect.
III.	46	Single.	—	Aug. 1881.	Rapidly growing fibro-cyst, with severe hemorrhages and anemia.	Recovered.	Cured.	On March 25, 1882, I examined the patient and found a small mobile uterus. No return of menses. Health very good in every way. Returned to the West Indies.
IV.	28	Single.	—	Nov. 1881.	Severe hemorrhages, and extreme anemia. General vascular enlargement of uterus. Exactly like Case I.	Recovered.	Cured.	Is quite well. No return of menses. Uterus slightly larger than normal, but rapidly decreasing.
V.	34	Married.	—	April, 1882.	Exactly like Cases I. and IV. In each the uterus was as large as a large cocoa-nut, and very soft and vascular.	Recovered.	Cured.	Came to me in July, complaining of some pelvic discomfort, and I found, on examination, a large soft uterus somewhat retracted and pressing on the rectum. A month later discomfort less, and uterus smaller and firmer. No return of menses.
VI.	44	Married.	—	May, 1882.	Uterine cavity over four inches. Irregular mass of outgrowths,	Recovered.	Cured.	I examined this patient just before leaving town, and found the uterus not larger

than a large orange, very soft and boggy, and with but little irregularity of outline. No return of menses.

The tumor had to be pressed out of the abdomen to get at the ovary and portion of one left at previous operation, and before it was returned it had markedly shrunk and corrugated on its surface. Is already less than half its size at time of operation.

The same procedure necessary, and the same shrinking observed, after the vessels were tied. The diminution in the size of the tumor has been more rapid in this case than in any of the others.

VII.	43	Single.	—	blocking pelvis, and reaching to umbilicus in abdomen. Severe hemorrhages increasing. Growing rapidly. Much pain. Uterine cavity normal. Menstruation regular, and no excessive pain. Large, soft, rapidly growing tumor, thought to be possibly recurrent, after removal of ovary nine years before by another surgeon. Clamp case, and enormous ventral hernia which patient was anxious to have cured. Operation exploratory in character.	Recovered.	—	—
VIII.	45	Single.	—	Hemorrhage, rapid growth of tumor, and general failure of health, with constant ovarian pain.	Recovered.	—	—

TABLE II.  
Cases of Removal of the Uterine Appendages for Fibroid and Fibro-cystic Disease of the Uterus.

No.	CONDITION OF OVARIES.	PROGRESS OF PATIENT AFTER OPERATION.
I.	Left ovary cystic, much enlarged, and prolapsed. Right, flattened, edematous, and much enlarged, but not cystic.	Vaginal temperature when patient was put to bed, 97.2° F., pulse 84. Slight sickness for twenty-four hours. Highest temperature 101° F. on afternoons of the fourth and fifth days, pulses 110 and 103. Metrostaxis thirty-six hours after operation; slight for two days; ceased till the sixth day, when it came on freely and continued coming and going for eight weeks; latterly it was merely watery. Evening of third day right parotid swelled and gave me anxiety. It passed off, however, on seventh day, and there was no other complication. Patient remained weak for more than a month, and was apt to faint when erect or walking. This I have observed in three of the cases in which hemorrhage had been severe before.
II.	Right, enlarged and flattened in front of tumor. Left, in normal situation, and not diseased in any way.	Highest temperature 100.8° F. day after operation, and pulse 124. Second day, temperature 98.6° F., pulse 84. Patient went to sea-side on twentieth day after operation.
III.	The cyst was in the posterior wall of a much enlarged uterus, and extended into the cervix. I laid it open, and left it to drain into the peritoneum. The ovaries were both much enlarged and cystic.	Metrostaxis on second day, and free for several days. Thirtieth day some fluid darkened by perchloride of iron escaped from wound, and continued to escape for ten days. Some weeks later a considerable discharge of watery fluid took place from vagina.
IV.	Both ovaries large, but only from large number of maturing follicles.	Highest temperature 101° F. on evening after operation, pulse 100. Metrostaxis free and bright, twenty-four hours after operation, continued to ninth day, getting each day more watery. Watery discharge from time to time afterwards while patient remained under observation. Left hospital on twenty-third day.
V.	Both ovaries cystic and much enlarged.	Highest temperature 100.4° F., pulse 100. Metrostaxis morning of second day to evening of seventh. No complication.
VI.	Both ovaries full of large blood cysts, and so adherent behind tumor that I had to scrape them out with my finger. Both tubes cystic with sero-purulent contents. A very formidable operation.	Very ill for ten days; had been subject to bronchitis, and got a severe attack the second day after operation, complicated by the most severe and general sweat-rash I have ever seen. Metrostaxis on evening of first day, and free for several days. Temperature once reached 104.4° F., with pulse 112, and the ice-water cap was on from the third to the tenth day. Left the hospital, walking well, on thirtieth day after operation.



VII.	Right ovary large, hard, nodular, and papillomatous. Remains of left, cystic.	No complication of any kind, and convalescence rapid.
VIII.	Right ovary cystic. Left, normal.	Severe sickness for two or three days after operation, and threatened obstruction on third day. Convalescence after this rather slow.

## DISCUSSION.

DR. GOODELL, of Philadelphia. — I have but little to say with reference to the extremely interesting paper just read by Mr. Thornton. There are some points, however, in which I differ slightly with him. I was present at the operation to which he has already referred, and I remember having seen him do something at that time which prompted me to repeat it, and I fear that the procedure caused the death of my patient. It was an operation in which Mr. Thornton encountered a fibro-cyst; and finding it impossible to remove the tumor, he opened the cyst, and emptied it. There occurred a great deal of hemorrhage from the opening, which he succeeded in arresting to a very great extent by the use of ligatures. Still there continued a deep-seated hemorrhage, and to control this he introduced into the sac perchloride of iron, removing the excess speedily by sweeping it out from the cavity. The result was a control of the hemorrhage, and the patient made a good recovery. I had an analogous case in which I also emptied the fibro-cyst, but I was unable to arrest the hemorrhage; and I did the same thing which I had seen Mr. Thornton do, except that I used Monsel's solution of iron. My patient died, and I am disposed to think that death was due to the effects produced by the iron.

I am not disposed with Mr. Thornton to lay the operation of enucleation wholly to one side, for having performed it a number of times, I have been uniformly so successful that I certainly prefer it; for in this way we leave the woman unmutilated. But there are cases in which this cannot be done. I have performed the operation of oöphorectomy four times for fibroid tumor, with two recoveries and two deaths. Unfortunately all of these operations were performed in a general hospital, and I fancy that this fact contributed largely to the great mortality. I will briefly relate the history of these cases: The first operation was performed about three years ago. The tumor, as large as a child's head, was excessively painful, and the lady was bleeding to death. I removed the ovaries through the vagina without difficulty, and no scar was left. The result was a complete success. The tumor is now of about the size of a horse-chestnut, and gives no trouble whatever.

The second case was one in which, having attempted to per-

form the operation through the vagina and being unable to reach the ovaries, I was compelled to end it by making a supra-pubic incision. That patient died of blood-poisoning, although every antiseptic precaution was used.

In my third case I encountered one of those enormous soft uterine fibroids which usually have extensive adhesions, and frequently carry the bladder upwards, and with it the reflected portion of peritoneum. The pedicle, or rather the cervical portion, in this case was as large as my leg. These are the cases concerning which I do not know what is best to do. In this instance I had to make a very long incision in order to bring the tumor out, and I was constantly afraid lest I should tear some portion of the broad ligament, or open some of the enormous veins and have uncontrollable hemorrhage. As the ovaries were drawn out to a length of from six to eight inches on the surface of the tumor, I was obliged to secure the stump of each by the interrupted sutures, which overlapped one another; it was a difficult and a very hazardous operation. Acute peritonitis developed, and the patient died.

The fourth case was one in which I operated about four months ago. The patient was an unmarried girl, twenty-nine years of age. She was completely blanched and reduced to a very weak condition from the loss of blood due to the presence of the fibroid tumor. The tumor was partly mural and partly submucous. I could have enucleated it, but I knew that if this were done she would probably be dead within two days, and I thought it best to wait a few weeks for the purpose of getting over the period at which her regular monthly hemorrhage occurred. Hemorrhage, however, persisted all the time, in spite of every remedy used. So I decided upon the removal of the ovaries. The operation was performed, and with no difficulty whatever, because the fibroid tumor was not very large. The recovery in this instance was an uninterrupted one. The hemorrhage diminished promptly, — and just here I would like to ask the experience of the members, particularly that of Mr. Thornton, with reference to the fact that when both ovaries are removed there occurs a sort of false menstruation within four or five days following the operation. I have seen this so uniformly that I fancy it is due to the irritation set up by the ligatured ovarian nerves. This patient left the hospital without any hemorrhage, and day before yesterday I saw a letter which she had written to the nurse, in which

she stated that she considered herself perfectly well ; at least she felt well, and was able to attend all the picnics in that section of the country. I am an advocate of hysterectomy, but only when enucleation cannot be performed ; for I think enucleation is the more scientific operation, as it leaves the woman unmutilated, and it does not take away the possibility of future maternity.

There is one phenomenon which I have noticed in connection with these operations of which I wish to speak. It is, that when traction is made upon each ovary in succession, for the purpose of reaching the pedicle, I have noticed a sudden development of the symptoms of shock, such as pallor and the pulse becoming rapidly weak, so much so that it was necessary to withhold the ether.

I think it is so desirable in these cases to bring on the menopause that in the future, whenever I perform ovariectomy and I find fibroid tumors of the womb, I shall feel justified in extirpating both ovaries. I recall two such cases in which I removed but the diseased ovary, and I have ever since regretted that I did not remove the second one, for the persons have been suffering in consequence of the fibroid increasing and giving rise to pain and hemorrhage.

The operation of hysterectomy is so fatal in this country that I think it decidedly the better plan to remove the ovaries ; but still there arises the question concerning those enormous soft fibroids, and some very large, hard fibroids, which involve many of the abdominal organs, that are so attached everywhere as to make the operation of oöphorectomy a most difficult and dangerous one. I shall never forget one of those cases in which the ovaries could not be reached, and I had to perform hysterectomy. The bladder was adherent to the tumor, and was carried upwards as far as the umbilicus, and was spread over the entire anterior portion of the tumor. The hemorrhage which ensued from the broken attachments of the broad ligament before I succeeded in reaching that portion of the womb which was to serve as the pedicle was something enormous, and the patient died a few hours after the operation. For these cases particularly I should like to have some remedy devised, because oöphorectomy is often impossible, and hysterectomy is beset with so many dangers.

Again, with reference to merely an exploratory incision, in cases of large fibroid or fibro-cystic tumors, this, so far as my experience goes, has been fraught with danger. I have made

such an incision in order to discover whether I could reach or could make a pedicle, and in two cases the result was fatal. One was that in which I used Monsel's solution to stop a bleeding trocar wound. In the other I merely slipped my hand down behind the tumor to see whether the ovaries could be discovered. These are just the cases in which the ovaries cannot be reached, and therefore the operation of oöphorectomy cannot be resorted to.

DR. T. G. THOMAS, of New York. — I have been much pleased, and can only say that I have scarcely anything to add to the paper and to the discussion concerning the subject brought forward by Mr. Thornton. It will be impossible in discussing Mr. Thornton's paper to follow any strict rule, as it is one which deals largely with the statistics of two different operations. I shall therefore be obliged to simply state my general impressions with reference to hysterectomy, and with regard to the subject of oöphorectomy, giving something of my own personal experience.

My experience with regard to the removal of the uterus for tumors, solid or fibro-cystic, under the circumstances alluded to, has been confined to thirteen cases, with seven recoveries and six deaths. In recording seven recoveries I must make a statement with regard to one case which was operated upon in the month of June last. The patient was exceedingly exhausted by a chronic diarrhea. She recovered from the operation so as to be able to sit up, and was quite comfortable, but died a little over two months afterward, apparently from the direct effects of chronic diarrhea, which became increased in severity. I do not know whether I can justly claim recovery in this case for the reason that she was so utterly exhausted at the time of the operation. That was my seventh case of recovery, and if considered as valid I have to report seven recoveries and six deaths.

With regard to the propriety of this operation for solid tumors, it seems to me that there can be no more dangerous gynecologist than he who goes forth determined to extirpate the uterus for solid tumors. I think Mr. Thornton will agree with me fully in this statement; for we all know the great frequency with which these tumors occur. Klob stated that forty per cent. of all women past forty years of age suffered from fibroid tumors of the uterus, and claimed that this statement was based upon examinations made post mortem. So I think we may safely say that one fourth of all Anglo-Saxon women have fibroid tumors of the uterus of

greater or less size. Now for a man to expose a woman to the dangers of oöphorectomy or hysterectomy simply because she has a solid fibrous tumor of the uterus is a most unjustifiable procedure. I do not mean to say that Mr. Thornton assumes any such position. We all recognize that the operation of hysterectomy must be performed in certain cases, else the patient will die of exhaustion from hemorrhage, or in other cases the pain becomes so excessive that the operation is demanded. The properly conservative surgeon should be impressed with this idea : that he will avoid any approach to hysterectomy for solid or fibrocystic tumors of the uterus unless the life of the patient seems to be in danger on account of the existence of such growths. If the life of the patient is so endangered, and it is possible to remove the tumor by the vagina, that operation should always be preferred. I have had a great deal of experience in enucleation and avulsion of tumors from the uterine wall, and I am willing to assume this position : if you can once fix the vulsella forceps firmly in the tumor within the cavity of the uterus it is safer to remove it by the vagina than in any other way which has been devised. Some operators are very much afraid of performing this operation through fear of going through the uterine wall, and it is difficult to imagine a more appalling accident than this. There is nothing which strikes the surgeon with more intense horror than to see the intestines coming out in the vagina ; but in three cases I have perforated the uterine wall distinctly, and in all three cases the patients recovered without a bad symptom. I mention this to show that, although this is the greatest danger which attaches itself to this method of removal of uterine fibroids, it is by no means a necessarily fatal complication. Drainage takes place readily, and hernia rarely follows, although it may occur, so that I greatly prefer removal of fibroid tumors of the uterus through the vagina to removal of the uterus by laparotomy or removal of the ovaries when the former operation is at all possible.

Now, with regard to the method of performing hysterectomy in my thirteen cases, I have adopted almost all methods. At last I have concluded upon the following operation, which I have employed in most of my latest cases : First, I tie the vessels in the ligaments and about the ovaries, tying those next the uterus first, and then remove those organs. After both ovaries have been removed, I lift up the tumor, and if I am able to get a ped-

icle or stump I secure it with a temporary ligature. I then cut off the uterus so that two flaps are left which are united, the whole being secured with a carbolized ligature, and I then return the pedicle to the abdominal cavity. If I am unable to do this readily, I leave the pedicle outside, using Kæberlé's *serre-nœud*, closing the wound as thoroughly as possible around it, and sometimes introducing a drainage tube.

The results of this operation in this country have not been good. Why they are not better I do not know, and why they are better in Europe than here I am unable to say. Still we recognize the fact that we are not advancing as rapidly as we could desire in this field. With regard to hysterectomy, it seems to me that the operator cannot be too careful to avoid a resort to it if it be possible to do so. The hemorrhage which occurs from the uterus with large tumors is very often controllable by using the curette. I think it will be found that with a tumor weighing even as much as thirty pounds and giving rise to profuse hemorrhages the patient may be greatly benefited by the use of this instrument. After the endometrium has been thoroughly curetted I have seen the hemorrhage controlled for some time, so much so that the tumor has been prevented from causing the death of the patient through this complication.

Furthermore, the operator should be extremely cautious upon another point. We find a tumor subperitoneal or interstitial, which weighs perhaps twenty pounds, and is apparently causing the patient to bleed to death. There is also in the same case perhaps inside of the uterus a pedunculated tumor which is giving rise to the hemorrhage, and when removed causes the loss of blood to cease, and the immediate danger to the patient is removed without recourse to any other operation at all. A case of this character came to me in New York. The tumor weighed probably twenty pounds. The patient was bleeding to death, and she came to have the operation of hysterectomy performed. I considered carefully the propriety of performing the operation, and refused to do so for the reason that I felt sure that there was a submucous polypus which caused the bleeding, and was endangering the patient's life. She refused to have the cervix dilated to determine this point, and was subsequently operated upon by another gentleman, oöphorectomy being performed. The case terminated fatally, and a post-mortem examination revealed the existence of a submucous polypus which could have

been readily removed. You will recollect, please, that I am not criticising the operation, for it is one which has been commonly performed under such circumstances ; but I think, if the uterus had been thoroughly explored, it would have been found that the small tumor could be removed from the uterine cavity and a more severe operation rendered unnecessary.

There is one other point which needs mention, and then I will leave the subject. We should be careful, before resorting to either hysterectomy or to oöphorectomy, to consider the effect which may have been produced by the previous use of ergot. In some of these cases where ergot has been systematically used there is sloughing of the central portion of the tumor. Sometimes there is quite a large necrosed portion of the very heart of the tumor, and if the operation of oöphorectomy should be performed under these circumstances the chances of the patient's recovery would be very bad. Of course these remarks do not apply to hysterectomy.

As I have said, we are not advancing with regard to hysterectomy, and I think the method which Mr. Thornton in his paper offers as a substitute for it should have given to it a full and fair trial. I have had no experience whatever in the performance of oöphorectomy for the relief of uterine fibroids ; I have performed the operation repeatedly for the relief of other symptoms, but I think that between the two operations, with the evidence we now have, I should hardly feel warranted in performing the operation of hysterectomy. Of course the evidence is not as yet conclusive by any means. The question is still *sub judice* ; but we have evidence enough to make me feel at least that I should not be warranted, if I could get on with the operation of oöphorectomy, in exposing the patient to the great dangers of hysterectomy. I base this conclusion upon the experience of others, and upon the fact that the two operations cannot be compared to each other with reference to severity. I think that by another year I shall have had a certain amount of experience which I may have opportunity to report.

DR. GILMAN KIMBALL, of Lowell, Mass. — It would certainly seem somewhat strange if this subject should be dropped without my making a few remarks, especially as it is well known that I have had much to do with the operation in question in past years, and was the first, I believe, to deliberately propose, and successfully execute, it in connection with a correct diagnosis.



As Dr. Thomas has already remarked, there are many instances of fibroid tumors of the uterus where a patient could go through an entire life without much inconvenience; but since the operation is one of so formidable a character — one that has so seldom been successful in this country — it is a matter of the highest importance that we should fully comprehend what those conditions are that justify it.

My first case well illustrates this point. It occurred in a distant town in Connecticut, whither I was called to remove an ovarian tumor. On my arrival I found the case not ovarian, however, but a plainly marked instance of uterine fibroid, the patient extremely anemic, and completely prostrated from recent hemorrhage, so much so as to be unable to turn herself in bed, and as white as the sheet that covered her. She was within three days of her regular menstrual period, and the belief was that a recurrence of hemorrhage at that time would certainly prove fatal. After explaining to the parties interested the true nature of the case, the question was at once raised, whether, to avoid such an event, a surgical operation of any kind could be resorted to with any reasonable chance of success. In answer to this inquiry, I suggested the immediate removal of the diseased uterus by section through the abdominal walls, as the only thing to be done to meet the urgent conditions of the case. Extraordinary and desperate as this proposition seemed, the feeling was unanimously expressed by the several physicians present that this was the only procedure that offered any possible chance of saving the patient from impending death. The proposition having been unhesitatingly accepted by both the patient and her husband due preparations were at once made, and the operation was completed the same day.

The details of this case having been already set forth in a paper of mine on "Extirpation of the Uterus,"<sup>1</sup> I refrain from repeating them on the present occasion, not forgetting, however, to say that the patient made a good recovery, and, as far as I know, has, up to the present time, enjoyed excellent health.

I will now, in a few words, refer to my last case of removal of a fibroid uterus, that occurred a few weeks since in the upper part of Vermont. The physician having charge of the patient, after giving me a history of the case (which he had already diagnosed as a uterine fibroid), desired my opinion as to the ex-

<sup>1</sup> *Transactions of the American Medical Association*, vol. xxviii.

pediency of its removal by abdominal section. My reply was, that as a rule I avoided such an operation; that nothing short of circumstances of the most urgent character would tempt me to undertake it. After two or three weeks' correspondence on the subject I was induced to visit the patient at her home, where I should be better able to judge of the case by personal examination.

Without going into a detailed statement of all the conditions pertaining to the case, it is sufficient for me to say that, after considering it in all its aspects, I came to the conclusion that the removal of the disease after the manner previously suggested by the attending physician was justifiable. The operation was accordingly performed on the 24th of June last.

In most respects my plan of operating was similar to that I had seen pursued by Péan several years before in Paris. In following his example I was enabled to avoid what is generally found to be a very embarrassing annoyance, namely, such an escape of the intestines at the commencement of the operation as to seriously interfere with each of its succeeding steps. To avoid this occurrence the opening first made through the abdominal walls was limited to the exposure of only a small portion of the tumor, and afterwards enlarged by degrees, as the tumor was drawn forward by a vulsella between the lips of the incision, which all the while were kept firmly pressed against the sides of the tumor by the hands of an assistant. In this way the entire bulk of the tumor was finally brought outside the abdominal cavity, while the intestines were effectually kept back and wholly out of sight.

The next important, and sometimes the most difficult, step in the operation is the separating the tumor from its pelvic connections. Before proceeding to do this, I first applied around its base, or at as low a point as practicable, a stout cord or *provisional ligature*, which would serve to control the bleeding while I was engaged in cutting away piecemeal so much of the disease as would enable me to see where I could apply my ligatures without the risk of involving the bladder, which, being sometimes adherent to the tumor, is in danger of being wounded in this stage of the operation. Having ascertained by careful examination that this organ was not at all implicated, it now remained to ligate the pedicle. This was done in the same way as in a case of ovariectomy, namely, by transfixing it by a double ligature

(substituting iron wire for silk), and ligating each of its two portions separately. As an additional security a loop of the same material was applied over the whole, to be tightened from time to time as might be found necessary, in case of secondary bleeding. The provisional ligature was now removed and the remaining portion of the tumor cut away, while the stump of the pedicle, with its cut surface of nearly three inches in diameter, was secured outside, at the lower angle of the incision.

Before applying the outer dressings the actual cautery was freely used as a further provision against the chance of future bleeding. It is not necessary to give the subsequent history of this case in detail ; it is sufficient to say that although the detachment of the pedicle was somewhat prolonged and tedious, the process of healing that followed was rapid, and the abdominal opening completely closed at the end of five weeks.

DR. H. P. C. WILSON, of Baltimore, asked Mr. Thornton whether he had ever seen, from the administration of opium, an increased disposition to nausea, which was sometimes distressing. He had sometimes thought that nausea had been increased by the administration of the opium.

MR. THORNTON replied that he had thought that in the earlier stages it decidedly decreased the tendency to nausea, but after the third or fourth day he had thought that it increased it.

DR. WILSON asked if he thought the tincture of opium the best preparation to use.

MR. THORNTON replied that it was the only preparation he had used.

DR. G. H. LYMAN, of Boston. — I have always considered that opium in large doses was one of the most essential things to be used. Opium is one of the best antiphlogistics which we possess. It is something more than an anodyne. Whether it creates sickness is to be sure of material importance, but it seems to me that it does not so long as we keep up its administration.

THE PRESIDENT. — It would be an interesting question to know if possible as to how far the use of opium arrested the action of the skin and the kidneys, and the elimination of the ether, etc.

DR. LYMAN. — Of course one would administer only such doses as would simply quiet the system. Small doses would arrest to a certain extent perhaps the action of the skin, but not to any dangerous extent. With reference to the particular form of opium

to be used, I think there is a liability to more or less nausea with all of them, but that which I have found the most favorable is the soft gum opium obtained from the centre of the lump and rolled into pill form. It is sometimes difficult to get this, but the druggist can usually in a special case be induced to open a lump from which a portion of the soft gum from the centre can be removed and rolled into small pills.

DR. W. T. HOWARD asked Dr. Kimball whether he had seen hematuria occur in cases in which he did not use the spray. Mr. Thornton had reported cases of acute uremia after hysterectomy where there was no spray used.

DR. KIMBALL answered, Never.

DR. DRYSDALE corrected one statement made by Dr. Sutton, namely, that it was Dr. Washington L. Atlee who first used the *écraseur*. Dr. Sutton had given the credit to Dr. John L. Atlee.

THE PRESIDENT remarked that he had seen Mr. Wells operate in three cases, and in all he dropped the pedicle.

DR. G. J. ENGELMANN, of St. Louis. — I have been thinking a great deal of a fact which is not very flattering to American gynecologists, and that is the relative success of hysterectomy in this country and abroad, quite apparent for some time and most forcibly impressed upon my mind by what I have recently seen; although the success of European operators is far better than our own, it is not, even abroad, as good, in the class of cases spoken of, as it is in oöphorectomy for the relief of uterine fibroids. Dr. Goodell has touched upon a point with regard to which I would like to interrogate Mr. Thornton; he says that in one case he was obliged to cease the operation on account of dangerous symptoms of collapse appearing coincident with the ligation of the ovary. In the first of my cases the same accident occurred to me — I at least thought so. The pulse sank from 96 to 40 in a few seconds, and the assistant who was giving chloroform became alarmed, and the anesthetic was stopped and restoratives were applied; after the apparent recovery of the patient we went on and completed the operation.

DR. GOODELL. — It was not during the ligation that the symptoms of collapse appeared, but it was while traction was being made upon the ovaries.

DR. ENGELMANN. — I have noticed it during ligation as well as traction. What I wish to ask is, whether it was not a natural result and one absolutely harmless, if no attention had been paid

to it and anesthesia had been continued without any interruption. Surgeons have stated to me that the same accident, quite startling to one unacquainted with the cause, occurs when ligation or traction is made upon the spermatic cord in cases of castration.

## ELECTRICITY IN EXTRA-UTERINE PREGNANCY.

BY HENRY J. GARRIGUES, A. M., M. D.,  
*New York.*

IF the diagnosis of extra-uterine pregnancy can be made early with certainty, or if, in doubtful cases, the probability points in that direction, *the* treatment is electricity. In spite of the paper of Dr. J. C. Reeve, and the subsequent discussion in the Transactions of this Society,<sup>1</sup> and Dr. William T. Lusk's paper in the "Journal of Obstetrics,"<sup>2</sup> this simple truth is yet far from generally known by the profession either in this country or in Europe. In perusing the journals of the last few years, we meet with numerous cases in which the diagnoses might have been made with certainty in the early months of pregnancy, and which were allowed to go on unchecked until rupture took place, or until the fetus was viable, or a more or less long time after the end of normal gestation, when dangerous operations were performed, by which sometimes the patient was saved, and oftener not.

Even systematic writers of the latest period ignore the treatment by electricity altogether, or only mention it in a cursory and deprecatory way, which shows that they do not know what this method of treatment has accomplished in this country. Thus, E. Fränkel,<sup>3</sup> of Breslau, in a recent number of Volkmann's "Clinical Lectures," devoted to the consideration of extra-uterine pregnancy, does not even allude to it. A. Martin,<sup>4</sup> of Berlin, advises against interfer-

<sup>1</sup> *Trans. Am. Gyn. Soc.*, iv., 313-333, 1879.

<sup>2</sup> *Am. Jour. Obst.*, xiv., 329-341, 1881.

<sup>3</sup> Volkmann. *Klinische Vorträge*, No. 217, Leipzig, 1882.

<sup>4</sup> *Berl. klin. Wchschr.*, 1881, Nos. 51 and 52.

ence, even in tubal pregnancy, until the general health is disturbed. Thomas Savage,<sup>1</sup> of Birmingham, in discussing the extirpation of the fetal cyst during the first four months of pregnancy, believes that plan to be a safer proceeding, and more likely to cure than any of the many proposals that have been made, *e. g.*, puncture, an electro-galvanic current, starvation of the patient, injection of narcotic substances, compression, etc. Charles Bell, of Edinburgh,<sup>2</sup> says the diagnosis being extremely difficult, if not impossible, in earlier months, the treatment must be entirely palliative.

I therefore propose, in the following pages, not only to publish a new successful case of Faradization, practiced in the early stage of extra-uterine gestation, but to present a synopsis of the other cases scattered throughout the literature.

CASE I. — Garrigues. *Ovum developed in Right Fallopian Tube. Two Months. Faradization. Arrest of Pregnancy.*

Mrs. M. S., aged nineteen, consulted me February 21, 1882. She had been married ten months, and never been pregnant. Menstruation had always been regular, except that the last had occurred seven or eight weeks before. She had always been in good health until of late. She complained of nausea, weakness, and pain in the right iliac fossa, which, during the last week, had occurred twice in such sudden and severe paroxysms that she almost fell to the ground. These attacks had lasted ten minutes.

On vaginal examination I found the uterus symmetric, not enlarged, anteflexed, and pushed over to the left side. Close to it, on the right side, I found a soft, elastic, round tumor, which was as large as a hen's egg, slightly movable, and sensitive to pressure. On its vaginal surface was felt a pulsating artery.

The patient stated that her chest used to be quite flat, but that the breasts had become much larger of late. They were found forming pointed hemispheres. They were sore, and the seat of shooting pains. The outlines of the areolæ were effaced on their upper and outer margins.

<sup>1</sup> *Birmingham Med. Rev.*, February, 1882; *N. York M. Abst.*, March, 1882, ii., 94.

<sup>2</sup> *Edinb. M. J.*, 1881, xxvii., 297.

I made, without hesitation, the diagnosis of extra-uterine pregnancy in the right Fallopian tube, and pointed it out to the distinguished surgeon Professor Max Schüller, of Greifswald, Germany, who happened to be present.

*February 24.* The patient complained of constipation and frequent micturition. Two days before a few drops of blood had escaped from the vagina. The tumor presented a distinct round outline. On the anterior and exterior side it could be circumscribed by the finger in the vagina. Between the vagina and the tumor the tissue was soft, not swollen or sensitive to pressure. On the inner border of the tumor the finger could not be pushed so far up on account of the proximity of the uterus, but nevertheless a distinct line of demarkation between the two could be made out in front. Posteriorly the tumor extended slightly beyond the edge of the uterus. By examination per rectum the whole posterior surface of the tumor and of the uterus could be felt. Ballottement could not be obtained.

*February 28.* She had been bleeding four days, as if she had her menstrual flow. The uterine sound showed the depth of the cavity to be two and a half inches. Through the rectum the left ovary could be felt free and in its normal place. The right could not be distinguished. In the upper and posterior part of the elastic tumor a small, hard lump as large as an ovary could be felt (probably the fetus). Both areolæ were swollen, and a net of blue veins started from them, taking a direction upward and outward over the breasts. She stated that small bits of a membranous character had come away since her last visit, but had, contrary to my urgent entreaties, been thrown away.

On March 4 the electric treatment was begun. I had put it off until then because there did not seem to be any imminent danger of rupture, and I wanted to watch the development and have the opportunity of making repeated, thorough examinations before any active treatment was instituted. I used a French one-cell apparatus, composed of two carbon plates and one zinc plate, immersed in Bunsen's battery fluid. (℞. Potass. bichromatis ʒii.; acidi sulphurici concentr. fl. ʒiss.; aquæ fl. ʒxl.) The positive electrode, made of a large carbon plate, covered with cloth, was applied on the abdomen, over the tumor. The negative electrode, consisting of an isolated brass stem, with knob, was introduced into the vagina, and pressed up against the lower part of the tumor. The current was gradually increased



to the limit of her endurance, but never enough to cause real pain. This, and subsequent applications, lasted ten minutes.

Two days later (March 6) the pulsation in the vagina, which had been distinctly felt at every previous examination, had disappeared, and the tumor had decidedly diminished in size. I tried to introduce a small dilator into the uterus, in order to be able to scrape off part of the lining membrane of the cavity, but as this gave pain, and I was afraid of losing this interesting case, I was obliged to desist from the attempt. Second Faradization.

*March 9.* I verified the disappearance of the vaginal pulsation. The lower or soft part of the tumor had become much smaller in the three days elapsed since I had last seen her. Third application.

*March 10.* She complained of some pain in the hypogastric and inguinal regions, and soreness of the vagina. I examined very carefully, through the rectum, and satisfied myself that there was no trace of pulsation on the surface of the tumor.

On March 11 the soreness was gone, and even the pain, on direct pressure upon the tumor, was much less than it used to be. Only a small part of the tumor could be felt through the vagina, but it was much better made out through the rectum. The part lying behind the uterus seemed to be the ovary. The tubal cyst formed a globular tumor. Fourth application.

On March 13 she reported having had colicky pains, and some soreness for twenty-four hours. Fifth application.

On March 14 the pain had ceased, but she was still rather sore. The ovary was very distinctly felt through the vagina, separate from and situated behind and inside of the tumor, and behind the uterus. Sixth application.

On March 15 she said that a copious creamy discharge had been coming from the vagina since the day before. The breasts had become quite flaccid, and were no longer sore. The venous net had retired two inches from the nipples. The areolæ appeared shrunken and full of wrinkles. Seventh application.

*March 16.* She declared that she felt "first rate." The fluid part of the tumor had disappeared. There was no tenderness, even on thorough vaginal and rectal examination. Ninth application.

*March 18.* She complained again of some soreness, and said that she had felt some pain after yesterday's Faradization, which, during the night, had increased enough to keep her awake. Tenth application.

*March 20.* She felt well. The tumor had diminished to the size of an English walnut. The areolæ had lost their wrinkles, and looked quite normal.

During the whole treatment the patient had not spent a day in bed, but had even gone out and attended to the duties of her small household.

Deschamps,<sup>1</sup> in his work on extra-uterine pregnancy, forming a continuation of Parry's,<sup>2</sup> says that the difficulty of making the diagnosis of extra-uterine pregnancy during the earlier months of pregnancy is greater than that of normal pregnancy at the same period. This I take to be an erroneous view. In women who have borne children before, it is often very difficult during the first two or three months of normal pregnancy to decide whether we have to deal with pregnancy or with a disease of the womb.

If the pregnancy be extra-uterine, I think the diagnosis will, in most cases, be much easier. In reviewing the above history, the diagnosis seems to me as sure as that of a pneumonia, or a peritonitis, or a broken humerus. First, the patient presented the following symptoms of pregnancy: Cessation of menstruation, nausea, increased size of and pains in the breasts, swelling and beginning enlargement of the areolæ (*aréole mouchetée* of the French), and development of the subcutaneous veins running over the mammary glands. Second, another set of symptoms showed that the seat of the ovum was not in the uterus, but in the right Fallopian tube, namely, violent attacks of colicky pain in the hypogastrium, discharge of blood and shreds from the vagina, frequent and painful micturition; the presence, on the right of the uterus, of a well-defined, elastic, movable, tender tumor, separable from the uterus and the ovary; the displacement of the uterus to the opposite side of the pelvis; pulsation on the surface of the tumor; the emptiness of the uterus on examination with the sound; and, finally, the shrinkage of the tumor and the disappearance

<sup>1</sup> *Grossesses Extra-utérines*, Paris, 1880, p. 23.

<sup>2</sup> *Extra-uterine Pregnancy*, Philadelphia, 1876.

of the mammary and gastric evidences of pregnancy after the application of the Faradic current.

When I first saw the patient these symptoms were not all developed; nevertheless I had no doubt in my mind about the diagnosis. I can only imagine few conditions which might have a remote resemblance to the one described, namely, parametritis, dropsy of the Fallopian tube, beginning cystic degeneration of the ovary, or a small cyst of the broad ligament. From parametritis the tumor differed by its sharp outline, its thin walls, its regular globular shape, and its moderate tenderness. Hydrosalpinx or a small ovarian or parovarian cyst might, indeed, give a similar sensation, but none of them would produce the changes in the breasts. Pregnancy in one half of a double uterus, which presented a great obstacle in the way of diagnosis in a case of Goodell's,<sup>1</sup> could be excluded by the perfectly symmetrical shape of the uterus and the separate existence of a tumor.

There are a few points in the history of the case on which I would like to make some remarks. The uterus was not enlarged. In most histories of extra-uterine pregnancy the enlargement of this organ is emphasized as part of the symptoms, but this does not seem to take place, in a marked degree, before the third month. Reamy<sup>2</sup> refers to the non-enlargement of the uterus in the very early part of extra-uterine pregnancy as one of the features by which that condition is distinguished from fibroids. In McBurney's case, to be mentioned below, the uterus, at the first examination, was "very slightly, if at all, enlarged."

There was no ballottement. This is, likewise, a symptom which cannot be expected in the very early stage of extra-uterine pregnancy. It was not present in Reeve's case, which belongs to the third month, but in Allen's first case, in which the uterus measured five inches in depth. Thomas could only feel it feebly, though distinctly, in the fourth month of pregnancy, in his celebrated case in which he

<sup>1</sup> *N. York Med. Rec.*, 1880, xvii., 109.

<sup>2</sup> *Tr. Am. Gynec. Soc.*, 1879, iv., 321.

opened the sac with the galvano-cautery.<sup>1</sup> In normal pregnancy the end of the fourth month seems to be the very earliest period in which it is felt.<sup>2</sup>

In several histories we read that the areolæ were well marked. In my case I say that its outline was effaced. Both observations are correct, but apply to two different things. The true areolæ become darker during pregnancy, and are, therefore, more marked; Montgomery's glands become swollen, and sometimes the whole areolæ swell so as to form part of a much smaller globe than the breast, — something like the cornea, in reference to the sclerotica. But, at the same time, pigment is deposited in the circumference of the areolæ in small tongues or rays, by which process the outline becomes effaced. In my experience, this, together with the swelling of Montgomery's glands, is one of the earliest signs of pregnancy. I have often found it as early as six weeks after conception. It is the beginning of the formation of the secondary areolæ.

It would seem, from the cessation of pulsation and decrease in the size of the tumor, that the fetus was killed by the very first application of electricity. This was only because it was so very young. The procedure was repeated nine times, partly to make sure of the death of the fetus, and partly to have the opportunity of observing the changes going on in the pelvis and the breasts. The latter returned to their normal condition in eleven days after the beginning of the treatment.

At no time did the current cause appreciable contractions of the sac or the uterus.

The first case on record in which electricity was used as a remedy for extra-uterine pregnancy was that treated by Bachetti, Bartolini, Burci, and Torri, of Pisa, Italy.

<sup>1</sup> *N. York M. J.*, June, 1875.

<sup>2</sup> Tarnier, in his *Traité des accouchements*, Paris, 1882, i., 522, says that it begins in the middle of the fifth month. Chailly-Honoré, *Traité des accouchements*, 6e éd., Paris, 1878, refers its beginning to the end of the fourth month, but says that at that time the fetus, after having been displaced, is very rarely felt to fall down again on the finger. Playfair, in his *Midwifery*, London, 1876, i., 154, says "Ballotement is practiced between the fourth and the seventh month."

CASE II.<sup>1</sup>—Bachetti. *Extra-uterine Pregnancy in Left Tube. Third Month. Electro-puncture with Faradic Current. Arrest of Pregnancy.*

Mrs. C., aged twenty-nine, robust, mother of four children ; had always been healthy. Toward the end of 1852 she supposed herself to be pregnant on account of the cessation of her menstruation, daily vomiting, abundant salivation, and disgust with wine. On December 29 sudden, violent pain in the hypogastric region, tenesmus, dysuria, fainting. The os uteri was closed, and no discharge came from the interior. Eight days later a small quantity of blood, mixed with albuminous flocculi, was discharged from the uterus, which flow continued for several days.

January 16, 23, and 25, new attacks of pain and fainting. On the last-named day, for the first time, a tumor was discovered in the left iliac fossa. It was plainly visible and well-defined by the touch. It was of ovoid shape, as large as a large citron,<sup>2</sup> the long axis of which extended upwards and outwards from the left side of the uterus to the iliac fossa of the same side, and reaching inwards almost to the median line. The lower and interior part was adherent to the uterus, the upper and outer part was movable. It was hard, with an uneven surface, and indolent on pressure.<sup>3</sup> Dr. Odoardo Bachetti, who first was called to see the case, called in the renowned Professors Bartolini, Burci, and Torri. All agreed in the diagnosis of extra-uterine pregnancy, in the third month. Burci proposed acupuncture, to which Bartolini advised to join the galvanic current. Burci administered

<sup>1</sup> *Gazzetta Medica Italiana Federativa Toscana*, 1853, vol. iii., No. 18. An abstract is found in *L'Union médicale*, 1857, xi., 168, from which the above is taken. It is a mistake when Parry (l. c., 207) cites Burci's case as another case than Bachetti's, and when Dr. Lusk (l. c., p. 335) refers the case to 1859, and, likewise, when *Bulletin général de thérapeutique*, 1872, vol. lxxxii., p. 276, quotes *Gaz. Med. Ital.*, 1857. It is one and the same case, and was published in 1853. I have named the cases after the physicians in whose practice they occurred, but it will be noticed that in several of them the treatment was suggested, and in some even the diagnosis made, by others.

<sup>2</sup> The French word is *cédrat*, which means the fruit of *Citrus medica*, much larger than the lemon.

<sup>3</sup> "Hard" means, probably, "tense;" the uneven surface may have been due to fetal parts, or the ovary; the indolence is, probably, in comparison with the sensitiveness of an abscess.

the electricity. The operation was performed on the 2d of February, 1853. He used an electro-magnetic machine, moved by two small Bunsen's cells, containing a small quantity of exciting fluid.<sup>1</sup> He introduced two long and thin needles obliquely into the tumor, the first at the inner and lower part, the second at the outer and upper part, in such a way that they did not come in contact. This acupuncture excited only a slight pain. By connecting the needles with the conducting wires of the electro-magnetic machine, he caused a small shock in the tumor and on the whole body. Five minutes later he filled the cells entirely with fluid, which produced a second shock, which was much stronger than the first. The patient screamed, raised herself involuntarily up from her bed, became very red, complained of intense pain in the hypogastric region, and refused to submit to another attempt. The skin looked seared round the points in which the needles had been introduced. When these were removed, Mrs. C. became again calm and quiet.

After that day she had no more neuralgic attacks or fainting fits. The tumor diminished gradually. On the 6th of May it was reduced to the size of a pigeon egg. Menstruation recurred in April, and in May Mrs. C. was perfectly cured.

CASE III.<sup>2</sup>—Braxton Hicks. *Abdominal Pregnancy. Three Months and a Half. Faradization. Two Applications, with Ten Days' Interval. Puncture. Death from Internal Hemorrhage.*

Patient about thirty-five years old, healthy, mother of three children. Metrorrhagia. Severe attack of collapse, and sharp abdominal pain. Uterus enlarged, and, behind it, in the recto-vaginal pouch, a flaccid tumor, the walls of which seemed to be so thin as to add nothing to that of the vagina. A living fetus was felt moving in it, and its pelvic extremity was turned downwards. Its size was about that of a three and a half months' fetus, which corresponded to the date of conception. The upper part of the tumor could just be felt over the pelvic brim. A strong galvanic current was applied, one pole being placed externally on the tumor above the brim of the pelvis, the other on

<sup>1</sup> This shows that he used a faradic, not a galvanic, current, as commonly employed in electro-puncture. Consequently, the electrolytic effect can only have been insignificant, and it is, in fact, a case of Faradization.

<sup>2</sup> *Trans. Obst. Soc., London, 1866, vol. vii., p. 95.*

the lower part of the tumor in the vagina. As this proved of no effect, it was repeated after ten days, with four cells of Smee's battery, strongly charged, assisted by a good *induction coil*. This, again, was without the intended effect. These applications were made under chloroform. *The fetal movements wholly ceased during the administration.* Five weeks later he punctured the fetus from the vagina. The patient died five days later from internal hemorrhage. At the post-mortem examination he found two pints of fluid blood in the peritoneum. The uterus had three times its normal size. To its left side and back there adhered a cyst, about four inches in diameter, containing purulent serum. The cavity was lined with flaky lymph. At its most dependent portion, which reached about the level of the os uteri, was a circular opening about one inch in diameter. When the fluid was removed, the membranes of the ovum were seen slightly bulging into it, containing clear liquor amnii. The membranes prevented the escape of the purulent fluid into the recto-vaginal pouch, the whole of which space was occupied by the fetus. Upon opening this pouch from below the ovular membranes were found to be closely attached to the peritoneum. Within was a clear liquor amnii and the breech of the fetus. The placenta was situated at the upper part of the ovum, and adherent to the posterior surface of the uterus and the right side as much as was not occupied by the cyst. The ovum, which was springing up out of the pouch, was wholly independent of any covering.

Hicks was the first who applied electricity externally, and had, perhaps, not much faith in it himself. This would explain that he let ten days go before he repeated the attempt, and then discontinued the treatment altogether, although he had noticed that the movements of the fetus stopped temporarily. It is very likely that by repeating the sittings, with short intervals, he would have attained his end. It seems to be the oldest fetus upon which the method has been tried. The autopsy showed that neither fetus nor ovum had been reached by the puncture, and that it had caused both suppuration and hemorrhage. Since electricity had no fair trial in this case, we cannot consider it as a failure of the method.

CASE IV.<sup>1</sup>— Joshua G. Allen. *Abdominal Pregnancy. Fourth Month.*<sup>2</sup> *Faradization. Arrest of Pregnancy.*

In 1869 a pluripara attempted to produce abortion about the second month of pregnancy, but failed, although she described something like a decidua as having been passed. She suffered greatly from abdominal tenderness and occasional colicky pains. Two and a half or three months after supposed conception, she complained of an incessant desire to urinate. A considerable tumor was found behind the uterus, unattached to it. The body of the uterus was carried forwards, and far upwards behind the pubis. The sound had to be strongly curved, and entered five inches; the uterus was empty. The diagnosis of extra-uterine pregnancy was made, and confirmed by Drs. Agnew and Pepper. The latter examined the patient several times. Later he could ascertain by ballottement the presence of a fetus.

One pole of an ordinary electro-magnetic machine was passed through a glass speculum, and applied to the vaginal portion of the tumor behind the neck of the uterus. The other pole was placed upon and over the tumor from the abdomen, where it could now be felt. This was repeated on several occasions. A weak current was first used, producing no visible impression. On the third application, a very powerful current was turned on. The patient recoiled from the current with considerable fright, declaring she felt a motion as if something turning in the abdomen. After that, a moderate current was used every three days for two weeks. The tumor ceased to grow, and then for several months diminished. The ballottement disappeared. Three years after the treatment, there was a well-defined tumor, of the size of a large fist, which gave no trouble.

CASE V.— Starling Loving and H. G. Landis.<sup>3</sup> *Left Tubo-abdominal Pregnancy. Three Months. Faradization. Arrest of Pregnancy.*

The patient was a pluripara. Her last child was born Feb-

<sup>1</sup> *Trans. Obst. Soc., Philadelphia; Am. Jour. Obst., 1872, vol. v., p. 161.*

<sup>2</sup> The data about visits before electricity was used, the depth of the uterine cavity (five inches), the size of the fetal sac long after treatment (as large as a large fist), the presence of ballottement, seem all to place the case beyond the third month.

<sup>3</sup> *Ohio Med. and Surg. J., Oct., 1877.*



ruary 3, 1872. Menstruation returned in June, 1872, and was regular. The last, occurring January 10, 1877, was scanty, and of unusually heavy and unpleasant odor. Soon after, she began to feel nausea, mostly in the morning. There was no flow on February 10, but pain in the back and the loins. Vaginal examination revealed only an eroded os uteri, and slight ante flexion of the womb. February 23, immediately after defecation, she was seized with sudden violent abdominal and lumbar pain and tenesmus. Similar attacks were repeated every day, and later, every two, three, or four days. On one occasion half a fluid ounce of laudanum was given in fifty minutes, with barely the effect of relieving the pain. Another day (March 10) five fluid drachms of laudanum in one hour and followed by hypodermic injection of half a grain of sulphate of morphia were required to relieve the suffering. After that, hypodermics of morphia, with addition of atropia, were used three or four times a day.

*February 26.* She lost half a drachm of blood, after which the os, which hitherto had been closed, admitted the third phalanx of the index. From this date the uterus slowly settled in the pelvis for a week. Simultaneously there appeared a tumor in the place of Douglas' cul-de-sac. Thereafter the womb ascended until, by March 17, the os could be felt high up, just behind the pubis. The ascent was apparently caused by the growth of the tumor. By March 1 it was quite evident that the womb was enlarged. Extra-uterine pregnancy was suspected. She had no fever. The tumor was moderately tender. The sound passed with ease three inches and a half. An elastic catheter, passed, without resistance, four inches, and was allowed to remain a few hours. Ergot was given. A few uterine contractions were induced, during which not only the outline of the womb could be traced in the hypogastrium, but also an irregular tumor associated with it in an ill-defined way, and which was also subject to rhythmical contractions. This tumor appeared to extend completely across the pelvic brim, but was harder and more noticeable just above the left groin.

*March 7.* She had an apparently menstrual flow, with clots.

*March 9.* She passed from the vagina a strip of membrane two and a half inches long and one inch wide. The following day there came two more, which both by gross and microscopical examination proved to be decidua, being richly supplied with tortuous blood vessels, and exhibiting decidual cells. A finger was

introduced into the cavity of the uterus, which was empty. By conjoined rectal and vaginal manipulation, the lower segment of the tumor was located in Douglas' pouch. It was obscurely fluctuating.

The diagnosis of extra-uterine, probably tubo-abdominal, pregnancy was made.

*March 20.* Electric treatment was begun. They used a Drescher faradic apparatus. The current was applied in moderate strength, and continued fifty-five minutes. The patient complained bitterly of its effect, especially increased backache. It caused weakness of the pulse, and increased paleness of the surface, with a sensation of faintness. It seemed also to cause contractions of the womb and the tumor. One electrode was applied in the vagina, the other on the abdomen. From March 20 till the 30th, when electricity was used for the last time, there were eight sittings.

On the 23d the pain was intense, but after that day there was neither pain nor contractions. On the 25th she walked down stairs to dinner.

Menstruation recurred on April 16, and lasted till the 21st. The following day a sound was passed into the uterus four and a half inches, showing increase of the empty organ. Very little change was observable in the tumor. She menstruated again in May and June. By July the womb had regained its normal size. The tumor could no longer be traced from the abdomen, though it was distinctly felt from the vagina, being apparently as large as an average fist. (See Case XI.)

CASE VI.<sup>1</sup>—Charles McBurney. *Left Tubo-interstitial Pregnancy. Two Months and Three and a Half Weeks. Galvanism, with Interruptions and Reversions. Delivery through the Natural Passages.*

The patient was a married lady [twenty-one years old], pregnant for the first time. Her last menstruation had been present from October 1 till the 5th. [She was married the 11th of the same month]. November 22 and 23 there was a slight

<sup>1</sup> *New York Med. Jour.*, 1878, xxvii., No. 3, p. 273. Dr. T. G. Thomas took, at the time, full notes of the case himself, which are found in Beard and Rockwell's *Med. and Surg. Electricity*, 3d ed., New York, 1881, pp. 606 to 610. From these I have taken what is found in brackets.

flow, without pain. On the 25th this became quite abundant. December 1st there was again a flow, and on the 9th, 10th, and 11th, a slight bloody discharge. The gastric and mammary signs of pregnancy were well marked, nausea having been present since the middle of October. December 16 and 20 there was again a slight bloody discharge.

*December 25.* On the left side, overhanging the edge of the true pelvis, and extending beyond about two inches, there was found a smooth tumor, apparently about the size of a large egg, pressure on which was painful. Through the vagina the uterus was felt displaced to the opposite side, very slightly, if at all, enlarged [increased in size, but not so large as it should have been at or near the third month of utero-gestation]. The cervix, examined with the speculum, appeared to be that of a non-impregnated uterus. To the left of the uterus there was a fluctuating tumor, with a very thin wall, tender on pressure [and very slightly movable]. Pressure over the tumor, felt through the abdomen, was not communicated to the cervix, but forced down the roof and left wall of the vagina. The diagnosis of extra-uterine pregnancy, probably tubal, was made.

*January 2.* The diagnosis was corroborated by Drs. Thomas and T. A. Emmet. The latter could feel a sort of vermicular motion in the tumor.

*January 3.* The sound was used, and entered three and one eighth inches. [Dr. Thomas tried to penetrate the mass on the left side, but it was impossible. He used the instrument so as certainly to have broken the fetal envelopes, and allowed the liquor amnii to escape, had the gestation been uterine. The uterus was empty.]

Dr. Thomas urged strongly the use of the galvanic current. Dr. A. D. Rockwell applied a constant battery, composed of zinc and carbon plates immersed in a solution of bichromate of potassa,  $\bar{3}i$ , sulphuric acid,  $\bar{3}ij$ , and water,  $\bar{3}vi$ . Seventeen cells were used. The current was interrupted one hundred and twenty times in the minute. The whole application lasted three minutes. The negative pole, formed by a metal bulb covered with wet sponge, was passed four inches up in the rectum. The positive pole, consisting of a large wet sponge, was applied on the abdomen. Very marked contractions of the muscles of the abdomen and the limbs accompanied the shocks, and decided pain was caused, but stopped with the current.

*January 4.* Second application, lasting two minutes. Eighteen to twenty-three cells were used, and the current reversed twice. It caused violent contractions and intense pain. After the application there was a slight rise in temperature (99.5° F.), pulse 96, vomiting and pain, followed by a slight bloody discharge from the vagina.

*January 5.* Temperature 10.5° F.; pulse, rapid and feeble. The tumor felt hard. The flow became abundant. The tumor in the left iliac fossa disappeared, with the exception of a small mass on the brim. In the median line, on the other hand, was felt a smooth symmetrical tumor, and from the vagina was felt a tense and very strong bag of membranes protruding from a fully dilated cervix. On rupturing the membranes, a large amount of pure liquor amnii and with it a dead fetus about three months old came away. The placenta followed in about twenty minutes.

*January 6.* Temperature 101° F. [The uterus could be distinctly mapped out, and was very slightly sensitive to pressure. The fetal nest could be felt with almost equal distinctness, though now insignificant in bulk, and to the touch it was exquisitely sensitive. The uterus had resumed its normal position in the pelvis.]

She made a rapid recovery. On the 8th of February nothing abnormal was felt to the left of the uterus, and the uterus itself was perfectly normal in shape.

This case has been challenged on account of its termination in abortion, but the high authority of the gynecologists who examined it puts the diagnosis beyond a doubt. It is supposed to have been a tubo-interstitial pregnancy, and that the contractions caused by the electricity pushed the fetus into the uterine cavity.

CASE VII.<sup>1</sup> — J. C. Reeve. *Abdominal Pregnancy. Three Months. Faradization. Arrest of Pregnancy.*

The patient, aged twenty-five, married six years, healthy, had had one child a year after her marriage. After that menstruation was somewhat irregular as to time and rather abundant as to quantity. It was last present from Christmas, 1878, till New Year's Day, and was but scanty.

On January 26 she had a severe attack of pain in the lower

<sup>1</sup> *Trans. Am. Gyn. Soc.*, 1879, vol. iv., p. 313.

part of the abdomen, and almost at the same time a sanguinolent vaginal discharge. A round, smooth, tender tumor was found behind the upper posterior portion of the vagina. The os was patulous, the cervix soft, and pushed forwards.

On March 12 and 16 new attacks of pain came on. On the latter day he withdrew the decidua from the cervix. A few days afterwards the breasts were examined and found firm, not tense. The patient said they were larger than formerly. The areolæ were not strongly marked. There was ill-defined hardness and dullness over the right ramus of the pubis. The sound entered an inch deeper than normal, with a direction anterior and somewhat to the left. Posterior, and to the right of the cervix, was felt a round, smooth, elastic tumor, which was quite tender, and gave an impression as a hydrocele. It was too tense for fluctuation. Ballotement could not be made out. All the probabilities were in favor of the case being the abdominal variety of extra-uterine pregnancy.

The tumor increased steadily, crowding the cervix against the pubis. Several arteries were felt beating on the surface of the tumor.

On March 28 the secondary current of a single cell of a galvano-faradic machine, as strong as the patient could bear it, was applied for ten minutes, one pole on the tumor in the vagina, the other outside on the abdomen. The application was repeated daily till April 5, the only manifest effect being some increase of the uterine discharge.

On April 15, ten days after the last application, the breasts were more flaccid, the tumor about the same size, but fewer vessels were felt, and their pulsation was less energetic.

On May 11 the breasts were entirely flaccid, no vessels to be felt on the tumor. The sound passed only a little deeper than normal into the uterus. She had suffered no attacks of pain recently, and the discharge was slight. Menstruation returned May 21, and lasted till the 28th.

On June 4 the patient was examined both by Dr. Reeve and Dr. T. A. Reamy. The tumor was situated much higher up, only one third its former size [which is not stated], and separate from the uterus. Menstruation continued regular.

On August 1 the tumor behind the cervix and to the right was elastic, not very tender, and of the size of a small apple.

On August 31 the patient was last seen. She complained of

pelvic distress, especially when much on her feet during menstruation. The tumor was still smaller and less accessible. It had lost its cyst-like character, and become irregular in outline.

Through the courtesy of Dr. C. E. Billington I am enabled to furnish, in his own words, the following report of a case which he treated, together with Drs. T. G. Thomas and A. D. Rockwell.

CASE VIII. — C. E. Billington. (*Unpublished.*) *Right Tubal Pregnancy. End of Third Month. Galvanic Current, with Interruptions. Arrest of Pregnancy.*

Mrs. S., age thirty-four, had been married eleven years. Had an abortion about one year afterwards, since which time she had not been pregnant, and had menstruated regularly.

Her menses, which were due July 15, 1880, failed to appear. Her husband had then been absent three weeks. About August 10 she began to feel ill, and had slight hemorrhages. About August 25 she had a profuse hemorrhage, which was checked after some hours, but recurred occasionally. Getting somewhat better, she returned from Cincinnati to New York. The hemorrhages recurring, I was called to see her September 8. I found her weak and anemic, and free from fever and pain. The usual remedies were employed, with apparent success, for some days. The hemorrhage then recurred, however, quite suddenly and profusely, and accompanied with darting pain in the right iliac region. I then, for the first time, made a careful vaginal examination, and found a tumor larger than an egg behind and to the right of the cervix uteri. This had a boggy feel, and was nearly or quite free from tenderness. Suspecting extra-uterine pregnancy, I called Dr. T. G. Thomas in consultation September 19, who considered it an unusually well-marked case, and recommended the application of the galvanic current. I accordingly called Dr. A. D. Rockwell to make the first application of electricity. This was done by placing one electrode in Douglas' cul-de-sac posterior to the tumor, and the other externally over the tumor toward the right iliac region. Rapid interruptions were then made in the current for a second or two. A current of fifteen cells was used on this occasion. Although the fetus was probably killed by this application, I made three subsequent ones on alternate days, the last

time using a current of thirty cells. There was no hemorrhage after the first application. Dr. Thomas again saw the patient with me on October 1, and pronounced the tumor decidedly diminished. Two months later it had almost disappeared. The health of the lady has since been good.

Reckoning from the last presence of the husband before the non-appearance of the menses, the pregnancy must, in this case, have been nearly three months advanced.

CASE IX.<sup>1</sup>—William T. Lusk. *Tubal Pregnancy. Two Months. Faradization. Arrest of Pregnancy.*

The patient, aged twenty-eight, had been married twice. Soon after her first marriage she had become pregnant, but aborted at the fourth month. She had been united to her second husband seven years, during which period she had been sterile. At the end of October she had not menstruated for nearly two months, but for a month past had suffered from a slight, but continuous sero-sanguinolent discharge. The uterus was slightly enlarged and increasing from one visit to the other. The areolæ were well marked. She had two attacks of violent colic, with collapse, on November 8th and 14th. The decidua was thrown off entire. A well-defined round fluctuating tumor, covered with pulsating vessels, was felt to the [which?] side of the uterus. The diagnosis of extra-uterine pregnancy was corroborated by Dr. Thomas, who counseled the Faradic current.

An ordinary one-cell battery was used. The first application was made on Monday, November 15, the negative pole being placed over the tumor through the vagina, and the positive pole on the abdominal wall, about three inches above Poupart's ligament. Two days later the tumor had grown larger, more tense, and bulged the vaginal wall down toward the vulva. The second time the full force of the battery was used, and the negative pole was placed in the rectum. The next day (Thursday) the sac felt flaccid, and by the end of the week it had lost its regular outline. On the tenth day the last application was made. The shrinkage had become so unmistakable that no doubt was now left as to the death of the embryo. The patient thenceforward made an uninterrupted convalescence resulting in perfect health. A small, hard, painless mass, not much larger than an

<sup>1</sup> *Am. Jour. Obst.*, 1881, vol. xiv., p. 333.

English walnut, alone remained when she was last examined. [The size of the tumor, before the treatment, is not stated.]

CASE X.<sup>1</sup>—Bache Emmet. *Abdominal Pregnancy. Three Months and a Half. Galvanic Current, with Interruptions. Arrest of Pregnancy.*

Mrs. S., aged twenty-eight, married three years, was pregnant for the first time. The menstrual period, expected at Christmas, 1880, did not come. On January 19 a trifling show appeared and continued for a few days. She was wearing a pessary for retroversion, and had some discomfort. On raising the uterus somewhat the doctor realized that it was enlarged. On March 11 there were slight pains, with a show, and the cervical canal admitted two joints of the finger. On the 13th clots and portions of decidua came away. The uterus still lay back toward the left ilio-sacral synchondrosis, and was considerably enlarged, but by far not sufficient, for the time elapsed since the examination on January 19. At the front portion, and to the right of the pelvic cavity, was another mass, evidently connected with that lying back, but how intimately it was impossible to determine. This anterior mass was of the size of a fetal head [at what month?] but very soft, and giving somewhat the impression of a thick-walled cyst. None of this mass was above the brim of the pelvis, and yet the patient was possibly at the sixteenth week of pregnancy. Dr. T. A. Emmet examined the patient, and expressed the opinion that she had an abdominal pregnancy. Dr. Thomas, on the contrary, thought there might have been a fibroid in the anterior wall which, normal pregnancy having supervened, developed rapidly, but there was considerable doubt in his mind as to the true nature of the case.

On March 18 Dr. A. D. Rockwell applied the galvanic battery, with frequent interruptions, up to two hundred a minute. From ten to eighteen cells were used. One electrode was placed in the vagina, the other on the abdomen. This treatment caused considerable distress, and could not be borne long. In all, three applications were made, with one or two days' interval.

The day after the last sitting, March 23, the cervix was dilated by sponge tent. The finger was passed well up into the canal, which was found perfectly clean. A probe entered four inches. This was followed by chills, diarrhea, and a tempera-

<sup>1</sup> *New York Med. Jour.*, January, 1882, vol. xxxv., p. 13.



ture of  $102.5^{\circ}$  F. On the 26th the greater portion of the decidua came away. On the 27th the temperature rose to  $104.3^{\circ}$  F., and the pulse to 130, but this coming on at the same time every day was evidently due to malaria, from which she had suffered repeatedly. Quinine, and removal to the country, produced a speedy improvement.

On April 4 appeared a slight show which lasted five days. The next show was on May 20, a very natural period, except rather too profuse.

*June 7.* The uterus turned backward, as before pregnancy. In front, and to the right of it, was a hard mass, which was much smaller than it had been two and a half months before. The patient herself had noticed its progressive decrease.

*September 30.* Her general condition was splendid. Locally there was only a mass of the size of a flattened blue plum lying just over the bladder.

In spite of the doubt which Dr. Thomas's view is apt to throw upon the case, I do not hesitate in taking it for a genuine intra-uterine pregnancy. He examined the patient only once, while Dr. B. Emmet had had her a long time under treatment, and was familiar with all the peculiarities of her womb and its surroundings. The description in itself leads likewise to the conclusion that it was a case of abdominal pregnancy, and this diagnosis is sanctioned by the high authority of Dr. T. A. Emmet.

CASE XI.<sup>1</sup>—Henry G. Landis. *Left Tubal Pregnancy. Three Months. Faradic Current. Arrest of Pregnancy. Same Patient as Case V.*

The tumor left by her first extra-uterine pregnancy was scarcely to be felt after a few months, and within a year no trace of it could be discovered. Menstruation continued regular from April 16, 1877, till October 4, 1881, during which period she enjoyed robust health, with the exception of a few transient ailments. On the latter date the menstruation appeared for one day, and was scanty and of ill odor. By the end of October she suffered somewhat from nausea, and believed herself pregnant. On November 9 she began to have quite severe attacks of pain, accom-

<sup>1</sup> *Medical News*, Philadelphia, April 8, 1882, vol. xl., p. 376.

panied by tenesmus, and referred to the rectum and lower part of the abdomen. They recurred once a day or every other day. Digital examination showed that the womb was somewhat enlarged, and there was a sensation of fullness in Douglas' cul-de-sac. Little change occurred till December 1. Dr. Loving now took part in the examination. The uterus was found enlarged and pushed forward by a cystic tumor in Douglas' cul-de-sac. On December 6 the patient was attacked by "the typical and horrible pain of extra-uterine pregnancy." In five minutes she looked as if she had been sick for months; the features were pinched, the extremities cold, the whole surface bathed in a cold sweat. A thick, lochia-like discharge was also observed, and the sound entered the empty uterus to the depth of four inches. The uterus reached nearly half way up to the umbilicus, and the tumor, indistinctly separable from it, was found in the left iliac region. Occasional contractions could be felt in the cyst, especially when the pain was severe. The womb and tumor alike seemed immovably wedged in the pelvis. Dr. A. Dunlap, one of the pioneers in ovariectomy, corroborated the diagnosis.

The induced current of a one-cell battery was used for ten minutes, after which she felt much easier. Contractions and pain were much less, but continued at intervals until the next application. Faradization was repeated December 7, 8, 9, 11, and 14th, the last time during fifty-three minutes, and increasing to the highest intensity.

No contractions were observed after the 14th, nor any pain, except when she had a passage from the bowels, which was rendered difficult by the mechanical pressure of the tumor upon the rectum. The lochia-like flow ceased on the 15th, during which time the decidua came away. A considerable amount of reflex disturbance, mainly vomiting, continued, and it was nearly a month before she could get about again. Menstruation returned on January 31. At last examination, on February 24, the tumor had considerably diminished in size, the patient appearing in excellent health, and with no complaint as to the local condition.

Perhaps this list might be prolonged, but as it is it is long enough to convince any unprejudiced mind of the high value of electricity in the treatment of intra-uterine preg-

nancy during the first three or four months. Leaving aside the case of Bachetti, in which needles were introduced into the fetal sac, and that of Braxton Hicks, in which the treatment was abandoned too early, there remain, besides my own case, eight cases, which all have been cured. All these cases occurred in this country. They were all observed by men of a high professional standing. Many of them were examined by two or three physicians, and some by men whose authority is recognized all over the scientific world. This would seem to be sufficient guarantee of the correctness of the diagnosis, and consequently a proof of the efficaciousness of the treatment.

I have left out the second case of Allen,<sup>1</sup> because the data are insufficient. It is said to have occurred about the tenth week of gestation. The treatment was the same as in the first case, with similar result. The tumor diminished from the size of a fist to that of a goose's egg, in which condition it remained, giving no trouble.

I have likewise left out the case of Dr. Herrick, of this city, treated together with Dr. A. D. Rockwell, because it is unpublished, and I have endeavored in vain to obtain the particulars of it.

The same applies to a fifth case of Dr. Rockwell. But these three cases are very likely genuine, which would make the dozen of successes in this country full.

I have furthermore left out the case of Dr. George Harrison, alluded to by Drs. Thomas<sup>2</sup> and Lusk,<sup>3</sup> because the doctor has informed me that perhaps the fetus was dead before the electric treatment was begun, since the breasts of the patient had become flaccid.

Finally I have left out the case of Dr. H. P. C. Wilson,<sup>4</sup> because the doctor states himself that he is "not satisfied it was a case of extra-uterine pregnancy," and because

<sup>1</sup> *Am. Jour. Obst.*, 1872, vol. v., l. c.

<sup>2</sup> *Diseases of Women*, 5th ed., p. 772.

<sup>3</sup> L. c., p. 335.

<sup>4</sup> *Trans. Am. Gyn. Soc.*, 1879, iv., 320; and *Am. Jour. Obst.*, 1880, xiii., p. 836.

Dr. Howard, who saw the case with him, has kindly informed me that to his mind it was a case of phlegmon in the right broad ligament.

#### FREQUENCY OF EXTRA-UTERINE PREGNANCY.

There is a pretty general impression among physicians that extra-uterine pregnancy is of rare occurrence, and even in some recent text-books this statement is made. Compared with the total number of uterine pregnancies it is, of course, rare, but compared with many other abnormalities of gestation, child-birth, or the puerperal state, it is not so very rare. While preparing this paper I have read the history of about two hundred cases, all published in less than four years. Thus a rich material is accumulating, to be used by the man who will try to imitate Parry, and I hope he will let the accumulation go on still for some years, for we live, in this respect, in a period of transition, many points being yet *sub judice*, and the views about the proper treatment of these dangerous cases diverging very much, not only when those who entertain them belong to different generations, but even among the most active and progressive men of the day.

#### DANGER.

How great the danger incurred in these unfortunate cases is, appears from the mortality, which, according to Puech,<sup>1</sup> is at least sixty per cent., and, according to Parry,<sup>2</sup> even 67.20 per cent. So much greater become the claims of a treatment which so far has succeeded in every case in which it was faithfully carried out.

#### DIAGNOSIS.

I am far from underrating the difficulties surrounding the diagnosis of extra-uterine pregnancy. There can be no better proof, in this respect, than the hesitation or the mistakes of some of the most experienced gynecologists of all

<sup>1</sup> *Gaz. obstétr.*, Paris, 1879, vol. viii., No. 21, p. 321.

<sup>2</sup> L. c., p. 169.

countries in their dealings with this sad condition. But the difficulties may also be overrated, and when we so frequently find it asserted in text-books and special papers that the diagnosis, especially in the earlier months, that is to say before the movements of the fetus are felt and its heart heard beating, is shrouded in the greatest obscurity, nay utterly impossible, such teachings are apt to exercise a bad influence on the general practitioners, who, of course, meet much more frequently with these cases than those who make a specialty of obstetrics and gynecology. Despairing of the possibility of making a diagnosis, they neither try to do it themselves, nor do they seek the advice of those who are more familiar with the anatomy of the pelvic organs in health and disease, and thus the period in which the best and simplest, and most innocuous treatment might be undertaken is lost never to return. I think, therefore, it is not amiss to point out that if there are difficult cases there are others in which the diagnosis is very easy, and that certain symptoms are so common in extra-uterine pregnancy that they ought to arouse a strong suspicion of its existence, and call for the most careful examination and steady watching of the case. It is painful to read the by no means rare histories of cases in which no physical examination was made. The first time the patient is sent home with a prescription for an anodyne for her colic; the next time she is found dying; and the last act in the tragedy is the autopsy revealing a small ruptured fetal cyst, with internal hemorrhage. It is no less painful to read<sup>1</sup> of an autopsy revealing a cyst measuring "from seven to nine inches in diameter," which had not been found, although a vaginal examination was made. It is not here the place to treat in detail of the diagnosis of extra-uterine pregnancy. I shall limit myself to recalling the chief symptoms of the early stage, namely, mammary, gastric, and nervous signs of pregnancy, cessation of menstruation, severe colicky pain, often dysuria and dyschezia, irregular bloody vaginal discharge, expulsion of the de-

<sup>1</sup> *New England Med. Gaz.*, Oct., 1878, vol. xiii., p. 419.

cidua, or parts thereof, enlargement and emptiness of the uterus, and, finally, the presence of the tumor, in which sometimes even the fetus can be felt. The late Stephen Rogers, of this city, in an otherwise meritorious paper<sup>1</sup> on the subject, says that when the patient is fortunate enough to pass on to the fourth month the fetal tumor will add an almost positive element to the diagnosis. The tumor may be felt much earlier, as proved by my own and other cases. I should even be inclined to think that in some respects it is easier to recognize its nature earlier than when, by its size, it becomes so intimately blended with other organs that its outlines can no longer be made out.

Before leaving this subject I would call attention to a warning set forth by Ernst Fränkel<sup>2</sup> against the use of the sound. In his case he thinks it provoked contractions of the uterus and the fetal sac, the first resulting in the expulsion of the decidua, the second in rupture and fatal peritonitis. Similar effects, says he, were observed in cases of Gervis, Guichard, Williams, and A. Martin.

Our new Fellow, Dr. B. B. Browne, in his interesting paper on "Combined Intra-uterine and Extra-uterine Pregnancy,"<sup>3</sup> points to the important fact that the expulsion from the uterus of parts of the chorion — and the same may be said of the fetus — does not remove the possibility of the existence of extra-uterine pregnancy, since the two kinds of pregnancy may be combined, twin conceptions being even much more frequent in extra-uterine than in uterine pregnancy.

#### SAFETY OF ELECTRICITY COMPARED WITH OTHER METHODS.

Almost universally it is thought to be not only justifiable but proper, in the earlier months of pregnancy, to leave the right to life of the fetus entirely out of consideration. Yet there are dissentient voices to be heard. William H. Wathen,<sup>4</sup> professor of obstetrics in the Ken-

<sup>1</sup> *Extra-uterine Fetation and Gestation.* Philadelphia, 1867, p. 35.

<sup>2</sup> L. c., p. 18.

<sup>3</sup> *Trans.*, vol. vi., p. 445.

<sup>4</sup> *Medical Herald*, Louisville, 1882, iii., 556.

tucky School of Medicine, objects to the destruction of the fetus in any way and under any circumstances, and advises to operate just before term, both in the interest of the mother and of the child. We have seen above that similar views are advocated by A. Martin. Even Dr. Thomas<sup>1</sup> seems to be opposed to the destruction of the fetus if the extra-uterine pregnancy be of the abdominal variety, while he recommends it in the tubal variety.

I must say that I cannot convince myself of the validity of any objection to the destruction of the life of the fetus in extra-uterine pregnancy if we thereby can benefit the mother. We need not here repeat the old discussion about the relative rights of the mother and the child, although even in common obstetric cases the great majority of obstetricians, at least in this country and in England, untrammelled by the doctrines of a certain religious body, which have no relation to scientific observation, do not hesitate to sacrifice the unborn child in the interest of the mother. But here we have to do with an entirely different class of cases. Apart from those exceedingly rare cases, if they exist, in which an extra-uterine pregnancy terminates by the birth through the uterus of a living and viable child,<sup>2</sup> the fetus is doomed to certain death except by opera-

<sup>1</sup> *Trans. Am. Gyn. Soc.*, 1879, iv., 329. *Diseases of Women*, 5th ed., Philadelphia, 1880, p. 775.

<sup>2</sup> There are several cases on record of the expulsion of the non-viable fetus in this way: Dr. Mundé's case, seen with Dr. Cornelius Williams (*New York Med. Jour.*, 1878, xxviii., 595, and *Am. Jour. Obst.*, 1879, xii., 330); two cases of Dr. John Graham, of Philadelphia, in the first of which the diagnosis was confirmed by Dr. Elwood Wilson and the late W. L. Atlee; and the case of Spencer T. Smyth (*Brit. Med. Jour.*, October 18, 1879, ii., 615), in which a six months' fetus was born alive and lived for an hour. Then there are cases in which living children were drawn out from the tube (Laugier: *Archives générales de médecine*, 1832, 1st series, xxviii., 333), or delivered by scraping or cutting through a part of the uterine wall (H. Lenox Hodge, of Philadelphia, in 1867, see Parry, l. c., p. 266; and D. D. Gilbert, of Boston, *Boston Med. and Surg. Jour.*, 1877, xcvi., 284). We may imagine that nature might overcome the obstacle, and a viable child be born without interference of art, but so far as I know no such case has ever been observed.

tive interference. A fetus thus situated, and imperiling in the highest degree its mother's life, does not seem to me to possess any right of existence important enough to weigh anything as compared with that of its unfortunate mother. I would, therefore, feel perfectly authorized, under all circumstances, to sacrifice its life, if thereby I had some prospect of bettering the condition of the mother.

Next arises the question, which is the best way of killing it? Five methods are at our command, which conveniently can be grouped under two heads. In the first class sharp instruments are used to reach the cyst through the abdominal wall, or through the roof of the vagina; in the second, no part of the body is wounded. The first comprises puncture, injection, elyototomy, and laparotomy. The second consists of dilatation and electricity.

*Puncture* of the fetal sac has been successfully performed by E. Martin, Stoltz, Greenhalgh, Al. Simpson, Tanner, and Kœberlé,<sup>1</sup> but has given rise to death by hemorrhage (Braxton Hicks<sup>2</sup>), or septicemia (Goodell<sup>3</sup>). The latter might probably be avoided by antiseptic precautions (washing of the place to be punctured with five per cent. carbolized water, and immersion for at least five minutes of the instrument in the same fluid), but the danger of hemorrhage is very great on account of the arterial net which develops on the surface of the sac. Besides B. Hicks and Goodell, J. Y. Simpson, Conrad, E. Martin, Netzel, Hutchinson, John Scott, Gallard, and Depaul, have all reported fatal results. And, after all, this method is uncertain in its results. Spencer T. Smyth<sup>4</sup> has published an interesting case, which shows that the fetus may develop without being surrounded by liquor amnii. The water had been draining away for almost two months, sometimes tinged with blood. Finally a six-months'-old fetus was pushed from the right tube into the womb, and born by an entirely

<sup>1</sup> Cohnheim, *Archiv f. Gynäk.*, 1877, xii., 366.

<sup>2</sup> Case III.

<sup>3</sup> *Am. Jour. Obst.*, 1881, xiv., 133.

<sup>4</sup> *Brit. Med. Jour.*, October 18, 1879, ii., 615.



dry birth. The case of Ernst Fränkel<sup>1</sup> is still more to the point. Toward the end of the fourth month of tubal pregnancy he punctured from the vagina, with a trocar one fourth centimetre thick, carefully trying to avoid the much developed arteries. The trocar entered five and a half centimetres, and about twenty grammes of liquor amnii were evacuated, and followed by a rather thick column of arterial blood. Nevertheless the fetus did not die, but was four months later removed living by laparotomy, but died the next day, as the mother had done shortly after the operation.

*Injection* has been used twice with success by Friedreich, of Heidelberg.<sup>2</sup> In the first case the exact age of the fetus was not known, but it belonged probably to the third month. Four injections of from one tenth to one sixth of a grain of morphia were made, and the cyst reduced in a month from the size of a fist to that of a walnut.

The second patient,<sup>3</sup> although only in the third month of pregnancy, had to stay eight months in the hospital. Five injections of one or two centigrammes of morphine, four times preceded by aspiration, besides one aspiration without injection, were made, and the patient was at a time decidedly hectic.

The danger of producing hemorrhage is smaller than by the preceding method, since only a hypodermic syringe is used, and we may guard against septicemia by antiseptic precaution. Still, the tediousness of the recovery, and the dangerous condition of the patient in the last case, does not invite to imitation as long as a better method is available.

*Elytrotomy.* — Dr. Thomas's<sup>4</sup> splendid success in opening the fetal sac in a tubal pregnancy and removing the fetus is known all over the world, and nevertheless this bold

<sup>1</sup> *Archiv f. Gynäk.*, 1879, xiv., 208.

<sup>2</sup> Virchow's *Archiv*, 1864, xxix., p. 312; *Archiv für Gynäk.*, 1877, xii., 355.

<sup>3</sup> *Archiv f. Gyn.*, 1877, xii., 355.

<sup>4</sup> *New York Med. Jour.*, June, 1875.

operator, when called in consultation in Dr. McBurney's and Dr. Lusk's cases, strongly advocated electricity in preference to operative interference. Dr. Albert H. Smith,<sup>1</sup> in a case of Dr. M. O'Hara, used the thermo-cautery toward the end of the fourth month of abdominal pregnancy, but the patient died of gangrène of the peritoneum on the fourth day. In a case of tubo-ovarian gestation in the fifth month, Dr. Robert Battley<sup>2</sup> opened the cyst with a curved trocar and Chassaignac's écraseur. The patient died of exhaustion on the fourth day.

Doran<sup>3</sup> has made autopsies in several cases, and warns against a particular danger in vaginal incision, the rectum often being pushed down by the tumor, especially in the later stages. The danger of hemorrhage, due to the living fetus, is perhaps not always overcome by the use of the incandescent knife, especially if the placenta be situated on the line of the incision, and then this organ has to be left till it is loosened by suppuration, or comes off piecemeal by disintegration, a period in which the woman, in spite of antiseptic injections, is much exposed to absorption of septic material. Thus this method is beset with dangers.

*Laparotomy.* — According to Parry,<sup>4</sup> Brown, Routh, Playfair, Meadows, and Greenhalgh, in England, and Darby, in this country, have proposed to perform laparotomy, and extirpate the sac before rupture occurs. We have above seen that Thomas Savage, of Birmingham, likewise recommends this procedure, and so does Lawson Tait,<sup>5</sup> adding that if the fetus was living, it would not be wise to wait until it had reached the age of viability. But in spite of

<sup>1</sup> *Am. Jour. Obst.*, 1878, xi., 827.

<sup>2</sup> *Trans. Am. Med. Ass.*, 1879, xxx., 240. — Dr. George Harrison, of New York (*Am. Jour. Obst.*, 1878, xi., 811), made a simple incision from the vagina in an abdominal pregnancy of four months' duration, but as the fetus was dead, and decomposition beginning, the case does not come within the scope of operations with intent of destroying the fetus.

<sup>3</sup> *Brit. Med. Jour.*, 1880, i., 736.

<sup>4</sup> *L. c.*, p. 202.

<sup>5</sup> *Lancet*, November 15, 1879, p. 731.

so many recommendations, the operation has never been tried, and weighty voices have been raised against it, among them that of Spencer Wells. The operation would probably prove dangerous on account of the development of arteries, which takes place around the fetal sac, and there would be all the common dangers incident to laparotomies in general, augmented by the greater vulnerability induced by pregnancy.

*Dilatation.*— It has been recommended<sup>1</sup> to dilate the cervix and the uterine ostium of the Fallopian tube, and thus reach the fetal sac through natural canals. This method might be used with success toward the end of pregnancy, but I do not see how it should be possible to dilate the tubal orifice in the earlier month of pregnancy. In Dr. McBurney's case Dr. Thomas<sup>2</sup> endeavored to penetrate the mass containing the fetus with the uterine sound, but found it impossible. Besides this, the dilatation with sponge tent or similar materials, although performed without harm in Dr. B. Emmet's case, must be very apt to bring on contractions of the uterus and the tubes, and thereby expose the fetal sac to a pressure which may rupture it.

*Electricity.* Against all these dangerous or doubtful methods stands electricity, with a record unblemished by a single failure or any dangerous consequences. It has been used in quite a number of cases. In every case the pregnancy has been promptly interrupted, and every single patient has definitely recovered within a short time. This success has been so uniform that it seems the time has come to put it down as an axiom based on experience that in the early part of pregnancy electricity is the remedy, and that it is the duty of the physician to give his patient the benefit of its application. Two objections have been raised against it. When Bernutz<sup>3</sup> asked Duchenne (of Boulogne) for his

<sup>1</sup> Dr. Williams attributes this proposal to Hodge and to Dr. Emmet. Hodge dilated only the cervix, and scraped through the septum between the uterine cavity and the fetal sac. I have been unable to find where Dr. Emmet has made the suggestion.

<sup>2</sup> Beard and Rockwell, l. c., p. 607.

<sup>3</sup> *Gazette obstétricale*, 5 février, 1879, No. 3, p. 33.

opinion on this agent, that celebrated electrician answered that it was not reliable, and, besides, apt to cause the rupture of the cyst. The first can only be based on the case of Braxton Hicks, but he did not carry the treatment through, although he saw that it temporarily arrested the fetal movements. The second is purely aprioristic, and cannot have any weight against the teachings of experience. It appears from the histories I have collected that this treatment has been successful in every case up to the middle of the fourth month. The question is only if it has a still wider range of usefulness. The common doctrine<sup>1</sup> is that this, and other methods intended to destroy the fetus, should be limited to the first four months, this being the time within which the rupture of the tube, when that is the seat of the ectopic pregnancy, is most apt to occur. But the rupture may take place, and has in fact taken place, at any time. It seems not improbable that the formulation of this dogma has been somewhat influenced by the circumstance that during the first four months the woman, as a rule, does not quicken, nor does the physician feel the active fetal movements and hear the pulsation of the heart. But advanced physiological knowledge has taught that the wonderful development caused by life is going on in the ovum from the very moment of its fecundation as an imperceptible little cell. If, then, we destroy the fetus during the first four months of its existence, we certainly kill it in the full sense of the word as effectually as at a later period of its existence, and if that is justifiable, which almost all concede it is, then it must likewise be justifiable to do so after the end of the fourth month, if by so doing we better the chances of the woman. The first question is, therefore, how late we can kill the fetus by electricity; the second, if it is advisable to do it? Experience only can answer these questions, and, so far, there is nothing to lead us, since the method has never been tried after the end of the fifteenth week. It would seem possible, by using a strong current, and anæsthetizing the patient,

<sup>1</sup> Parry, l. c., 199. Deschamps, l. c., 123.

to kill the fetus at any time by external application, and if that should prove impossible, then by electro-puncture, as in Baccetti's case. In order to form an idea if it would be advisable to attempt the destruction by electricity in the middle and last part of extra-uterine pregnancy we must consider the chances for mother and child if we let pregnancy go on unchecked. The cyst may burst at any time, and, although not absolutely fatal, this accident jeopardizes in the highest degree both lives concerned. Laparotomy may be undertaken at the end of thirty-two weeks, when the child is vital, as recommended in abdominal pregnancy, by Gusserow,<sup>1</sup> or in the tenth lunar month, as preferred by Litzmann.<sup>2</sup> But how miserable the prospects of success by these operations are appears from the excellent article of the latter, in which he has collected ten operations, performed while the fetus was living. Of these ten, only a single mother (Jessop's case) recovered, and only four of the children survived, if, by a surviving child, we understand one who lives more than a few hours or days. To Litzmann's list may be added a case of Lawson Tait's<sup>3</sup> and one of Netzel's,<sup>4</sup> of Stockholm, both ending in the loss of the mother and the recovery of the child. Thus it would seem that there is a small chance for the child and hardly any for the mother to be saved by the operation at or near term.

On the other hand Litzmann has collected thirty-three cases of laparotomy after the death of the child, of which seventeen, or more than one half, recovered. Would it not, therefore, be not only justifiable, but wise and humane, if possible, to kill the fetus by electricity, whatever its degree of development may be? We know that there is a fair chance that it will be entirely absorbed, except the bones, or become mummified. Among many other cases I shall only quote two recently observed by Matthews Duncan.<sup>5</sup>

<sup>1</sup> *Archiv f. Gyn.*, 1877, p. 84.

<sup>2</sup> *Archiv f. Gyn.*, 1880, xvi., 398.

<sup>3</sup> *Brit. Med. Jour.*, 1880, i., 737.

<sup>4</sup> *Centralbl. f. Gyn.*, 1881, v., 349.

<sup>5</sup> *Lancet*, November 15, 1879, p. 731.

in which the fetal heart was audible. The fetus died before it had reached the term of viability, and both patients were well at last accounts. But even if the worst should come to the worst, and the fetal sac suppurate, causing septice-mia, there would still be a fair chance of recovery by laparotomy, and, at all events, an infinitely better chance than by laparotomy performed during the life-time of the fetus. The chances will even be better than in those cases in which suppuration sets in after the end of gestation, for the smaller the fetus and its envelopes the less trouble is to be anticipated.

#### KIND AND STRENGTH OF ELECTRICITY.

Burci used electro-puncture. Although the fine needles used for that purpose scarcely can do much mechanical harm, and the case proved a success, we know that the same method applied to ovarian cysts has proved fatal in more than one case.<sup>1</sup> It would, therefore, only be in cases where other means of applying electricity failed to produce the desired effect that it would be advisable to try this method.

Dr. A. D. Rockwell, who kindly has informed me that he has treated five cases with electricity (McBurney's, Billington's, Bache Emmet's, Herrick's, and a fifth case), has always used the galvanic current, and, on physiological grounds, believes it to be far superior for this purpose to the faradic current. As a rule he believes the fetus is destroyed on the first application, if a strength of twenty-five or thirty volts<sup>2</sup> be used.

Duchenne, consulted by Lesouef,<sup>3</sup> is said to have recommended the Leyden jar, but this has never been tried.

In at least six cases (Allen's first, Landis's two, Reeve's,

<sup>1</sup> Mundé, "Electrolysis of Ovarian Tumors," *Am. Gyn. Trans.*, 1877, vol. ii., pp. 408-422.

<sup>2</sup> A volt is the unit of electromotive force, and is equal to about the force of a Daniell's cell. (Beard and Rockwell, l. c., p. 66.)

<sup>3</sup> "Remarques sur trois cas de grossesse extra-utérine." *Thèse de Paris*, 1862. Spiegelberg, l. c., p. 324.

Lusk's, and Garrigues'), success was obtained by a simple one-cell electro-magnetic faradic machine. As this apparatus is much more common, easy to transport, and simple to apply, it seems to merit special recommendation.

In some cases the pain caused by the treatment has been intense (Burci, Allen, Landis, McBurney, B. Emmet). This would seem to be due to the use of an unnecessarily strong current. Lusk used the full force of a one-cell apparatus. Dr. Reeve and myself were only guided by the feelings of the patients, and succeeded quite as well.

*Application.* The negative electrode is introduced either into the vagina or the rectum, the positive on the abdominal wall. A moderate current may be used for ten minutes or more at a time. The sittings ought, as a rule, to be repeated every day, until the diminution of the fetal cyst and the retrograde changes in the breasts show that pregnancy has been definitely arrested. As a rule it is best, for safety's sake, to make at least four or five applications.

*Nature of Effect.* Several authors ascribe the effect of electricity in killing the fetus in extra-uterine pregnancy to electrolysis.<sup>1</sup> This may be the true working principle when the galvanic current is applied. But the electrolytic power of the faradic machine is so small that in those cases, at least, in which that was used we must look for another explanation of the death of the fetus. I have applied my apparatus to a bladder containing water, with a little albumen and salt, which might be taken for a fair representative of liquor amnii, but I failed to see any electrolytic effect, nor seemed the exosmosis increased by the current. I suppose, therefore, that the effect is not chemical, but dynamical, something like that of a strong discharge from an electric machine, or of lightning on an adult. But, however this may be, practice has shown the value of the remedy.

<sup>1</sup> Allen, *Am. Jour. Obst.*, 1878, xi., 830; Skene, *Brooklyn Proceedings*, 1879, iv., 353; Roberts Bartholow, *Medical Electricity*, Philadelphia, 1881, p. 229.

CONCLUSIONS.

1st. Experience has proved electricity to be an efficacious and safe agent to arrest extra-uterine pregnancy during the first three months, and perhaps the pregnancy in some of the cases had even advanced more or less into the fourth month.

2d. It seems likely that the same agent might be profitably used at any period of fetal life.



THE HISTORY OF TWENTY-ONE CASES OF  
EXTRA-UTERINE PREGNANCY COMING UN-  
DER THE PERSONAL OBSERVATION OF THE  
WRITER.

BY T. GAILLARD THOMAS, M. D.,  
*New York.*

UNTIL the last decade very little special attention has been paid to the clinical study of extra-uterine pregnancy. In a general way it had received some attention in works upon obstetrics, and the physiology and pathology of the subject had been carefully investigated; but its clinical bearings, the symptoms which should arouse the fears and suspicions of the practitioner and the most appropriate treatment, had received an amount of attention entirely incommensurate with their paramount importance.

I do not, of course, mean to ignore the numerous and very interesting cases of ectopic gestation found scattered through the serial literature of medicine for many years; I simply desire to assert the fact that the clinical histories of these cases had not been carefully collated and analyzed so as to give the practitioner reliable data and distinct landmarks.

During the past ten years, however, all this has been changed. The subject of extra-uterine gestation has attracted a great deal of attention, and a work upon obstetrics or gynecology written to-day would of necessity contain a chapter devoted to the consideration of its physiology, pathology, symptoms, differential diagnosis, natural history, and treatment.

Foremost among those who have effected this result are Bandl, Barnes, Hecker, Schroeder, Spiegelberg, and Hen-

nig in Europe ; and Parry, Allen, Goodell, Reeve, and Lusk in this country.

In spite of this gratifying advance, however, our knowledge of the subject is even now elementary, our means of diagnosis still uncertain, and our methods of treatment unsettled. At the end of another decade it is highly probable that the diagnosis of this abnormal condition will have become as certain as that of abdominal tumors in the female is at present, and our treatment as fully settled. When that much to be desired consummation has been reached it is certain that many lives which are now sacrificed in consequence of our imperfect knowledge will be preserved.

The paper which I have the honor of presenting to-day is one of purely clinical character based upon what I believe to be an exceptionally large clinical experience in the subject under consideration.

During the first sixteen years of a practice of thirty years I met with no case of extra-uterine pregnancy. During the past fourteen years I have been called upon to treat twenty-one cases. It is to an effort to draw deductions for practice from these that this paper is to be devoted.

For the pathologist there are many varieties of ectopic gestation, including ovarian, tubo-ovarian, etc., etc. For the practitioner at the bedside there are virtually but three: the tubal, interstitial, and abdominal varieties ; for he lacking the sense of sight, which is at the disposal of the pathologist, must draw his conclusions from clinical evidences alone, and these do not suffice for the determination of such niceties of differentiation as those alluded to. Indeed in many cases it is impossible to decide as to the variety, even of the three simpler forms above mentioned, to which a case belongs, when the most efficient means at our command have been called to our aid.

I shall now give short histories of the cases which I have seen, commenting upon important features as I proceed, and ending with an effort at general deductions based upon the mass of material presented.

CASE I. — I was called in great haste by Dr. Mourraille to see

Mrs. A., aged about twenty-eight years, multipara, who had advanced to the end of the third month of pregnancy.

For five weeks past she had presented as symptoms: paroxysmal pelvic pains in the right iliac fossa shooting down the right thigh, lasting from two to three hours, which she likened to labor pains, and occasional attacks of metrostaxis. Upon physical exploration Dr. Mourraille discovered a very distinct and slightly sensitive tumor in the right iliac fossa, close to the uterus. Prof. Willard Parker was called in consultation. One day after the iliac pain had lasted for between two and three hours the patient rapidly passed into a state of collapse. Dr. Mourraille at once recognizing that the rupture of an extra-uterine cyst had occurred sent for me to perform laparotomy. A physical exploration convinced me that this was the state of affairs, but the patient was *in articulo mortis*, and died before any effort could be made in her behalf. No post-mortem examination could be obtained, and of course some doubt may exist as to the correctness of our diagnosis. This I can only meet by stating the strong conviction with which the physical and rational signs impressed me; for that an immense hemocele was the immediate cause of death there could be no doubt, as there could be none that pregnancy existed at about the end of the third month. It must be remembered that this case occurred fourteen years ago, at a time when such premonitory symptoms as those recorded were universally allowed to pass without exciting suspicions of the existence of abnormal gestation.

CASE II. — Mrs. B., aged thirty-eight, a multipara, was seen in consultation with the late Dr. Charles Henschel. This was in every particular so perfect a counterpart of Case I. that I shall not give it in detail.

CASE III. — Mrs. C., a German woman, the wife of a mechanic, living in a poor tenement house, aged about thirty, and a multipara, I saw also with Dr. Henschel. She had nearly arrived at the end of the third month of pregnancy, and had complained of severe intermittent pains in the pelvis, and neuralgic pains down one thigh, for which she had sent for her medical adviser. Examination convinced him that something was wrong, but he was unwilling to decide as to the nature of the difficulty. When I saw her I found her giving undoubted evidences of pregnancy. Upon physical examination I found the enlarged uterus pressed towards the right side by a soft doughy tumor, which very distinctly gave to my finger the sense of ballottement.

I advised tapping per vaginam by a very small trocar and cannula. At Dr. Henschel's request I did this, and upon passing the instrument got no fluid but found the cannula, upon withdrawal, stopped up with a pultaceous mass which the microscope proved to be brain matter. I tapped again and drew off a straw-colored fluid, which had all the appearances of liquor amnii. The patient did well after this as far as her recurrent iliac pains were concerned, but gradually symptoms of septicemia developed, and of these she died in about three weeks. Dr. Henschel was unable to obtain a post-mortem examination.

CASE IV. — An unmarried Irish woman, about twenty-two or twenty-three years of age, presented herself at my clinic, at the College of Physicians and Surgeons, giving unmistakable evidences of pregnancy at about the third month.

She was examined by my clinical assistant, the late Dr. James L. Brown, on account of intermittent iliac pains on the left side, which would last for two hours or more, and he discovered a tumor of small size in one iliac fossa which yielded to his perception the sense of ballottement so distinctly that he positively announced the existence of extra-uterine pregnancy.

I examined the patient without knowing of Dr. Brown's diagnosis, and at once came to the same conclusion. Three or four other practitioners saw and examined the case and were entirely in accord with us as to its nature. I have seen no other case in which ballottement was as distinct as it was in this.

Although I had had a bad result in the case recorded as having been seen with Dr. Henschel from a resort to tapping per vaginam, I was induced again to try it here by the fact that a very brilliant result had been about that time reported from London. I tapped with a small trocar and cannula and drew off a clear, straw-colored fluid which was, after chemical and microscopical examination, pronounced to be liquor amnii. At nine that night my assistant called to see the patient, and found her taking part in a carouse, drinking, dancing, and shouting with the most vigorous of her companions. A few hours afterwards he was sent for to see her, found her suffering from all the rational and physical signs of hemothorax, and was forced to produce seminarcosis in order to control the pain of which she complained. Internal hemorrhage appeared to go on very rapidly after this, and in a few hours the patient died, after remaining for some time in a complete state of collapse.

Thus far every case of extra-uterine pregnancy with which I had met had proved fatal.

CASE V. — I was requested to visit Mrs. C., of Elizabeth, N. J., in consultation with Drs. Greene and Crane of that city. She was a multiparous woman, thirty-two years of age, and of very delicate conformation. She presented all the symptoms of pregnancy at the end of the third month, but in combination with these the following abnormal symptoms: slight metrostaxis, and continuous pain in the left iliac fossa that developed into a "cramp," which occurred about every four or five days. Physical examination revealed the following state of things: the uterus was enlarged and pushed over to the right, the vagina was soft and elastic; and to the left of the uterus a tense, elastic cyst, which filled the whole iliac fossa and extended down to the *os* internum, could be distinctly felt. Within this mass ballottement was perfectly attainable. I incised the tumor through the vagina with the incandescent knife, removed the fetus, and filled the empty sac with carbolyzed cotton. Half of the placenta was removed at the time of the operation, and on the fifteenth day the rest followed. This patient recovered.

CASE VI. — I saw, with Dr. W. T. Walker, Mrs. R., a French lady, who after suddenly occurring amenorrhea of four months' duration, began to suffer from pelvic pain and severe backache. This prompted an examination, when a tumor was discovered posterior to the uterus, which was pushed forward and upward by it. While the case was being kept under supervision for the purpose of diagnosis, this was made clear by an effort of nature, one of the fetal metatarsal bones being passed by the rectum. Very slowly and painfully, after many months, all the fetal bones were expelled by the rectum, and the patient entirely recovered. For several years afterward, however, her health was greatly depreciated.

CASE VII. — This case was almost identical with that just related, except that the diagnosis was made by art and not by nature. The diagnosis of abdominal pregnancy was based upon the following data: the existence of pregnancy was complicated by metrostaxis; severe pains in pelvis, back, and thighs; and interference with defecation; while the uterus was lifted up and pushed forwards by a soft, elastic tumor which did not present the physical aspects of an imprisoned ovarian cyst, or of a hemat-

ocele. In a short time after this diagnosis was arrived at, and very probably in consequence of the thorough examination to which the patient was exposed, the débris of a dead fetus were discharged by the rectum ; the cyst, above mentioned, gradually emptied itself, and the patient slowly recovered.

CASE VIII. — I was called by Dr. James Hadden to see Mrs. H., aged twenty-six years, and the mother of one child. The patient presented all the appearances, rational and physical, of a woman suffering from an ovarian cyst. She gave, however, a very distinct history of all the symptoms of pregnancy which had existed up to full term, and she had now gone eleven months from the period when she supposed that it had occurred.

Although she was at this time convinced that she was mistaken in supposing herself to have been pregnant, so clear were her statements in reference to her having felt the fetal movements, that I was put upon my guard with reference to diagnosis. Drawing off with the aspirator four quarts of sero-purulent fluid from the abdominal cavity, I could distinctly feel a mass, like a child, rolling around within it. I felt warranted in making a positive diagnosis of abdominal pregnancy, and soon after performed the operation of laparotomy and removed a finely developed girl weighing seven pounds, and measuring eighteen and a half inches in length. The abdominal wound was kept open by a glass drainage tube, which was kept in place to give egress to the placenta, which came away five weeks after the operation. The patient entirely recovered. The death of the child in the abdomen was due to the winding of a long human hair repeatedly around the umbilical cord, which completely cut off its circulation.

CASE IX. — Dr. Charles Young, of Newark, sent into my service, in the Woman's Hospital, a negress, twenty-four years of age, who had borne one child. Seventeen months before I saw her she had, as she supposed, become pregnant and had gone on without any very decided symptoms to the end of utero-gestation. At this time, however, labor did not occur, and she was now impressed with the idea that her opinion had been a mistake.

Clearness of the patient's statement as to the existence of pregnancy, combined with the presence of a solid, rolling mass within the abdominal accumulation of fluid, led me to the diagnosis of abdominal pregnancy ; and in a short time after her admission I performed laparotomy. I removed a girl weighing nine pounds and left the placenta undisturbed. This came away grad-

ually in from two to three weeks, and the patient entirely recovered.

CASE X. — This patient was sent into my service in the Woman's Hospital through the kindness of my friend, Dr. Fordyce Barker, to whose care she was committed by Dr. Coates, of Mystic Bridge, Conn. She presented all the appearances of pregnancy which had gone to the full term without labor having been accomplished, and now had extended a little more than three months beyond it. Her physician had made the diagnosis of abdominal pregnancy before the patient was brought to me, and I had merely to corroborate it. The constitutional state of the patient was so much depreciated that for some time after her entrance into the hospital I was afraid to operate, and when I did so I felt almost hopeless of a successful result. I performed laparotomy, removed the débris of a full-grown dead fetus, and drained the sac by means of a glass tube; and very much to the surprise of all connected with the case the patient made a complete recovery without the development of a bad symptom.

CASE XI. — I was called by the late Dr. Giberson, of Brooklyn, to see Mrs. B., a multipara, who, having arrived at the end of the third month of pregnancy, had suddenly developed the symptoms of peritonitis. The cause for this disease we were at a loss to determine. The patient was so nervous and excitable a woman that little stress could be placed upon the symptoms of pelvic pain, etc., from which she declared that she had suffered during the past three months; and, although the question of extra-uterine pregnancy was carefully considered at the consultation, no diagnosis of that condition was arrived at.

After an illness of three days the patient died, and a post-mortem examination revealed the fact of the existence of tubal pregnancy, the partial rupture of the sac of which had allowed the escape of two or three pints of blood into the peritoneal cavity, which had resulted in peritonitis and death.

CASE XII. — I was called to see the wife of a physician of New York, a primipara, about thirty-five years of age, who, after several years of married life, had developed the symptoms of pregnancy and had advanced nearly to the end of the third month. No peculiar symptoms had shown themselves during this time until one day, without assignable cause, she was taken with sudden, violent pelvic pain and became partially collapsed. I saw her, in consultation with four eminent practitioners of New York,

and arrived positively at the diagnosis of extra-uterine pregnancy with rupture and progressive hemorrhage. Impressed with this view I favored laparotomy, which, although I regarded it as a most dangerous resource, I considered the only chance of saving the patient's life. In this I was overruled, and the patient gradually sunk and died on the third day.

Post-mortem examination revealed tubal pregnancy developed near the fimbriated extremity. Upon the surface of this vicarious uterus one artery somewhat smaller than the ulnar had ruptured, and from this a steady sanguineous flow had occurred, which had caused the collection of over three quarts of blood in the peritoneal cavity and had destroyed our patient's life. Had laparotomy been performed, as had so recently been maintained that it should be by the late Dr. Stephen Rogers, there is no reason whatever why the patient's life should not have been saved.

CASE XIII. — This case I saw with Dr. Wilhelm Frankl. The patient was thirty years of age, a native of Austria, and the mother of one child nine years old. She had all the symptoms of pregnancy at the end of the third month, accompanied by pseudo-menstrual discharges containing membranous shreds, together with great pelvic pain and discomfort. Before I saw her Dr. Frankl had made the diagnosis of abdominal pregnancy, which he based upon the rational signs above mentioned, and the following physical signs, in the enumeration of which I quote his language: "The cervix uteri was behind the symphysis ossium pubis; corpus uteri slightly enlarged, easily felt through the abdominal walls above the os pubis. Passing my fingers into the vagina, I felt in the back wall, more to the left, a swelling increasing towards the fornix vaginæ behind the cervix, forming a tumor, round, not tender, but dense. This tumor could be felt by bimanual manipulation in the right iliac region. On macroscopical and microscopical examination I found the expelled membranes to be 'deciduae.'"

Influenced by these rational and physical evidences I fully coincided in Dr. Frankl's diagnosis, and we watched together with great interest the weekly development of the rapidly-growing tumor.

After keeping the case under observation for three months the tumor, which had grown to the size of a child's head at birth, became less tense, and all growth seemed checked in it; the symptoms of pregnancy instead of becoming more pronounced, as



they had all along been doing, rapidly diminished in number and significance and gradually disappeared. The fetus appeared to have died without assignable cause, and, although the tumor remained fully as distinct, though less tense and resisting than it was, the patient felt sufficiently well to attend to her daily avocations. Dr. Frankl kept her under observation for something over a year, and during all that time the tumor was constantly discoverable. Since this time I have lost sight of the patient, and I cannot say whether any evidences have been established settling the validity of the diagnosis.

CASE XIV. — I was requested by Dr. Janvrin to see with himself and the late Dr. Peaslee the following case: Mrs. S., thirty-two years of age, and mother of two children, the elder fifteen years of age and the younger thirteen. The patient menstruated regularly until March 20, at which time irregular hemorrhage came on and continued with greater or less violence for two months. At the end of this time Dr. Janvrin was called to her and found her suffering with very severe uterine pains of contractile character, accompanied by profuse flooding. He discovered the uterus about as large as it should be in a two months' pregnancy, and the os so much dilated as easily to admit one finger.

Under astringents and opiates the hemorrhage and pains at once ceased, and the patient was comfortable until June 8, when a similar attack occurred and I saw her in consultation. The uterus had behind it a large, hard tumor which presented very much the appearance of the retroflexed fundus of a gravid uterus.

On July 2 another similar attack occurred, and the tumor, which had heretofore been behind the uterus, was discoverable more towards the left side, and I suggested the possibility of its being a tubal pregnancy of that side which had fallen down into Douglas's pouch. On the 12th she was seen by Dr. Peaslee, who thought that the tumor was a rapidly developing uterine fibroid. Dr. Janvrin agreeing with me passed, with my concurrence, a sound to the fundus, and found that the uterus measured three and a half inches in depth.

On December 19 another severe paroxysm of pain came on, just nine months from the last regular menstrual period, which resembled very much the pain of ordinary labor. At this time Dr. Peaslee introduced the sound and found that it passed five and a half inches. In the early part of March offensive diarrhea came on, and, a number of small fetal bones being mingled with the discharge, the diagnosis was now put beyond a question.

Dr. Janvrin then made a rectal examination and readily discovered communication between the intestine and the fetal sac. Things continued to progress in this way until towards the last of May, when, symptoms of septicemia coming on, Dr. Janvrin dilated the sphincter ani and by means of the fingers removed all the fetal bones from the sac. The operation lasted only fifteen or twenty minutes, but the patient was greatly exhausted by it.

She did not fully rally, although everything was done to make her do so, and gradually sinking she died at the end of fifteen hours.

CASE XV. — I was requested by Dr. Charles McBurney to see with him Mrs. C., a primipara, who presented all the rational and physical signs which mark the third month of utero-gestation. With these symptoms occasional discharges of blood had occurred from the uterus at about the following intervals, her last menstruation terminating about October 5 : slight flow took place on the 22d and 23d of November, ceasing on the 24th, and recurring with violence on the 25th. It recurred on the 1st and 9th of December, then ceased, and again showed itself on the 16th and 20th of December, lasting for a few hours. These discharges, though unaccompanied by pain, prompted Dr. McBurney to make a careful vaginal examination. Upon doing this he could not map out the fundus of the uterus, but on the left side he could distinctly feel a smooth tumor, apparently of about the size of a large hen's egg, which was very tender to pressure. The uterus appeared but slightly enlarged and in a condition of decided right lateroflexion. He made the diagnosis of extra-uterine pregnancy, and requested me to see the case with him. I agreed with him fully in his conclusions, as did also Dr. T. A. Emmet, who, at my request, was added to the consultation. Before proceeding to adopt treatment we explored the uterus thoroughly with a sound and satisfied ourselves that the cavity contained neither sac nor fetus. We were now perfectly convinced of the validity of our diagnosis, and as the pregnancy had arrived at the end of the third month we decided to risk no further delay, but to interfere immediately. The methods which were discussed were (1) laparotomy, (2) elytrotomy, and (3) the destruction of fetal life by a strong galvanic current, a plan of treatment which we owe to our countryman, Dr. I. G. Allen, who first employed it in the year 1869. Dr. A. D. Rockwell, the eminent electrician of New York, was requested to take charge of the galvanic current, I myself

fixing the electrodes ; the negative in the rectum, just under the most protuberant point of the tumor, while the positive was placed on the abdominal surface, just over the anterior face of the tumor. The current was generated by zinc-carbon elements immersed in a mixture of bichromate of potash, sulphuric acid, and water. A circuit of seventeen cells being closed, a succession of interrupted currents, one hundred and twenty to the minute, were passed, and with short intervals the current was continued for about three minutes. This was at two P. M., and the next day at nine A. M. the galvanic application was repeated.

After this the patient suffered a good deal of pain, the temperature went up to a little above  $100^{\circ}$  F., and the pulse to 96 ; nausea and vomiting occurred, and a slight flow of blood established itself. The next morning, at nine, we found the tumor hard, prominent, painful, and tender ; the patient's expression haggard ; and the pulse rapid and feeble. At 10.30 A. M. there was a sudden gush of blood, the tumor disappeared from the iliac fossa, and the uterus, before this scarcely perceptible, could now be readily mapped out, a little larger than it should be at the third month of normal gestation ; the os externum was distended and the fetal shell could be distinguished within it. Violent uterine contractions now took place, and the uterus expelled its contents, the cervix being torn through up to the vaginal junction.

After this Mrs. C. made an excellent recovery.

Although I know that a very excellent and exhaustive paper upon the treatment of extra-uterine pregnancy, by the use of the galvanic or faradic current is to follow that which I am now reading, I have described the method employed in this case rather fully because I shall have to report a number of others similarly treated, and this will avoid the necessity of again entering into such a description.

This case, at the time of its publication, excited a good deal of skepticism, and gave rise to criticism as unpleasant as it was unjust. I think that this was due to an erroneous view taken concerning the variety of pregnancy with which we had to deal by Dr. McBurney. He regarded it as of the tubal variety, and so delineated it in a report which he published of the case. I did not at the time, nor do I now, agree with him. Had it been of this character the oxytocic

influence developed by galvanism would have caused rupture of the tube and destroyed the life of our patient. It was, I think, unquestionably an interstitial pregnancy; the fetus developing in that part of the tube intervening between the endometrium and peritoneum, contraction of the uterine fibre forced the fetal ball into the uterine cavity, and thus the uterus was enabled to expel it into the vagina.

CASE XVI. — Dr. George T. Harrison requested me to see with him Mrs. P., a multipara, who had arrived very nearly at the end of the third month of utero-gestation. The occurrence of intermittent pelvic pains with occasional gushes of blood had induced Dr. Harrison to make a vaginal examination, which revealed to him the existence of a tense and tender tumor, of about the size of a large duck's egg, to the right of the uterus. Upon examination of the case I thought that I distinguished an obscure sense of ballottement in this, but of that I could not feel sure. I fully agreed to the existence of tubal pregnancy, and urged the use of a strong interrupted current to be repeated once a day for three or four days in spite of Dr. Harrison's belief that the fetus was already dead (an opinion which I did not share). The doctor readily agreed with me, however, that if the fetus were dead no harm would be done, while if it were living a great deal of good might be accomplished; and the current was employed. After ten days the patient left her bed, the tumor gradually but steadily diminished, and complete recovery took place.

CASE XVII. — This case I saw with Dr. Billington, of New York. It resembles the case just related so very closely in rational and physical signs, and in treatment and results, that I shall not give it in detail. A strong interrupted current was employed four times, with intervals of twenty-four hours. After the treatment the decrease of the tumor was very steady, and complete recovery was rapidly accomplished.

CASE XVIII. — I was called in consultation in this case by Dr. Lusk. The patient was twenty-eight years of age, and had been twice married. During the first marriage she had an abortion at the fourth month, but during the eight years of her present marriage she had never been pregnant. She called upon Dr. Lusk in consequence of excessive nausea and vomiting, which he suspected to be the results of some sexual disorder, and therefore made a vaginal examination. This revealed to him slight in-

crease in the size of the uterus, but nothing else which specially attracted his attention. Upon questioning her carefully he found that she had not menstruated for two months, and in place of the menstrual flow an irregular and scanty sero-sanguinolent discharge had existed.

Two weeks after Dr. Lusk first saw her she expelled a decidua cast of the uterus. Up to this time he did not suspect the nature of the case. She had at intervals during the last fortnight suffered from occasional attacks of abdominal pain which were called colic, and the recurrence of one of these of such severity as almost to induce collapse caused him to recognize the truth. I saw her, with Dr. Lusk, early one morning after he had passed almost the whole night with her, quieting her pain by the hypodermic use of morphine. I agreed fully in the diagnosis, and was so much impressed by the imminence of the danger that I urged immediate destruction of the life of the fetus by the faradic current. This was applied three or four times by Dr. Lusk, one pole being in the rectum, and one on the abdominal wall. I quote Dr. Lusk's report of the efficacy of the method: "The result justified the most sanguine expectation; the next day the sac felt flaccid, and by the end of a week it had lost its regular outline. On the tenth day the last application was made; the shrinkage had become so unmistakable that no doubt was now left as to the death of the embryo. The patient thenceforward made an entirely uninterrupted convalescence, and is now in the enjoyment of perfect health. A small, hard, painless mass not much larger than an English walnut alone remains as a monument of the murdered embryo."

CASE XIX. — I was called to this case by Dr. Bache Emmet. The patient had been married three years but had never borne a child. Skipping a period on the 25th of December, she had a slight flow on the 19th of January following. After this nothing remarkable occurred until the 11th of the following March, when uterine contractions, hemorrhage, and expulsion of deciduous membranes took place. An examination made at this time by Dr. Emmet revealed the uterus in a partial condition of retroversion with a mass equal in size to a fetal head in front of it, and filling the right portion of the pelvic cavity. The mass was soft, giving the impression of a thick-walled cyst, and did not jut upwards above the brim of the pelvis. Dr. Emmet was convinced that extra-uterine pregnancy existed, but I did not feel nearly so

confident, my mind being divided between this idea and the existence of normal pregnancy in a uterus in the wall of which a fibroid existed. I persuaded Dr. Emmet to destroy fetal life, whether the fetus existed inside or outside the uterus, by the use of an interrupted current of electricity. The interrupted galvanic current was used on three occasions. After this Dr. Emmet introduced a sponge tent three inches in length, and passing his finger found the uterine cavity entirely empty.

The patient suffered from chills, high temperature, and diarrhea, but in the end she entirely recovered.

CASE XX. — I was called in great haste by Dr. H. F. Walker to see Mrs. A., a multipara, thirty-two years of age, of whom he gave me the following history: She had advanced without remarkable symptoms to the end of the third month of pregnancy, with the exception of slight efforts at menstruation and the existence of a globular mass behind and a little to one side of the uterus. This mass he had regarded as the fundus uteri in a state of retro-lateroflexion. He had occasionally replaced it by pushing it upwards with the finger, but it had demanded little interference. Symptoms of abortion had come on in the morning of the day upon which I saw her with him, and very suddenly she had been taken with agonizing abdominal and pelvic pains, and had almost at once become collapsed.

Both the rational and physical signs pointed to the existence of a very large hematocele at the time of my visit, and I felt sure, as did Dr. Walker, that the globular mass obliquely behind the uterus was a tube, enlarged by a growing fetal mass which had ruptured and caused the existing sanguineous effusion.

On the day following corroboration of this view was given by the discharge of a mass of deciduous membrane by the uterus.

After this the patient was quite ill for three months, all evidences of advancing utero-gestation disappeared, and without surgical interference the effused blood mass was gradually absorbed. It was a year or eighteen months, however, before the patient recovered from the terrible shock to which she had been exposed.

CASE XXI. — I was requested by Dr. Everett Herrick to see with him Mrs. L., a multipara, aged about thirty-five, of whom he gave me the following history: For the past two and a half months the menstrual discharge had been irregular, steady oozing with occasional sharp gushes of blood taking its place. It was for this loss of blood that Dr. Herrick got me specially to see the case.

Upon examining I found a tumor lying in the right oblique direction from the uterus, which on my first visit I took to be the flexed fundus, as Dr. Walker did the globular mass in the case which precedes this one. I advised Dr. Herrick to keep the flexed body in position, to give styptics, and to keep the patient very quiet.

In two weeks I was called to see her again and found that she had grown worse rather than better, paroxysmal pains of a very severe character having added themselves to the symptoms already existing. After these attacks the patient would become very much exhausted. A careful examination of the general and local symptoms presented by the patient now convinced me that she was pregnant, and that the pregnancy was tubal and not uterine. Dr. Herrick agreeing in this, it was decided at once to check the rapidly advancing growth of the fetal mass by the use of the interrupted galvanic current.

I placed one electrode in the rectum under the fetal ball, and the other on the abdominal surface, while Dr. Rockwell passed the current. Four applications were made at intervals of twenty-four hours. After the first the patient was somewhat disturbed, temperature and pulse running up a little above 100, but the result of the treatment was in the highest degree satisfactory. The extra-uterine mass steadily diminished, and the patient entirely recovered.

Having finished, what I set out with the intention of giving, a rapid outline sketch of all the cases with which I have personally met, of extra-uterine pregnancy, without going into detail or referring to the experience or the views of others, I shall now endeavor to draw certain deductions as to symptomatology and treatment from them.

I shall not try to classify these cases as tubal, interstitial, and abdominal, for I am satisfied that such an effort, unsupported by laparotomy upon the living or dead subject, would lead to error.

The symptoms which in these cases have most frequently led to a diagnosis are the following: The symptoms of normal pregnancy accompanied by (1) irregular gushes of blood, ceasing, and suddenly recurring without assignable cause; (2) fixed grinding pain in one iliac fossa, and per-

haps down the corresponding thigh ; (3) paroxysmal pains occurring with severity, marked by constitutional symptoms, and in a short time passing off, to recur with increased violence in a few days ; (4) symptoms of abortion without appearance of the fetus ; and (5) expulsion of membranes without accompanying fetus.

The physical signs which have sustained the validity of these symptoms are : (1) increased size in the uterus and displacement of it upwards, forwards, or laterally ; (2) evidence of vacuity in it yielded by the sound or by a tent ; (3) the presence either to one side of the uterus or behind it of a cystic tumor, somewhat painful to the touch, rather immovable, giving to palpation the sense of obscure fluctuation, and in some cases yielding the sign of ballottement. In a few of my cases this sign has been plainly distinguishable, but this has been an exception to a rule, and the absence of it should never be relied upon as evidence against the existence of the condition.

In cases of advanced gestation of the ectopic kind the placental murmur, the fetal heart, and the movements of the fetus will of course present themselves as valuable signs ; but in tubal pregnancy, the kind most commonly encountered, death will very generally occur from rupture of the fetal nest before they become available.

Should differentiation between normal and tubal pregnancy become necessary, the best method at our disposal, and one to which I have several times resorted, is the dilatation of the cervical canal by tents, and the exploration of it by the finger. Even this is, however, not conclusive if a fetus be found in utero, for cases of combined normal and extra-uterine pregnancy have repeatedly been met with, as was shown in the very able paper read by a Fellow of this Society last year detailing twenty-four such cases. Should the signs of pregnancy exist, however, and the enlarged uterus be found without a fetus within it, while a tumor exists behind or alongside the organ, the evidence thus yielded would possess very great value indeed.

As to treatment no one can at the present time speak



with anything approaching positiveness, and I propose simply to give the rules which I think that the experience here related would induce me to adopt in the future.

1. If the ectopic tumor be discovered, and its nature be pretty well settled, before the end of the fourth month of gestation, I would destroy the vitality of the fetus by electricity in preference to all other methods which have ever been proposed. It has these great advantages: if an error of diagnosis has been made, this remedy will do no harm; if the diagnosis be correct, experience proves it to be sufficient in its effects; it is almost painless, and causes none of the nervous disturbance created by a cutting operation; and it requires no surgical skill in its use.

Should the fourth month of gestation be passed, and surgical interference be called for, I think that laparotomy, or, if the tumor be low down in the pelvis, elytrotomy, should be preferred to the use of electricity, which leaves a large fetal body to undergo absorption inside the body of the mother.

Should the pregnancy be abdominal the practitioner may watchfully await the full term of gestation, and deliver then by laparotomy or by elytrotomy combined with the forceps or manual delivery.

Should full term be passed and the fetus be dead, the practitioner should wait and watch, if possible, until nature demonstrates the outlet by which she desires extrusion to be effected; then she should be aided.

If, on the other hand, bad symptoms under these circumstances at any time showed themselves, laparotomy, with strict antiseptic precautions, should be promptly resorted to.

Should rupture of the fetal nidus have occurred before diagnosis has been fully made, the practitioner should wait and see whether nature is powerful enough to overcome shock and to control hemorrhage; then, further, if the patient is going to escape the dangers of peritonitis and septicemia. If these favorable results do not occur, if hemorrhage is about to destroy the patient immediately, or if septicemia attacks her later, laparotomy, followed by antiseptic cleansing, should be promptly adopted.

Out of my twenty-one cases rupture of the sac occurred in five cases; out of these four died and one recovered, none being operated upon.

Out of the twenty-one cases seven were interfered with by surgical means; of these, three died and four recovered.

Out of the twenty-one cases two were treated by vaginal tapping with a very small trocar and both died.

Of the twenty-one cases six were treated by electricity, all of which recovered.

In three cases spontaneous death of the fetus occurred with expulsion of the fetal bones through the rectum. Of these two recovered and one died.

### DISCUSSION.

DR. H. P. C. WILSON, of Baltimore. — I think the members of this Society are under great obligation to Drs. Thomas and Garrigues for having brought this most important subject before them. We all know how frequently it occurs that pregnant women die suddenly in a condition of collapse. Within the last few years two of my brother practitioners have called on me to express an opinion with reference to the cause of death under these circumstances. In one case the patient was a lady who had been to market, was apparently perfectly well, came home, suddenly went into a condition of collapse, and was dead within an hour. She was pregnant, and the case was probably one of extra-uterine pregnancy in which the cyst had ruptured.

My personal experience has been limited to two cases. In one of these there was a twin pregnancy. The woman went to term, and one of the children was born at the eighth month in the natural way. I cut into the abdominal cavity and extracted the second child at the end of the ninth month, and this child lived to be two years old, and then died of cholera infantum. My second case occurred in the person of a woman who was the mother of two children. She was in the early period of pregnancy when I first saw her, and she sent for me on account of severe pain from which she was suffering, so severe that it required repeated subcutaneous injections of morphine to relieve her. Without entering more into the details of the history of the case I may say that she went on casting off occasional shreds of

membrane, with occasional gushes of blood from the uterus, and I finally discovered a tumor behind the uterus. There was no ballottement. I diagnosticated extra-uterine pregnancy, and at two and a half months I used electricity as has already been suggested, except that I placed one pole upon the tumor in the vaginal cul-de-sac, and the other above the pubes. The electricity was applied in that manner for six or eight days until the tumor was evidently diminished in size, and it finally disappeared. The woman made a good recovery and is still living.

DR. GOODELL, of Philadelphia. — I have seen thirteen cases of extra-uterine pregnancy, but before relating them let me briefly premise a few remarks with reference to diagnosis. It is often most difficult to diagnosticate even a normal pregnancy, but the difficulties are much enhanced when the pregnancy is abnormal. Certain diagnostic landmarks are therefore very desirable. The following are some which a bitter experience has taught me: If after a long cessation of fruitfulness or after a long continued sterility the woman becomes pregnant, I should at once suspect extra-uterine fetation. Another point is that the forward displacement of the cervix and the bulge in Douglas's pouch often mimics a retroflexion of the gravid womb. A third landmark is the occurrence of paroxysmal pains or of cramp-like colics connected with pregnancy. A fourth is the continuance of pregnancy after a supposed abortion. The last one is that the supposed uterine globe is very much smaller than that of normal pregnancy of corresponding length of time.

As already stated I have seen thirteen cases, and the histories of these I will mention briefly: The first was one of tubal pregnancy which occurred many years ago, and the woman died from internal hemorrhage in the eighth week of gestation. Had I known then as much as I do now, I would have tried to save her by laparotomy.

The second case was one of ventral fetation which occurred in the practice of Dr. S. Perkins, of West Philadelphia, and which I saw in consultation in the second month. It was also seen later by Dr. Parry, and it led him to write his most excellent book on the subject. Several eminent men in the city of Philadelphia saw the patient. Two of them diagnosticated pelvic cellulitis. At the time of my visit I believed it to be a case of pelvic peritonitis. Some months later Dr. Parry was called in; the same day he came in to my office and said that it was a case of normal preg-

nancy, and laughed greatly at my blunder. But, I said in reply, I am sure there is something abnormal there. As the child died and labor did not come on I was again called in and made up my mind that it was a case of pregnancy in a retroflexed womb. But on the next day it suddenly flashed across my mind that it was a case of extra-uterine fetation. Then I took no little satisfaction in asking Dr. Perkins to again invite Dr. Parry in consultation. In that case an operation could have been easily performed per vaginam, but it was refused, and the woman died. Dr. Parry removed the parts at the post-mortem, and as already stated, it led to his study of the subject.

The third case was one in which the diagnosis was easily reached, but no operation was permitted, and the woman died. The fourth case was analogous to the third — a case also of ventral fetation, and the woman going to full term without an operation. She would not listen to any argument and died.

The fifth was very puzzling to me with reference to diagnosis. There was an abdominal tumor apparently filled with air, and I thought at first that it must be of a malignant character. I performed an operation, using every antiseptic precaution. As soon as an incision was made through the abdomen fetid air and decomposed fragments of a child escaped. After the completion of the operation the woman went on very well indeed for several days and then died of heart clot, after an altercation with her husband.

The sixth case occurred in a mulatto woman. I operated with all antiseptic precautions, but placed too much dependence upon them. The child was alive, but died a few hours after birth, the woman being advanced to the sixth or seventh month in pregnancy. I did not, as I should have done, use a drainage tube. The patient died of septicemia. At the post-mortem examination the liver was found riddled with abscesses.

In the seventh case the woman had paroxysmal pains and symptoms which led to the inference that extra-uterine fetation existed. I performed laparotomy, and found and extracted a dead fetus, and also removed the placenta. The child being dead hemorrhage did not occur, and she went on perfectly well, the wound healing perfectly. On the fourteenth day she suddenly had a convulsion and died. In this case the kidneys were found riddled with abscesses from chronic disease.

The eighth case was one which puzzled several of our leading

men. The patient had been betrayed, and was sent from the South to hide her shame. Various opinions had been expressed with reference to diagnosis, such as ante-flexion of a pregnant womb, pelvic peritonitis, pelvic cellulitis, etc. She was dying when I first saw her and diagnosed extra-uterine fetation. In making the diagnosis I passed the uterine sound, following the introduction of which a pint of liquor amnii escaped. This led me to think that intra-uterine pregnancy also existed. At the autopsy the womb was found much enlarged, and apparently without a fetus. There was also an extra-uterine fetation. An analogous case has been reported by Dr. Braxton Hicks, and also, I believe, by Dr. Palien — cases in which liquor amnii escaped from the unimpregnated womb.

In the ninth and tenth cases nature interfered and the bones were expelled by the rectum, and the women recovered. In the eleventh case the extra-uterine pregnancy was diagnosed before death, but the woman refused to have an operation. The twelfth was a case which I was called to see in consultation, but death occurred before my arrival. At the autopsy tubal pregnancy was found to exist.

The thirteenth case was a remarkable one. The history of it, in brief, is this: An Irish woman, at term, stepped upon a chair with a broken back. It upset and she fell upon one of the standards. The abdominal muscles and the muscle of the uterus were ruptured, but the peritoneum was not injured. The fetus escaped from the womb, pushing its peritoneal coat before it, and lodged in the ventral hernial sac. The woman's life was in jeopardy for several months. She then gradually recovered, and was able to work for a number of years. Finally she came to this country, where she was seized with typhoid fever, and not long after convalescence from that disease a fetid discharge came from the vagina. Upon passing the sound into the womb I found that it rattled among denuded bones. I succeeded in effecting a sufficient amount of dilatation by mechanical means and by incisions of the cervix, and at two sittings removed all the bones of a fully formed child together with the scalp covered with hair, and also the intestines. The stench, as may well be imagined, was very great. It poisoned the whole floor of the hospital. In spite of disinfectant uterine enemata she was seized with septicemia, and an abscess formed behind the left eye and destroyed it, but the patient finally recovered perfectly. I took special

pains to ascertain the previous history of this case by corresponding with her physician at Killaloo, in Ireland, and found that her story was true. It will be noticed that in all of these cases except those with which nature interfered the women died.

DR. H. F. CAMPBELL, of Augusta, Georgia. — I have observed only a single case of extra-uterine pregnancy. A patient came to the hospital suffering from irregular uterine pains and supposed to be in premature labor, but could not be delivered. Her condition was not made out before coming to the hospital, nor was it really made out until after her death, eight months afterwards, when she died of pulmonary edema. At the autopsy one remarkable fact was revealed, namely, that the child was fully developed, the mother having gone to full term before the death of the fetus occurred. The pregnancy was of the tubo-ovarian variety. On further inquiry it was found out that the patient was supposed to have a dropsical accumulation, and had been tapped. The case was interesting as illustrating, with only two or three others, the point, that it is possible for a woman with extra-uterine pregnancy of this variety to go to full term with complete development of the fetus and without rupture of the cyst taking place. The autopsy and report of this case were made by Dr. A. Sibley Campbell, and will be found in vol. ix., "American Journal of Obstetrics." A woodcut of the dissection was copied into the second edition of Playfair's "Midwifery."

Again, with regard to diagnosis, one point may be mentioned, namely, the growth of the breasts and all the associated symptoms of early pregnancy may sometimes manifest themselves from ovarian and uterine irritation independent of pregnancy. It is not well, therefore, to place too great reliance upon these signs of pregnancy, whether uterine or extra-uterine.

DR. G. H. LYMAN, of Boston. — The principal point seems to be with regard to the use of electricity in the treatment of extra-uterine pregnancy, and hence the importance of early diagnosis. At the time when electricity would be of the greatest service the diagnosis is not so easy. The suspicion of extra-uterine pregnancy is not so very strong, and frequently these cases go on undiagnosed until the cyst ruptures. Early diagnosis, therefore, becomes a matter of special importance. As will be recollected by the Fellows, Dr. Reeves, of Dayton, Ohio, read a paper before this Society on extra-uterine pregnancy, since published in the fourth volume of its Transactions, and in connection with this dis-

cussion it may not be uninteresting to read a few remarks therefrom. After giving the clinical history of his case Dr. Reeves says, "I will occupy your time and attention with but a few remarks upon this case, first, in regard to diagnosis, the most important point of all. If we relied upon the authorities of only a few years ago, there could be no diagnosis in this case because at too early a period and because absolute evidence of pregnancy was wanting. Thus, Stoltz would not admit the supposition of extra-uterine pregnancy until a diagnosis of pregnancy had been made by the indubitable signs of feeling the fetal parts, or movements, or hearing the fetal circulation. But we were already in advance of this in 1867, when Dr. Stephen Rogers, of New York, saw that attacks of colicky pain, accompanied by a sanguineous discharge, the symptoms of pregnancy being present, were 'almost certainly indicative of extra-uterine pregnancy.'"

I think, Mr. President, this remark is one worthy of being borne in mind, particularly as it comes from one of our most shrewd and careful observers.

DR. W. T. HOWARD, of Baltimore. — My experience with extra-uterine pregnancy has been confined to the observation of three cases. But I think that the diagnosis at the present time with what light we have upon the subject from the observations of such writers as Parry, Thomas, and others, should be made with certainty in almost all cases. The first case which I saw was in consultation with Dr. Brewer, of Baltimore. There was a large tumor behind the uterus, and the question arose whether it was a fibroid or whether it was extra-uterine fetation. I was convinced that it was a case of extra-uterine pregnancy, and I desired to introduce a probe to establish the diagnosis, but this was refused, and I would not say positively, without such an examination, that it was one of extra-uterine fetation, which, however, the autopsy proved to be the case.

The next case was one which I saw in consultation with Dr. Stephenson. The woman was thirty-nine years of age, and I was the sixth physician, I think, who was called to see her. I regarded it as a case of abdominal pregnancy, and the post-mortem examination revealed the existence of the fetus within the abdominal cavity. The third case was one that I saw with Dr. Wilson, and to which reference has already been made. In that instance, also, I had no difficulty in reaching the conclusion that it was extra-uterine pregnancy. In regard to diagnosis, I would

refer to a clinical lecture which was delivered by Dr. Goodell and published in the "Medical Record," January, 1880. Dr. Goodell states that in his case of suspected extra-uterine pregnancy he distinctly heard both the fetal heart and the "placental bruit." In this case I listened carefully, and although I could hear the fetal heart, with abnormal distinctness, the uterine souffle I could not hear. In extra-uterine pregnancy Barnes states that although the "placental souffle" has been heard with unusual intensity, it is rarely heard in abdominal pregnancy. Dr. Goodell heard the "placental bruit," and the results showed that it was not a case of abdominal pregnancy; and I think it is an important point in diagnosis, namely, that when in any case of suspected abdominal pregnancy the fetal heart is heard distinctly, and you cannot hear the uterine souffle, that in itself should go far in settling the diagnosis.

DR. GOODELL. — I think, Mr. President, that the point made by Dr. Howard with reference to diagnosis is a very important one. The so-called placental souffle is a misnomer, as it is really uterine and not placental. Hence, as long as we do not have uterine tissue involved we cannot have the so-called placental bruit.



THE INFLUENCE OF THE CONSTANT USE OF  
HIGH-HEELED FRENCH SHOES UPON THE  
HEALTH AND FORM OF THE FEMALE, AND  
UPON THE RELATION OF THE PELVIC OR-  
GANS.

BY SAMUEL C. BUSEY, M. D.,  
*Washington, D. C.*

THE foot and its coverings is not a new subject. Far more attention has been given, however, to the style and display of the covering than to the comfort and physical well-being of the foot. The "Athenæum" attributes to Pliny the statement that shoes were invented by Boethum, but intimates that sandals in some form have been in use since the original pair discovered the difference between "the flower-carpeted paradise and the hot sands and sharp stones of that dreary plain." The ancient Egyptians made them of leather, and for the priests of palm leaves and papyrus. The Hebrews made them for soldiers of iron and brass, but for others of linen and wood; and the lovers displayed their gallantry by engraving the likenesses of the adored ones upon the soles of their foot-dress, "so that the pathways of the lovers became the picture-galleries of the loved." The *calcei*, with uppers and soles of leather, were worn by those who walked much. The *soleæ*, which were variously ornamented, were for use in the house. The red or purple shoe was first worn by the kings of Alba, and last by the old Roman dandies. Then followed the sharp-toed shoe and half-boots of old Germans; the high-heeled, long buskins, and the shoe with leather soles of the Roman women, which enabled the wearer to move about at home without any other foot-covering. The old bark shoe was probably the progenitor of the French sabots, which were

in common use and very fashionable throughout Europe during the ninth and tenth centuries. During the reign of William Rufus, a famous beau, surnamed the Horned, introduced the long-pointed toes, twisted like a ram's horn; and during the time of Richard II. the toes were lengthened so as to be fastened to the knees by chains of silver and gold. For three centuries the church and public officers inveighed against this fashion, but not until 1463 was it prohibited by an act of Parliament. Afterwards fashion and taste expressed their extravagance in increasing the width of the toe of the shoe, which Queen Mary was compelled to restrict to six inches; and then followed the elegant buff-colored shoes, with enormous and lavishly embellished tops. The heel at first was a device to make short men look tall, and, like the other parts, has undergone many changes to suit the whims of fashion and taste. The French high heel worn by women is not only very high, but also narrow, and inclines from behind forward, so that its inferior extremity (Onimus), instead of being under the calcanean tuberosity, is directly under the plantar arch; so that increased height, with diminution of the size of the foot, is secured. This style was introduced during the Regency. Under Louis XIV. the heel was high and circular, but not oblique. During the reign of Louis XVI. this objectionable style began to disappear, but has been again revived and is perhaps more general now than at any previous time. During all these periods the feet were the objects of the most conspicuous vanity, fantastic conceit, and costly decoration. At some of the barbaric courts the soles of the shoes worn by men were made of plates of silver or gold, and the brilliant material of those worn by the ladies was half covered with precious stones. Even as late as the time of George III. a young married couple was presented at court wearing shoes with buckles worth two hundred thousand pounds. Popular patterns have, at different times, been designated by the names of prominent persons, or for a special class of the nobility, but only in a single instance known to the writer has a prince or em-

peror derived his name from the style and material of the shoe, and that one the brutal Caligula.<sup>1</sup> In the seventeenth century the patterns were greatly modified, and made more simple and less ostentatious, but with little regard to the physical well-being of the foot. Towards the close of this century Camper published his work on the best form of shoe, in which he discussed the question from the stand-points of anatomical construction, utility, and comfort.

Every intelligent observer must have recognized the potent and pervading influence of prevailing fashions and common customs upon the human mind and body. Few, if any, can alienate themselves from the insidious and ever-changing agencies of association, example, and observation. Habit is not less potential in producing modification of form than in effecting alteration of single parts and disturbance of the functions of special organs. Everywhere, among all civilized nations, in all countries and climates, in every sphere of life and grade of society, in all trades, occupations, and professions, individuality is characterized by diversity of form, inequality of mind, gradations of caste, and variations in temperament, disposition, and constitution. If it were not so, human life would be simply the monotonous change from birth to death.

The causes that have produced these inequalities and dissimilarities in the descendants of a common parentage are as numerous and multiform as the distinctive differences of individuality. Nevertheless, we recognize types that distinguish races, nations, communities, and families. These types refer to modifications of form, and to the mental and personal qualities that characterize peoples, not individuals, and are the results of a complex and constantly changing combination of influences in long-continued, persistent, and habitual operation.

The variations in form of the types of the different races and families are far less marked than their social, mental, and personal qualities. It is not possible, at this time, to

<sup>1</sup> The historic details have been collated and condensed from Camper, Dowie, Onimus, and the *American Cyclopaedia*.

trace the gradual, imperceptible, and progressive evolution of these types of form, or to determine the combination of influences, or even the most constant or potential factor of any group or succession of circumstances, which have established the forms now accepted as the standard of race and family development.

The deviations from these types of species and families that distinguish individuality are even more numerous, diversiform, and variable than the differences of types of form; and their causes are equally diversified and composite, but very frequently can be ascertained with an approach to accuracy.

The evolution of the typical and individual forms of the female sex have, undoubtedly, been influenced, and in a measure determined, by the same general order and succession of events and circumstances of life; but the anatomical differences and peculiar physiological functions have so marked the general contour of form that concealment of sex is almost impossible, however skillful the effort to escape detection. These characteristics are not so apparent during the earlier years of life, and it is not improbable that if the physical, mental, and moral training were alike in both sexes subsequent and mature development would exhibit, in the general outlines of form, fewer and far less obvious dissimilarities.

Age, pregnancy, and maternity are manifest and admitted agencies in the causation of deviations of the female form. Stature and the habits of posture and carriage are perhaps equally potential. The development, tone, and exercise of muscles; sparseness, redundance, and distribution of adipose tissue; laxness or tension of articulations; the mobility of joints, and degree and extent of the normal curves, are also factors, operating either singly or conjointly, sometimes as primary, and at other times as correlative and compensative, agencies. Asymmetry, either connate or acquired, is the most common of physical defects. Lateral asymmetry is the ordinary result of over-use or disuse of corresponding parts. Disproportion between the trunk and lower extremi-

ties is more frequently a natural defect of embryonic and pre-natal development, and is a characteristic of some species and of many families.

From the foregoing considerations it must appear that the study of the natural history of the evolution of the types, variations, and individualities of form would involve an extensive research in ethnology; the determination, grouping, and sequence of causes; and an examination of the mechanism of the human frame and its adaptation to the exigencies, mutations, and successions of life. Into such an inquiry I do not propose to enter.

The study of the influence of a single factor, such as I have indicated, is embarrassed by all the conditions of life to which I have referred. Hence the dogmatic assertion of any general law, applicable alike to the different types and diversities of form, is unattainable. Experimentation is impracticable, except under circumstances that would admit of the comparative management of two identical forms, under like conditions and development, from early life to maturity, and even to advanced life: the one being subjected to the artificial props beneath the plantar surface, and the other left to bear her weight upon the unprotected soles of the feet. Of the first, numerous illustrations in process of continuous development are supplied in every town and village in the country. To secure the latter would prove a difficult task in this esthetic age. I must therefore be content with a cursory and general presentation of the subject, and the conclusions reached through the processes of observation and inductive reasoning.

Paget has supplied the following description of a perfect female foot: "Great breadth and fullness of instep, a well-marked great toe, a long second toe, projecting a little beyond the great toe, and a very small, or in some cases almost suppressed, little toe." The foot is divided into the tarsus, metatarsus, and toes; and the sole is so formed that we rest upon the heel, the articulation of the instep with the toes, and, externally, upon the tuberosity of the fifth metatarsal bone. The bones of the foot form a double

arch, the inner span extending from the heel to the distal end of the first metatarsal bone, and the outer span from the heel to the fifth metatarso-phalangeal articulation. The elongation of this arch is of a twofold character: first, by flattening under the weight of the body, and consequent recession of the toes and heels, and lengthening of the foot forwards and backwards; the second, at the articulations of the instep and toes, when the toes are turned upward, and is due to the hinge-like nature of these joints. When the toes are stationary upon the ground, elevation of the heel will produce elongation backwards. This backward elongation is to a considerable extent compensated by the tension of the muscles of the sole upon the heel bone, and the consequent elevation of the height of the arch. This double-spanned arch also possesses lateral expansion.

The feet and legs constitute a complex arrangement of levers with movable fulcrums, hinge-like and socket joints, surrounded by elastic and elongating structures of very variable strength and tensile mobility, so that every deviation of the base of support is so quickly compensated that equipoise is maintained. In walking, the heel touches the ground first, and supports (Onimus) the whole weight of the body for a moment. A little later the point of the foot touches, and assists in preserving the equilibrium by increasing the base. During the second movement of walking the heel is raised (see Figs. 2 and 3), and the weight of the body is shifted more and more to the centre of the foot and to the toes, the latter spreading and pushing the body forward. This last is the movement which displays to the greatest advantage the suppleness and elasticity of the articulations of the foot, and the adaptation of the arch to receive the weight of the body and to transfer it to its distal pier, while the body is being moved forward by the same act. It is the execution of this movement which gives to the gait of women that elegance and those graceful undulations which are so attractive. Comparative observations show that high and narrow heeled shoes not only displace the supporting base and upper part of the

foot, but so modify the movement that there is no longer succession of contact and pressure. Practically both piers of the double-spanned arch strike at the same time, and from the moment of contact the weight of the body is upon the distal pier (Fig. 3) and toes. Hence, walking, instead of being undulating, is stiff and hobbling, and the body advances by jerks.

Fig. 1.

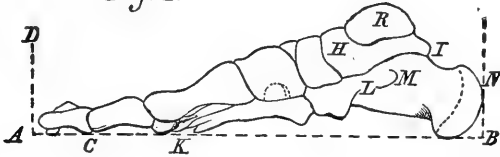


Fig. 2.

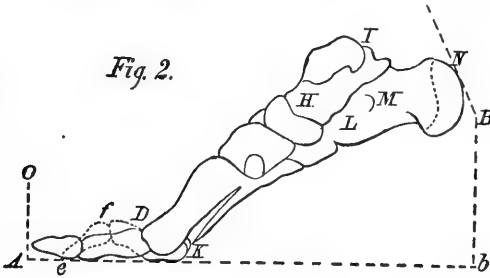
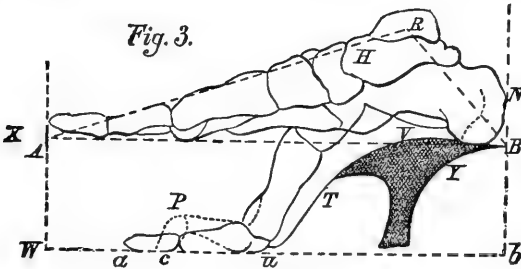


Fig. 3.



(FROM CAMPER.)

The bones of the instep are capable of but very little movement. When standing, the heel bone (*NMI*, Fig. 1), the joint at *K*, and the great toe, *AC*, touch the support upon the line *AB*. When the feet are shod according to the present fashion, the line *AB* is made to assume the concave form shown in Fig. 3 by *BVTu*. The instep

is made more convex and rounded, which is specially esteemed by a certain class as a peculiar beauty, and the foot is actually shortened (see *AB*, Figs. 1 and 2). In those long accustomed to such shoes it is more than probable (Camper) that the heel bone receives the astragalus (*H*, Fig. 1) upon the eminence *ML*, and the astragalus (*H*, Fig. 3) is bent downwards. This is most apt to occur in young persons, while the neck of that bone remains cartilaginous. The constant elevation of the heel places the body of the pedestrian in the same position as when standing upon an inclined plane, which is not only a weak attitude to sustain weight, but very fatiguing to the muscles thus called into action, and compels the lifting of the knee higher. It imposes also a greater expenditure of force, because a new start is made on stilts from a comparative state of rest at every step. Again, the heel is so shaped and located (Dowie) that it forces up the key-stone of the arch; and weakens the whole structure. If the arch needs support the span of the support ought not to be less than that of the arch, yet the mechanical construction of the shoe heel and shank not only ignores this principle, but may injure an arch needing strength. The alteration of the normal line of the sole of the foot, caused by the rigid fixation of the arch in this strained position, produces atrophy of the muscles of the heel, instep, and ankle, because of the comparative disuse; weakens the lateral and longitudinal arches; increases the curve of the sole, giving rise to a rocking motion and jolting gait, retarding progression and consuming muscular force; bends the toes upward, thus injuring the muscles of the sole by too continuous extension, and those above by excessive contraction; injures the fleshy part of the great toe by too great and constant pressure; cramps the toes; diminishes the elasticity of the foot; prevents elongation of the arch, and the ready adaptation of the system of levers to the variations of stature; calls into action strained muscles, and imposes upon them unaccustomed movements; and so disturbs the natural bearings of all the parts as to interfere with the general health.



A comparison of the normal or perfect female foot and the malformed foot represented in Figs. 2 and 3 ought to convince the most enthusiastic devotee of the evil effects of the French high-heeled shoe. A further examination of the diagrams will show that the toes may also be greatly distorted. The continuous pressure upon the joints of the instep and toes and the tension of the muscles and tendons of the sole of the foot produced by the misplaced heel distorts the toes, as shown by the lines  $Dfe$  in Fig. 2, and  $aPc$  in Fig. 3, so that the tread of the foot, represented in length by the line  $AB$ , is shortened by the distance  $Ae$  in Fig. 2, and  $Wc$  in Fig. 3.

The astragalus receives at  $R$  (Fig. 3) the weight of the body, which is transmitted along the lines  $RB$  and  $RA$ . If the hollow of the foot should be made to touch the ground, the line  $AB$  would be lengthened by the distance from  $A$  to  $X$ . The conditions of superincumbent weight, which would thus flatten the arch and increase the length of the foot, might exaggerate the deformity shown in Fig. 3 in a foot geared in this style of shoe. The diagrams show, furthermore, that the measurements taken in the air, as is usual, of feet thus distorted, are necessarily too short, and the feet will be cruelly pinched in the erect position between the lines  $NB$  and  $AO$  (Fig. 2) by shoes made by such measures.

The casual observation of awkwardness and unsteadiness of carriage of the wearers of high-heeled shoes, and the occasional occurrence of injuries to the feet and ankles attributed to their use, had long ago impressed me with the belief that the inexorable precept of fashion had lengthened the shoe heel far beyond the conveniences of easy and graceful locomotion, and that results would follow their continued use other, and perhaps graver, than the callosities, bunions, in-growing nails, sprained ankles, and painful calves which so frequently torment the votaries of this reprehensible practice. But not until I had seen, under advantageous circumstances, not long ago, at a fashionable summer resort, the most advanced style of full toilet foot gear,

did I appreciate the probable extent of its influence upon the growing form of the female. It had become the custom for the lads and misses of all ages from five years to early puberty to assemble, during the evenings, in the parlor, and engage in the dance. This company comprised many different sizes and forms, which exhibited the grades and phases of childhood development in great variety. The feet and ankles of the larger number of girls were geared in shoes with heels so high and slender as to fasten them in the position as if always walking down-hill, the toes being pushed more and more forward. The rigid fixation of the feet in this unnatural position diminishes their size, lessens the spring and elongation of the double and elastic arch of the instep, and confines the muscles, tendons, ligaments, and bones in strained relations, impeding, if not arresting, the processes of formation, waste, and repair. It disturbs the articulation of the diversely shaped surfaces of the many small bones comprising the instep, destroys the easy, free, and elastic mobility of the tarsal and metatarsal joints, and transforms the tarsus, metatarsus, and phalanges into a rigid body not unlike a shoemaker's last. The excessive elevation of the heel displaces the centre of gravity, which should coincide with the centre of movement, and transfers the weight of the body, for the most part, from the heel to the metatarso-phalangeal articulations, — joints arranged with shallow sockets to facilitate movement in every direction, and to expedite progressive motion, but not to bear the burden of the body-weight.

The movement, attitude, and poise of those whose feet were thus tackled with fashion's latest and choicest pattern of high-heeled shoes were in marked contrast with those of the less ostentatiously dressed, who retained the free and natural play of their muscles and joints, and the capacity and elasticity of motion and posture which restore the body to its balance from any slip or vacillation without apparent effort. The movements of the former were stilted, uneasy, restrained, and executed with caution, under mental strain and with unnecessary expenditure of force. As I sat, even-

ing after evening, in that gay saloon, a silent and unknown spectator, I could see the gradual effacement of the merry dimples and glow of health from their cheeks, the deepening lines denoting wear of body and tire of nerve, and the pallor of distress creeping over their youthful faces, as they limped or staggered to places of rest.

The physical well-being of the feet is a necessary and important part of the general sanitation of health. Pedestrian exercise is the great promoter and conservator of functional activity and constitutional vigor. To enjoy it, and to realize the benefit to the fullest extent, the feet must be healthy and the foot-tackle free and easy. Sore, contracted, and crippled feet, strained and stiffened joints, altered and displaced articulating surfaces, restrained mobility, and alteration of the line of gravitation (any one or all of which results may find their cause in too early and too constant use of high-heeled shoes) impede and augment the fatigue of locomotion, and make walking exercise painful. *Per contra*, they conduce to the acquirement of ungainly habits of carriage; to disproportion of the component parts of the body; and to a sedentary life, with its manifold disturbances of the animal economy. Yet how many matrons throughout the land will entail upon the mothers of coming generations some one or more of these injuries, with the long train of consequent sufferings, rather than abandon the fashion of a shoe!

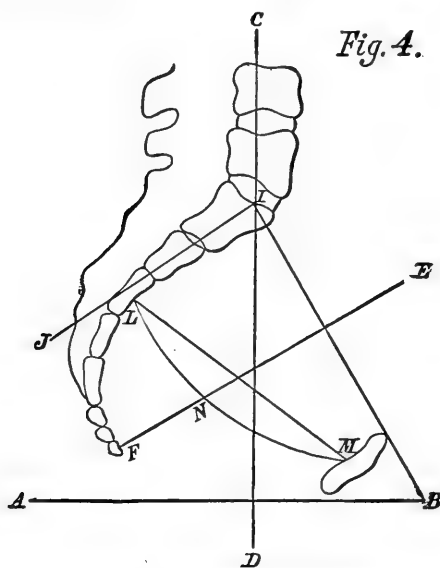
The injuries are not, however, confined to the feet, their joints and component structures. During the same series of observations I had the unusual opportunity of studying the influence of heel-elevation upon the general outlines of the body; for the exuberance of fancy in toilet was not limited to esthetic decorations of the calves and feet, nor were the devotees of extreme styles narrowed to the ages of growing and immature girls. I could outline the comparative increase of the ankle, knee, and ilio-femoral flexures, and the exaggeration of the curves of the spinal column. These alterations of the natural angles and curves give the fore and aft outline of the general contour an in-

and-out or zigzag course. The degree of the angles and radii of the curves vary according to stature, form, and size. The law of adjustment seeks compensation for the primary deflection by exaggeration of the nearest flexure in the opposite direction. The elevation of the heels displaces forward the base of the line of gravitation, and transfers greater weight to the distal extremity of the plantar arch. The equilibrium of the body can only be maintained by increase of the natural bendings and curves along the line of the bony framework. These angles and curves are usually so concealed or obliterated by the necessary coverings and decorations of the figure that the effect upon the attitude and pose of person is not necessarily either displeasing or unattractive. The opportunities for embellishment are rather increased than diminished. Art and nature may become co-laborers in the display of artistic costumes and in the arrangement and deception of adornments, if taste and delicacy are not outraged. The exaggeration of the dorso-lumbar curve<sup>1</sup> gives fullness to the buttocks, rotundity and plumpness to the abdomen, elongates the chest, and increases the prominence of the bosom; to which in some are added, by the compensating change in the position of the head, elevation of the face, and rounding and filling out of the neck and throat, with effacement of the depressions and irregular outlines,—the whole imparting to the general carriage an air of haughtiness and command, which happily is often modified and softened by the innate womanly virtues which find expression in the language of the face and tongue. But I am seeking to present the subject in its physical, and not in its decorative, aspect.

The uterus occupies nearly a central position in the pelvis; is “delicately and unstably poised,” and is supported “on every side by the soft and elastic structures which everywhere surround it as closely as if it were enveloped in a fluid.” Its longitudinal axis is coincident with or parallel

<sup>1</sup> This “peculiar bending of the back in the lumbar region” Onimus calls “*l'ensellure*,” from its resemblance to the appearance of a horse's back which has been accustomed to the wearing of a saddle.”

to the axis of the plane of the pelvic brim, forming, with the vagina anteriorly, and upon itself at the junction of its cervix and body, very obtuse angles. So that the line of gravitation, which, because of its position and attachments, is through its longitudinal axis, would, according to natural laws, be vertical through its centre of gravity. Its centre of gravity, being supposed (Duncan) to be the centre of its mass, must be above, and the vertical line of gravity must be anterior to, the cervical attachments. The



PLANES OF THE PELVIS, WITH HORIZON.

- A B* Horizon. *C D* Vertical line.  
*A B I* Angle of inclination of pelvis to horizon, equal to  $60^{\circ}$ .  
*B I C* Angle of inclination of pelvis to spinal column, equal to  $150^{\circ}$ .  
*C I*  $\sphericalangle$  Angle of inclination of sacrum to spinal column, equal to  $130^{\circ}$ .  
*E F* Axis of pelvic inlet. *L M* Mid-plane in the middle line.  
*N* Lowest point of mid-plane of ischium. (FROM PLAYFAIR.)

plane of the brim inclines (see diagram No. 4) at an angle of  $60^{\circ}$ , and the longitudinal axis of the womb, vertical to this plane, inclines at an angle of  $30^{\circ}$ . This relation, though not mathematically accurate as thus expressed, is the generally accepted rule of normal anatomical relation in the erect position of the body, except so far as it may be dis-

turbed by the exigent oscillations, within a limited arc, of a body so delicately poised amidst contiguous organs subject to such fluctuating conditions as the female pelvic viscera. Then, so long as the coincidence or parallelism of these axes is maintained, so long will the uterus approach the horizontal line, in direct proportion with approximation of the plane of the brim to the vertical line; consequently, as the inclination of the plane of the brim increases or diminishes, so, reversely, will the uterus, through its long axis, approach or recede from the vertical line.

The weight of the trunk is balanced upon the ilio-femoral articulations, and "the centre of gravity of the parts above is (Duncan) nearly vertically over these articulations." The line of gravitation and the axis of the body,<sup>1</sup> though not universally believed to be coincident lines, are, with sufficient accuracy, represented by a vertical line bisecting a horizontal line passing through the centre of the ilio-femoral articulations. The centre of gravity and line of gravitation vary with every backward and forward movement of the trunk upon these joints; and the inclination of the womb follows the variations in the inclination of the pelvis, according to the law as previously stated. In an elastic and flexible body, like the human form, with its numerous deviations from a straight line, nature re-adjusts disturbances of equipoise by compensating alterations of the bendings and flexures.

The question now arises, How are these relations of the natural conformation influenced by the excessive and constant elevation of the heels by the use of high-heeled shoes?

<sup>1</sup> In the diagram of Hodge (*Diseases Peculiar to Women*, pp. 317 and 328), the axis of the body is represented by a line touching the anterior surface of the third lumbar vertebral articulation, and passing through the body of the ossa pubis. In his *System of Obstetrics*, p. 30, Hodge says, "The axis of the body, when in the erect position, may be represented by the line of gravity. This line of gravity, or vertical line extending from the top of the head to the ground, passes through the lumbar vertebræ, the base of the sacrum, and cavity of the pelvis a little anterior to the tubers of the ischia, bisecting a line drawn through one acetabulum to the other."

The primary deflection of the line of gravitation takes place at its base. The ilio-femoral articulations being the pivot upon which the body is balanced, and the fulcrum of its support, and the long arm of the lever being all that part of the stature above these ball-and-socket, and most movable of the limb-joints, readjustment of equipoise is necessarily most easily and quickly restored by increased flexion at the hip, with displacement backwards of the pelvis, which sooner or later will find its compensation in exaggeration of the dorso-lumbar curve. The law of compensation which determines other and permanent alterations of form is well defined, though subject to many variations dependent upon size, height, general conformation, and habit of carriage.

This law may be briefly stated as follows: Every primary curvature is compensated<sup>1</sup> by a second and generally equal curve in the opposite direction, usually occupying the part of the column immediately adjoining the first, and may follow the column in extended sequence of two, three, and even four deviations. The compensation in lordosis is obtained by increased inclination of the pelvis. The ordinary anterior curvature in the loins involves a corresponding displacement of the pelvis backwards, and more especially when the lumbar curve is itself compensatory and consequent upon too great inclination of the pelvis. The latter is most frequently the primary deviation. Pelvic inclination and dorso-lumbar curvature bear a direct and positive relation to each other, the excess in either being compensated by a corresponding excess in the other, so that cause and effect react upon each other, producing increased backward displacement of the pelvis and greater spinal curvature. In curvature of the lumbar region forwards, and "in excessive inclination of the pelvis, with which the lumbar curve coexists and to which it is due," the chest is increased in length; and while the breadth of its lower part is strikingly greater than natural, it is very pointed above, and flattened from before backwards. Of course the ordinary movements of expansion and contraction of

<sup>1</sup> A summary of the conclusions of Rokitansky.

the chest are disturbed, the diaphragm is depressed, the abdominal organs are displaced downwards, and the vertical pressure of the superincumbent viscera upon the pelvic organs is increased. This pressure does not impinge upon the top of the fundus of the uterus *in situ naturali*, but upon its posterior surface. The tendency, therefore, of (Hodge, Duncan) all pressure from above, the accumulated weight of the organs, aided by the contractions of abdominal muscles, is to press the fundus downward towards the pubis, and to carry the cervix towards the hollow of the sacrum. When the organs are healthy and in a natural position the forward proclivity of the fundus is prevented by the presence of the bladder and small intestines in front, and the ascent of the cervix is resisted by the mass of intestines in Douglas's cul-de-sac. "The bladder (Aveling), when filled, is a heavy organ. In the erect posture, when the pelvis is normally inclined, it rests upon the pubes; but when the pelvis is tilted back, the whole weight of the urine gravitates directly into the pelvic cavity, and presses upon the anterior wall of the vagina. Should this be weakened by disease or child-bearing, it gradually descends and allows the bladder to fall back, describing in its progress an arc of a circle around the pelvic bones, to which it is anteriorly attached." Thus in cases of excessive pelvic inclination the viscus, which is directly instrumental in the redression of the womb and in the preservation of its mobility, becomes a potential factor in establishing a malposition, and complicates the uterine displacement with frequent, difficult, and painful micturition. Cystitis, as the necessary result of incomplete evacuation, may also add its chain of suffering, unsatisfactory cure, and frequent relapses. The rectum is an important organ, and it is not improbable that the disturbance of its postural relation with the sigmoid flexure by excessive inclination of the pelvis may promote the establishment of the habit of constipation, which is so common among females, and so often the cause of no less intractable, but even more painful, affections.

The uterus is so delicately poised *in situ naturali* that



it is probably never at rest during the life-time of a woman. The varying conditions of vesical repletion and collapse, of rectal emptiness and distention, and the movements of respiration keep it constantly moving up and down a plane acutely inclined to the line of gravitation, and to and fro on its transverse axis. This mobility and incessant movement constitute the necessary and most essential method of uterine hygiene. It is this local exercise that promotes healthy circulation, expedites the processes of change and repair, prevents congestion, maintains normal nutrition, and preserves functional activity.

The vascular, postural, and nutritive disturbances growing out of deflections of the skeleton, which I have attempted to show may find their starting point in too great and habitual elevation of the heel, are not necessarily confined to the bladder, uterus, and rectum. All the tissues and organs, the vagina, ovaries, Fallopian tubes, ligaments, and fasciæ, may become involved. Hyperemic conditions, distortions, and displacements, either singly or collectively, may follow in an extended sequence of local and general disorders, but menstrual disturbances and vaginal discharges are probably more common.

To enumerate these affections would extend this paper beyond a reasonable limit. I might show that diminished mobility of the uterus and excessive inclination of the pelvis, with other and consecutive alterations of form, enter also into the causation of posterior deviations and descent. The moment the fundus, in posterior oscillation, passes in the arc of rotation beyond the point of greatest tension of the round ligaments, that moment their action carries the fundus down the arc of rotation towards Douglas's cul-de-sac. This movement would be aided by vesical repletion, deflection of the line of gravitation and of the vertical pressure of the superincumbent viscera, transference of the intestines from the anterior to the posterior surface of the womb, and by relaxation of the abdominal walls.

The equipoise of the body upon the ilio-femoral articulations must be preserved, and Duncan has called attention

to the fact that, while "the small and especially short-bodied women" seek the readjustment of the centre of gravity by moving backwards the head and shoulders, "the tall and long-bodied" seek it by moving forward the supports, which is accomplished "by diminishing the angle which the pelvis forms with the horizon." This change in the pelvis is analogous to that taking place in old age, when the forward stoop is counterbalanced by it. The same distinguished authority points out the fact that when adjustment is effected by backward inclination of the head and shoulders the hips become prominent, indicating "a probable considerable obliquity of the pelvis." In the other class the hips are flattened, indicating lessened obliquity and elevation of the pelvis. These mal-relations of the pelvic and corporal axes are consequent upon pregnancy, and may also follow acquired habits of carriage and posture, such as I have suggested ensue from the constant and habitual elevation of the heel.

I might also trace the obstacles which excessive inclination of the uterus and consequent backward displacement of the os and cervix present to the transmission, tubulation, and lodgment of the sperm cell, impeding the processes of insemination and fecundation, and producing sterility. I need not pause to consider the obstructions to parturition which excessive pelvic inclination may offer, or to trace them back to the gearing of the feet in earlier life. They are sufficiently obvious to every obstetrician.

Onimus says the local and functional troubles are frequently mistaken for strange manifestations of hysteria, varying according to the temperament and predisposition, and very often concealing the true nature and origin of chronic invalidism. In Paris young girls often complain of violent pains in the muscles of the leg, which extend along the external region of the calf to the thigh. A sharp pain from the sole of the foot to the external malleolus is the most frequent initial symptom. The articulations of the knees are many times equally painful, simulating the condition one feels after descending from a high mountain.

which has occupied several hours. But the long peroneal muscle is the one most often affected, because it is most fatigued by the irritation transmitted by its tendon from its insertion at the great toe along the plantar arch. The constant tension of certain muscles to maintain the equilibrium, rendered necessary by the height of the heel, produces painful cramps and a sensation of constriction, even when not walking, and young girls are compelled so seek relief from the lancinating pains by rest in bed. It is easy to comprehend how the general health may be influenced by such functional and local disturbances, and when such conditions exist in women, where the nervous systems are always waiting for an opportunity to become troublesome, we may look for serious pathological consequences.

In the foregoing presentation of the subject I have endeavored to confine the discussion to the physical aspect of the question, and to trace out the relation of cause and effect which may subsist between the prevailing fashions of foot gear and many of the maladies which come under the observation of the gynecologist.

NOTE. — The illustrations exhibiting the alterations in the outlines of stature have been omitted, because the artist neglected to take the photographs of the nude figures, with and without the shoes, in corresponding positions. The differences were sufficiently marked to show the changes in the form of the female, caused by the use of high-heeled shoes. An effort will be made to supply such illustrations at a subsequent meeting.

## DISCUSSION.

DR. FORDYCE BARKER, of New York. For several reasons I fear I shall be unable to add anything of scientific value to the paper. All must have been charmed with its literary style and excellence, and in regard to its scientific value it seems to me to be most able. I cannot detect any fallacy in that respect, and must accept every statement and deduction made by the author of the paper. But a great many times in my life I have been forcibly struck by the fact, that, practically, the results are quite different from what science teaches us they should be.

With regard to this very matter, it is now some twelve or fifteen years since what are known as the Louis Quinze high-heeled shoes came into fashion in this country, and having had more or less of the high-heeled *clientèle* I have been watching their effects for some time. We have many American women who go abroad and bring back French fashions and French shoes, and they have been worn amongst us abundantly for at least eight or ten years. But it is a singular fact that the fashion has been slow in getting into England. This depends no doubt upon the shoemakers largely, for this year on my visit abroad I found that in France the high heels are being cut down, while in England and Scotland high heels are worn very much more than any other kind by society women. Now this is all due to the tyranny of the shoemaker. As a rule the feet of English women are not remarkable for their beauty, nor have English women generally a graceful walk, but when the fashion was peculiar to France it was surprising to see those women walking upon the beach at Dieppe, Scoville, and other fashionable watering places, and to notice the gracefulness of their walk, although they had had on these excessively high-heeled shoes. At the same time I must confess that I was not particularly struck with the gracefulness of the walk of the English women with their large-soled and flat-heeled boots. Then again, I have heard a story that a lady who had been wearing these high-heeled shoes went to one of the most celebrated orthopedic surgeons in New York City for some spinal trouble, and when, after examining the case, he found that she was wearing a pair of these fashionable shoes, he immediately seized them and with language more forcible than elegant pulled off the heels and flung them away, following them with a shower of denunciations, and prophesying all sorts of ill results should the abominable fashion be continued. I have heard him speak in the most eloquent terms concerning the evil consequences attendant upon the wearing of high-heeled shoes. Now I think that the most graceful gait and movements which I have ever seen have been in those who have worn high-heeled shoes. I dare say that no one would question the grace and elegance of movement of such actresses as Ada Cavendish, Sarah Bernhardt, and many renowned ballet-dancers and others who have been accustomed to wearing high-heeled shoes. Now this is all wrong, because it is against what science teaches us. For many years I have been accustomed to watch this class of patients to see what symptoms would occur among those who did wear high-heeled

shoes that did not develop in those who did not wear such foot gear. I should like to know whether any one has noticed that the people in that class of society who wear high-heeled shoes have affections of the pelvic organs or other difficulties traceable to this cause, and I hope the question may be answered, as I see there are some here who have had a large experience with surgical conditions outside of those belonging to gynecology. According to science there should have been produced some special ills, and I think Dr. Busey has most ably proved that the elevation of the heels, with the changes which they produce, ought to be followed by all these changes in the angles and curvature of the body which he so logically and clearly describes. In early life, some thirty years ago, I commenced putting down a series of subjects upon which I hoped at some time to write a paper, but which I have never done. Among the subjects which I there noted down was that of "the influence upon the health of women produced by the caprices of fashion." It is needless for me to say that I have not yet completed my paper upon that subject, but the point that struck me with reference to a great many of these fashions was, that although we may preach concerning them, we cannot control them; women have a sharp instinct, and will so array themselves as to make themselves attractive for the other sex. Whatever may be the fashion that is introduced, if it will not accomplish this they give it up at once; but whatever fashion does bring about this result it would be useless for science to attempt to combat. I am glad, however, that this paper has come up, for I hear remarks constantly made of the evil which certain fashions of this kind produce not only in this country but in France, and I hope that the paper will be thoroughly discussed.

DR. T. G. THOMAS, of New York. I shall have but little to say upon this subject, for I feel very much with reference to it as one of the Senators did in the time of Mr. Webster, who said that he had intended to reply to Mr. Hayne, but that Mr. Webster had embodied all that he had to say, and had said it in just the way he intended to say it. I may say the same with reference to the remarks which Dr. Barker has made, that he has expressed my ideas exactly, and I shall therefore have but little more to say. I feel that the paper read by Dr. Busey should be published in non-medical journals as well as in medical ones. It should be published in journals which will reach the masses of the people, because it so fully and so clearly lays before them

the evils attending upon the fashion mentioned. But I think that the paper is weak in some few points which I shall now proceed to mention.

I think that the health of our women depends very greatly upon the development which they receive in youth, and I believe that such games as croquet and lawn tennis have done more for the health of American women than many volumes could have done upon this subject, even when indorsed by the statements of physicians. What will contribute most to the health of our women will be to make popular such exercises as will render it impossible for our girls to wear tight clothing or similar injurious styles of dress. Such a paper should set us to thinking. It is one which will do much good, and it should be thoroughly and fully considered. But there is this to be remarked, that a woman who has tender and badly shaped feet, whose spine is not perfectly straight, is the woman who of all others we may expect to have uterine disease, for the reason that she will develop badly, and the pelvic organs among others will suffer to a greater or less degree. I admit all this, upon which the value of the paper depends, but I am afraid there is an inherent weakness in the subject. I have watched patients who used high heels, and have watched them with special reference to the influence which this particular fashion might have upon the pelvic organs. I have felt that it should be bad, and that women who wear high-heeled shoes should surely have uterine displacement, but I have been surprised to find that those women do not have such displacements. I have been fully prepared to believe in the direct influence of high-heeled shoes upon the pelvic organs, but I have been disappointed with regard to it, although I have had under observation women who have indulged in this pernicious habit for years. I believe the reason is, that these women did not begin to wear such shoes in early childhood. I should say that the general influence certainly is very deleterious indeed, but that the direct influence, that is, that the spine is affected, or that the pelvic organs are affected, and that the disorder can be distinctly traceable to this habit, I have not been able to determine. I do not wish in any way to weaken Dr. Busey's paper, but I simply wish to state the facts as I have observed them. I certainly think that the habit is a most injurious one, and that in an indirect way it is one of the methods by which the system becomes depreciated, and renders women the prey of pelvic diseases.

DR. MUNDE, of New York. I would like to challenge one statement made by Dr. Busey, and that is with reference to a mass of small intestines being in the cul-de-sac. As a fact there are no small intestines in the cul-de-sac, as has been satisfactorily shown by Dr. Noeggerath and others. I think it is a wrong impression that the cul-de-sac always contains loops of intestines, for I have distinctly felt them but twice in the examination of over 5,000 women, most of whom were examined many times.

DR. VAN DE WARKER, of Syracuse. I would remark that some very eminent authorities figure loops of intestine in the cul-de-sac. It is certain that there is a great deal of dissenting opinion upon that point, although I think the majority express it as Dr. Mundé does, that as a rule the cul-de-sac is empty.

DR. BUSEY. Perhaps I laid too much stress upon the point which Dr. Mundé raised. Nevertheless, it is not the universal opinion that no intestines are found in Douglas's pouch. It may be his observations have been in one direction, and those of others have been different. It is not in this connection a material point whether small or large intestines are there; there is something there which is constantly subjected to changes in position. In reply to Dr. Thomas I will add that it is impossible to say definitely what the precise effect would be because of the diversities of form; a certain figure might be injured by the constant elevation of the heel, while another form or figure, differing in size and stature, would be affected differently, or might not be affected at all. There is no doubt in regard to the influence of changing the line of gravity and transferring the basis of support forward. No one doubts the injury of such a change upon the feet and effect upon the normal curves of the spine. The other inferences which I have made are simply deductions, not positive conclusions. The probabilities are, that if medical men will bear them in mind they may in future find a more constant relation between cause and effect than is now recognized.

I think if Dr. Thomas would take the profile figure of a female who has been wearing high-heeled shoes for a long time and then remove the shoes and take another profile view he would find an important change in the normal contour. [Dr. Busey then exhibited photographs of a girl who had been wearing high-heeled shoes for a long time.] Dr. Thomas believes that the introduction of games and other athletic exercises are best directed to

sustaining the health of our women. I agree with him in that respect, and not only because of the exercise, but it necessarily dispenses with the use of uncomfortable shoes. Such games prohibit the use of this injurious foot-gear as well as other injurious habits of carriage.

DR. THOMAS. I admitted all these things and accepted what Dr. Busey states with regard to the effect of wearing high-heeled shoes, but I simply made the statement that I did not find the results which he had expected would be found as directly traceable to it.

DR. BUSEY. I think if it could be possible for Dr. Thomas to have two similar female figures photographed at different periods from the age of five up to the age of sixteen years, one having worn high-heeled shoes, so that he could be able to compare them, that he would find a marked difference in their contour. Certainly there would be a change in the inclination of the pelvis, and my inference was that there would be a corresponding change in the position of the pelvic organs.



## MECHANICAL THERAPEUTICS OF VERSIONS AND FLEXIONS OF THE UTERUS.

BY ELY VAN DE WARKER, M. D.,

*Syracuse, N. Y.*

THE mechanical therapeutics of uterine displacements is yet unsettled. No department in gynecology has been the object of greater interest, and no department of surgery in general has stimulated an equal inventive activity. With all this array of invention the mechanical problems involved are not advanced, nor the question of utility in any manner settled. It is doubtful if in the whole range of gynecology a subject can be brought up that will elicit such hostile criticism on one side, and such cordial approval on the other; but among the avowed friends of mechanical therapeutics there is even more irreconcilable conflict as to the mere forms of appliances, so that while the inflammatory and mechanical schools of pathology stand at opposite poles of science and practice, the former is yet more hopelessly divided against itself.

There must be some reason for this state of affairs among a class of men, of whom I think I may say, that they are the peers of any for close and conscientious observation. It is possible that this difference among those who practice mechanical reposition of displaced uteri comes from over-confidence in their methods, and the disappointment that is sure to result from this mental attitude. As a method of treatment a pessary can be no more blindly relied upon than a splint in a case of fractured limb. It requires to be used with intelligence, watchfulness, and with due regard to the conditions, changeable and obscure

as they often are, which demand its use. Do pessaries generally accomplish the purpose for which they are employed? This question is always in order, and brings us into the strife waged between the hostile schools. I have here proposed the problem from its mechanical stand-point, and in this view of the subject it must be answered. Whatever may be your theory of uterine pathology, if in any case a pessary has been applied, have you fixed for yourself an ideal standard of mechanical effect, and has this standard been reached? Dealing, as we are here, with mechanical agencies, and from which we ought to expect results that may be formulated with precision, it is singular how difficult it is to reach this ideal standard. My opinion is that this uncertainty results, in the first place, from expecting too much from the use of the pessary, and in the second place, from selecting an improper agent for want of more clearly defined ideas upon the absolute limitations imposed upon the action of pessaries, and which must govern the mechanical results to be attained. That this confusion of ideas concerning these absolute limitations is one of the causes of failure is proved by the vast number of appliances invented, and the constant revival of obsolete forms of instruments to accomplish two simple mechanical results,—the straightening and lifting the uterine body either forward or backward.

It is for the purpose of demonstrating this part of my subject that I have been careful to illustrate this monograph with nearly every form of pessary for the correction of versions and flexions of the uterus, to serve both as a guide and a warning to all who wish to invent a pessary.

These illustrations are well worth study. They express to us graphically the history of a phase of thought. They show to us how the minds of many men seeking a single object halt at the same point, or revolve round a common centre. We can see in this apparent confusion of forms a common thought which links together the various groups, and a little study will show us that the members of these groups, into which I have divided them, are not different

instruments, but simply different expressions of the same form.

In studying the mechanical principles involved in the theory of the pessary two things must be clearly defined: First, the limits imposed by the uterus and its appendages upon the mechanical agencies acting upon it; and, secondly, the action of the mechanical forces under these limitations. These limits, both in their mechanical and uterine relations, are fixed and absolute. They are not to be evaded by skill, or ingenuity, and ought to be clearly understood. One is, however, reluctantly forced to conclude that the majority of pessaries are invented either in ignorance or defiance of these limits, and as if the only restriction upon their action was that of gravity.

And first, the limits imposed by the uterus and its appendages. Given a flexed or versant uterus, the problem is to restore it mechanically to a position which approximates the normal, or if that is not possible, then to a sufficient extent to relieve symptoms. Now the normal position has never been, and cannot be, defined, simply for the reason that it is one of movement, not of stability. To be more exact, we may say that the mean of this mobility is the normal, but in reality we cannot apply this mean position to any one woman any more than we can apply the average expectation of life to any given healthy individual. The difference between what is called a version and a normal movement, which may be equivalent to it in angular displacement, lies in the fact that the abnormal position is one of stability independently of the forces which induce changes of uterine position, and to which the healthy organ is responsive in a normal manner. A version, then, is a position of immobility not from fixation but from habit. If we restore this position to one that approximates the normal mean we restore its mobility, and if this restoration is effected by mechanical agencies it must be with reference to this natural endowment of the organ.

The correction of a flexion or version of the uterus mechanically, with certainty, comfort, and safety to the sub-

ject, depends in the first place upon a few fixed and absolute conditions which cannot be violated. I enumerate them:—

(a.) The limits imposed by uterine mobility.

(b.) The limits imposed upon the action of pessaries by the vagina.

(c.) A pessary must be adjusted with proper regard for the safety of the pelvic soft parts.

(d.) A pessary must be so adjusted as not in any way to retard or arrest the function of any pelvic organ, nerve, or vessel.

These must be considered in order to clear the way for the study of the pessary as a mechanical appliance in its various groups and classes.

(a.) *The Limits imposed by Uterine Movements upon the Action of Pessaries.*—Nothing can be clearer than the statement that every mechanical means of support applied to the uterus must act without restraint upon those movements essential to the normal functions of the organ. If we regard the manner in which the uterus is supported, we shall see that one of the results of this method of suspension is extreme normal mobility in every direction. It is necessary to call attention here to but one fact, namely, that these supports are not attached to any fixed centre of suspension, but are distributed over a large part of the surface of the uterus. The idea of Aran and of those who follow him, that the uterus has a fixed centre of rotation, — an “axe suspenseur,” — must, in view of this fact, be wrong. The uterus has an eccentric or cam-like movement, which may be defined by the expression that as the fundus is elevated the organ sinks in the pelvis, and that it is displaced laterally in a direction opposite to that of its anterior rotation.

In Fig. 1 I have endeavored not to exaggerate this eccentricity of movement. The straight lines 1, 2, 3, express the uterine axes of various abnormal positions, while the dotted line *ee* would express the arc described by the fundus during these movements if the uterus moved upon a fixed centre of rotation. But what I believe to be the fact, that each change of position has its own centre of suspen-

sion, is shown by the lines which represent the arcs described by the vaginal portion instead of the fundus, which latter movement is defined by the shaded line  $1^{\circ}, 3^{\circ}$ . Thus, the curve  $b$  expresses the movement in the  $3^{\circ}$  of retroversion, the curve  $a$  by the  $2^{\circ}$ , and the curve  $c$  by the  $1^{\circ}$ , while the curve  $d$  shows the movement of the vaginal portion in the  $2^{\circ}$  of anteversion.

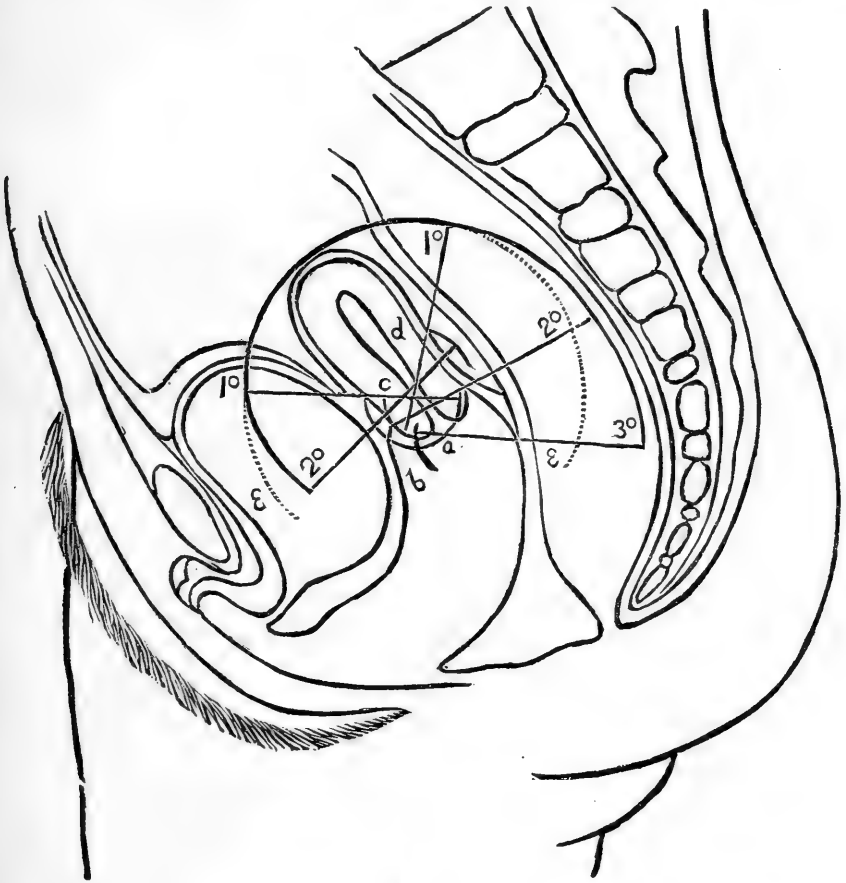


FIG. 1.

If the uterus moved upon a fixed centre of rotation it would be comparatively easy to so adjust mechanical sup-

port as to accommodate these movements; but, this not being the case, it is a matter of extreme difficulty.

Of equal importance to the proper application of the pessary are the minor uterine movements. These are the various respiratory movements involved in the acts of respiration, articulation, coughing, and the like; postural movements, and those of walking and abdominal expulsion. Several years ago I gave this subject a careful study by means of the recording mercurial manometer, and which, owing to the medium<sup>1</sup> through which I sought the public, is but little known among those interested in gynecological study. It is almost impossible to give an idea of the character of these movements without reproducing a few of the manometrical tracings published in my former monograph.

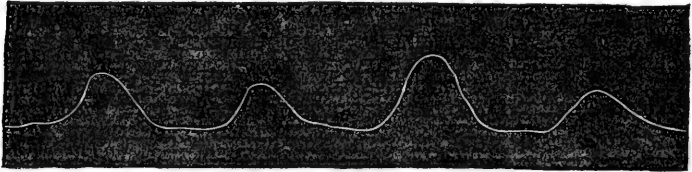


FIG. 2.

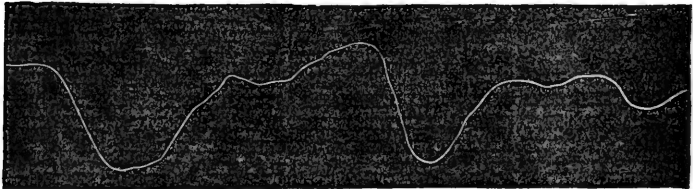


FIG. 3.

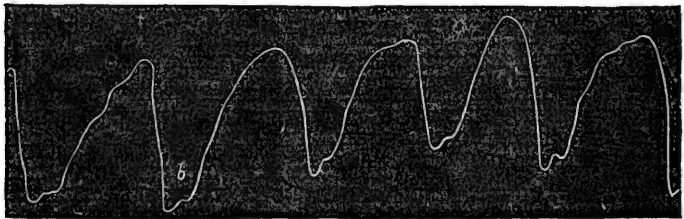


FIG. 4.

Fig. 2 is a tracing of easy respiration movement; Fig. 3 is an articulation curve; Fig. 4 is the record of uterine

<sup>1</sup> *New York Medical Journal*, April, 1875.

movement in the act of coughing, and Fig. 5 that of walking. Fig. 6 represents the movements of the mercury in the manometer during voluntary expulsive effort.

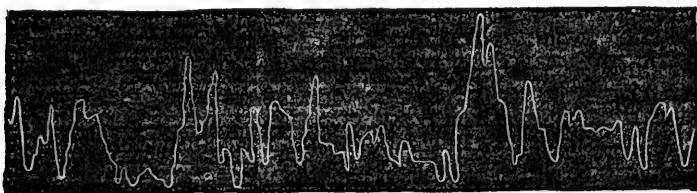


FIG. 5.

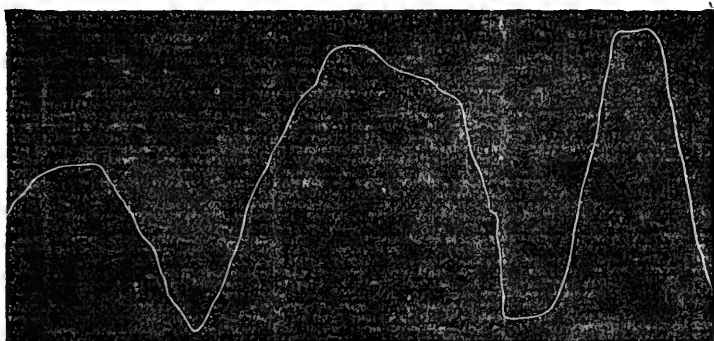


FIG. 6.

It is of the highest practical importance in this relation to realize that the mechanical force involved in these uterine movements varies from less than one to about seven pounds, as actually measured by a column of mercury. If we regard the results arrived at by Poppel<sup>1</sup> and Duncan,<sup>2</sup> that the minimum force exerted during labor is equivalent to four to eight pounds, as at all correct, the remarkable fact is forced upon us, that there exists in the average woman, non-pregnant, voluntary expulsive force equivalent to an easy labor, and which she may exert at any time. In view of this fact it is not singular that uterine displacements play so large a part in the sexual disabilities of women, and that their mechanical correction is a matter of difficulty.

<sup>1</sup> *Monatsschrift für Geburtskunde und Frauenkrankheiten*, Bd. 22, S. 8.

<sup>2</sup> *Researches in Obstetrics*.

Much of the pain and tenderness that develops from wearing a pessary are the result of the mechanical restraint imposed upon this free mobility. Even when over-distention or stretching of the vagina is an evident element in the intolerance of the pessary, it is difficult to eliminate the restrained movements of the uterus as a co-factor to this result.

From what the tracings of the manometer have taught me, I should say that at least three quarters of an inch ought to be allowed for unrestrained uterine movement in adjusting the pessary. Anything less than this would be certain to interfere with the movements of the organ, especially in movements of the uterus attending defecation and forced inspiration and coughing. The fact must not be lost sight of anywhere in this paper, that I am speaking only of the mechanical correction of versions and flexions.

(b.) *Limits imposed upon the Action of Pessaries by the Vagina.* — These limits are absolute and cannot be evaded. After we have elevated the uterus mechanically to the limits of the vagina, direct action of the instrument ceases, and if beyond this point any further effect is produced, it is by evoking the operation of other agencies. From the description of many of the version pessaries, it is clear that the inventor and the practitioner who use them expect that by means of a curve, or the pressure of the upper extremity of the pessary, the depressed fundus of a versant uterus may be raised by the direct action of the instrument. But this is impossible. When the upward pressure is arrested by the vagina, it is evident that movement in this direction ceases. What has been accomplished so far has been a lifting upward of the vaginal vault, and to a corresponding degree that of the uterus in its same relative displacement, while the anterior wall is placed upon greater tension than the posterior, being the shorter limb of the vaginal curve. This simple upward pressure would relieve a retroverted uterus just as effectually if the force was applied in front of the vaginal cervix as behind it. This being the condition of affairs when the vaginal limits interpose further up-



ward movement, the vaginal walls themselves become the agents of any further change induced in uterine position by prolonging the upward pressure. To illustrate, let us take the familiar example of the Hodge closed pessary — lever, as it is improperly called, — by which instrument the force is applied to the posterior cul-de-sac, and the uterus lifted until the slack of the posterior vaginal wall is taken up, when, the same force being continued, the vaginal neck is drawn backward, the fundus moving to the same extent forward, if the uterine body is of normal consistency, by the vagina drawing over the upper end of the pessary as though it were a pulley. With this action of the posterior we always find the anterior vaginal wall under more or less tension, which could not be the case otherwise. This law is taken advantage of in nearly all version pessaries in use, but, unfortunately, the action is confounded with a lever instead of a lifting force. In the normal relation of the parts the vaginal roof with the uterus may be raised one inch and a half to two inches, and this not at the expense of the elasticity of the passage, but by the erasure of its folds. Any mechanical elevation of the uterus to this extent must result in absolute fixation, and in a short time become intolerable if not dangerous.

In every application of a pessary the mechanical walls must be regarded as a part of the mechanism involved. I believe this rule to be true in every successful replacement of a version, and it is by bringing into play this pulley-like action of the vagina upon the lower uterine neck that we are enabled to extend the action of a pessary beyond the limits of the vaginal sac. Any attempt by mere force to get a direct action of a pessary upon a depressed uterine fundus is practically violence to the vaginal tissue, and prevents the participation of its walls in the mechanical action of the pessary. This explains the difference in the action of pessaries in retroversions and anteversions of the uterus. In the former we bring into action the posterior vaginal wall upon the uterine neck with great facility; while in the latter, the anterior wall being shorter it draws the uterine

neck forward to a much less extent. This action is also antagonized by the posterior vaginal wall, more or less, depending in a great measure upon the fact whether the anteversion pessary passes into the posterior cul-de-sac or not. In case the instrument places the posterior wall of the passage upon the stretch at the same time lifting force is directed against the anterior wall, the strain of the instrument is in opposite directions, and the lift upon the anterior wall is reduced to nothing. Any instrument devised upon this plan can be compared to nothing else than a man trying to lift himself over a fence by pulling up upon the straps of his boots. The vaginal limits to the action of a pessary are more marked in anteversion than in retroversion, and the same law holds that the fundus cannot be lifted except the cervix be drawn forward to an equal degree. That under the most favorable circumstances this is more difficult than in retroversions is shown by the proneness of the anterior wall to ulcerate under the action of an anteversion pessary.

These remarks are true only of versions, and do not in any way apply to the correction of flexions. We have absolutely no means of redressing flexion mechanically from the vagina alone. I say this after a careful study of the subject extending over many years, and after experimenting with every form of pessary that gave the least promise of success. We may operate with the same results upon the vaginal portion mechanically in both versions and flexions; the cervix moves to the same extent under the operation of the same force in both forms of uterine error. While the fundus is rotated in proportion to the cervical movement in version, and thus the displacement more or less corrected, in flexions the organ makes a partial rotation corresponding in extent to the movement of the cervix, but is still flexed. It may be said in objection to this idea, that vaginal supports of various kinds do relieve the symptoms in cases of uterine flexions. This is true; but this relief is given not by correcting the flexion, but by lifting the uterus, and thus partially relieving the vessels and nerves of

the organ. In proof of this I may mention an experience which I have often verified, that a simple globe pessary will afford this relief better than any of the complicated vaginal pessaries I have ever used, and in which case there can be no question that the flexion remains unchanged. These facts ought to teach us not to attempt to correct a flexion of the uterus by means of any force limited wholly by the vagina.

(c.) *A Pessary must be adjusted with a Proper Regard for the Safety of the Soft Parts.* — Much of the ill repute attached to the pessary comes from the frequently published cases of injury to the vagina due to this instrument. There are two elements in this result of wearing a pessary. The most important one is injury due to an improperly fitted instrument. This is not usually such a misfit as to be intolerable to the patient at once, for in such a case the misfit is its own remedy, but is of such a character that at first no ill effects are noticed, and the patient only becomes gradually aware that mischief is being done. Pressure needs but to be continuous to result in ulceration. A pessary that fills the vagina so closely that no play of the vagina upon the points of bearing is possible may very quickly result in erosion or ulceration. A pessary so large, or of such a kind, as to cause uterine fixation constantly exposes the woman to this danger. It may, on the other hand, be so small that erosion of the vaginal wall may result. The instrument gets out of position and is crowded across the vaginal passage, so that the tissues are confined between the extremities of the pessary on one side and the pelvic hard parts on the other. This question of fit is even more difficult to get a correct idea of than that of selecting a proper pessary to accomplish the object in view. Nothing but practice will enable one to acquire a skilled touch in this matter of a safe and proper fit.

Secondly, a pessary may be of a proper kind, and perfect in its adjustment, and yet do harm by imprudence in its use. Of this nature, no doubt, are many of the cases of injury that we read about. It has not been unusual in my

experience to remove a pessary which the patient had placed by her physician a year or more before. In the majority of cases such a long continuous wearing of a pessary is the result of the carelessness or willful stubbornness of the patient. I remember an instance in my own practice which illustrates this. I was called by my friend, Dr. M. B. Fairchild, to see a patient, who, in consequence of a flexion of the uterine neck, suffered severe dysmenorrhea. I introduced an intra-uterine stem, which gave complete relief to pain and the locomotor symptoms. I left Dr. Fairchild directions about the removal of the instrument, but was surprised by the doctor informing me a year after, that he could not remove the stem, as the patient would not permit it. She dreaded the return of her old symptoms. I wrote her, as she lived at a distance, drawing as vivid a picture as possible of the consequences which might result from her stubbornness. She answered me that she was perfectly well, and she was sure that nothing had happened as I described, because she felt so well in the pelvic organs. It was six months after that I succeeded in getting the stem. Happily no bad consequences resulted from this continued wearing of the stem for a year and a half, and which I am sure was the result of the principle upon which I make and use my form of this instrument.

A patient needs to be informed about the care of her person while wearing a pessary, and to regard herself as constantly under treatment. It is often necessary to give her very plain and positive instructions upon the matter of occasional examinations, and removing and cleaning the pessary. Pessaries are sometimes made of material that requires constant care. Pure gum or soft rubber instruments are very liable to become offensive and cause an irritating discharge, and which, in some patients, unless careful attention is given to hygiene, will result in vaginal erosion.

(d.) *A Pessary must be so adjusted as not in any way to retard or arrest the Function of any Pelvic Organ, Nerve, or Vessel.* — It would hardly seem necessary to give this sub-

ject any place, for the reason that the proposition is so self-evident that no argument can make it clearer; yet, in the majority of cases, defeat in the use of the pessary comes from this source. An instrument may be theoretically correct as to form, or its form may be entirely wrong, and in both instances be equivalent to the same error through violation of this law. We may know that this condition is being violated by the symptoms resulting from the presence of the pessary; or, at least, we may assign this as a cause when there is a peculiar wearing sacralgia, fixed, or radiating down the limbs, supra-pubic pain and tenderness, urine incontinence, or dysuria, pain in defecation or in postural changes, and increased general nervous irritability.

All these evidences of pelvic disturbance, except that of the bladder, may result from the violation of one function of the pelvic organs, namely, uterine mobility. As this will be referred to repeatedly later, it need not be taken up here.

The next important organ liable to be disturbed by the pessary is the bladder. Some forms of the instrument which are very useful, like the elastic ring and the original form of the Hodge, are disposed to excite functional disturbance of this organ by the lower end tilting against the base of the bladder or upper urethra. It is remarkable how slight a pressure will do this if it is continuous. Force directed against the base of the organ will cause strangury, and upon the upper urethra will produce incontinence, so that it is not difficult to judge from the symptoms the point that is exposed to pressure. It is frequently one of the difficult points in the fit of a pessary to so shape its lower extremity as to avoid bladder disturbance.

The rectum is rarely disturbed by the pressure of a pessary through its anterior wall, except in cases of fecal accumulation when the rectal contents are apt to lodge above the bow of the instrument, and when strong effort is made at defecation the pessary is sure to be seriously displaced. This is one of the chief causes of expulsion of intra-uterine stems that depend upon small vaginal supports for their retention. I have seen hemorrhoids which were in a great

measure ascribable to the backward pressure of a pessary on the vaginal wall. The simple ring is quite liable to do this, especially when too small, as the upper or posterior part is forced down, and the anterior upward, behind the pubes, thus placing the instrument at right angles nearly to the posterior wall, the hemorrhoidal veins bearing the greater part of the pressure. The same is liable to occur in case of very short vaginas, in spite of the greatest care.

Sacralgia is rather a symptom of erosion, or ulceration at the posterior cul-de-sac, than of undue force. Pressure, from the presence of a pessary, so great as to excite neuralgia of the sacral nerves, could not be borne at all, and thus would suggest its proper remedy. The sacral pain is evidently reflex, of a nature similar to that due to erosion of the cervix. Any form of instrument may excite ulceration of the vaginal walls if allowed to remain too long, as I have already said. I have known dysmenorrhea excited by obstruction to the menstrual flow. Intra-uterine stems are prone to do this when too large, or when the vaginal portion of the stem fits too closely about the os externum. Stems, as made by the instrument makers, are nearly one half too large, as a rule. A sharp or long anterior curve to the Hodge form of instrument may cause the same obstruction by pressing the walls of the vaginal cervix together. A very slight obstruction to the escape of the menstrual flow will excite expulsive pain. This fact must be always remembered, and precautions taken at the first signal of disturbance.

Pain excited in the pelvis during postural changes is strong evidence of an ill-adjusted or improper pessary. This must never be overlooked or made light of, and the patients told, as they often are, that they will get used to it after a time. Even if no physical harm results, moral injury will be sure to follow as the patient is made uneasy and anxious. It is a wise precaution to have the patient put herself in a variety of postural changes, such as sitting, walking, standing, and bending forward, after a pessary is first introduced, in order to test this point, and any complaint attended to at once.

Many pelvic conditions, such as peri- or parametritis, tumors, hematocele, and ovarian tumors and displacements, may act as absolute limitations to the action of a pessary, but they are of such a nature as to require no special mention here.

The variety of pessaries is so great that an attempt to describe them without a proper classification would be vain. One might as well make a scientific description of a family of animals without grouping it into genera and species, as to make a mechanical analysis of pessaries without dividing them into groups and classes.

When I had gathered together my immense material of pessaries, I found that I had entered a new field of research, and that whatever I intended to say and do within the limits of this field may have been said and done before me; still it was all confusion because no one had studied it as a whole, and arranged and grouped its facts. This was altogether a different matter from looking at the pessary singly, or in its purely practical relations. Further, unless one confined a paper of this sort to the limits of a mere catalogue, it would require a volume to separately analyze the mechanical principles of each instrument.

It was a matter of considerable study to adopt a system of classification. An arrangement based purely upon the few mechanical elements involved would not only be difficult, but, as this was in a certain sense a pioneer paper, it was liable to excite considerable controversy, as such a classification would frequently lead me to view an instrument in a totally different manner from the inventor. Finally, I adopted the plan of defining three principal groups by the aid of the very manifest mechanical elements involved, and about which there could be no difference of opinion, and of describing the several classes under these groups by the mechanical results, or uterine changes induced by the presence of the instrument, instead of still further refining upon the minor mechanical principles shown by the various classes in each group.

## CLASSIFICATION OF VERSION AND FLEXION PESSARIES.

GROUP I. — Those pessaries combined with support external to the body.

*Class 1.* The simple intra-vaginal pessary with external support.

*Class 2.* Those that combine a pessary acting by mechanical displacement with support external to the body.

*Class 3.* Those that combine absolute uterine fixation of the cervix with external support.

GROUP II. — Pessaries acting wholly intra-vaginally.

*Class 1.* Those pessaries acting by displacement.

*Class 2.* Those pessaries that move the vaginal cervix by action of the vaginal walls in a direction opposite to the movement of version of the fundus.

*Class 3.* Those which retain the vaginal cervix in a fixed position, and thus prevent rotation of the uterus.

GROUP III. — Pessaries acting within the body of the uterus — intra-uterine stems.

*Class 1.* Intra-uterine stems with support external to the body.

*Class 2.* Intra-uterine stems combined with various forms of vaginal pessary.

*Class 3.* Self-retaining intra-uterine stems.

*Class 4.* Diverticulating intra-uterine stems.

*Class 5.* Intra-uterine stems with simple vaginal attachment necessary for retention.

## GROUP I. — SUPPORT EXTERNAL TO BODY.

CLASS 1. — *Simple Intra-vaginal Pessary with External Support.*

Name.	Form of Displacement.	Plate.	Figure.	Reference.
Priestley.	Retroversion.	XII.	1	Cat. Obstet. Instruments, Obstet. Soc. Lond., p. 180, Fig. 178, 1867.
Priestley, modified by Cutter.	Retroversion.	XII.	2	Thomas, <i>Prac. Treat. Dis. Women</i> , p. 379, Fig. 142, ed. 1872.
The same.	Retroversion.	Text.	7	The same.
Cutter.	Retroversion.	XII.	3	<i>Uterine Ver. and Flex.</i> , 1876, p. 20, Fig. 4.



CLASS 2. — *Displacing Pessary with External Support.*

Name.	Form of Displacement.	Plate.	Figure.	Reference.
Priestley, modified by Thomas.	Retroversion.	{ XII. Text.	4 8	Thomas op. cit., p. 379, Fig. 141.

CLASS 3. — *Fixation of Cervix with External Support.*

Name.	Form of Displacement.	Plate.	Figure.	Reference.
Wade.	A. and R. flex. and version.	XII.	5	Amer. Jour. Obstet., 1878, p. 710.
Cutter-Thomas.	Anteversion.	Text.	9	Thomas, op. cit., ed. 1880, p. 423, Fig. 166.
Weber.	Retroversion.	Text.	9a	Tiemann's Cat., Part III., Fig. 428b.

GROUP II. — INCLUDES ALL THE INSTRUMENTS THAT ACT WITHIN AND ARE LIMITED BY THE VAGINA.

CLASS I. — *Pessaries acting by Displacement.*

Name.	Form of Displacement.	Plate.	Figure.	Reference.
Page.	Retroversion.	Text.	11	N. Y. Med. Record, May 9, 1876.
Pallen.	Anteflexion.	Text.	12	Reynder's Catalogue.
Cole.	Anteflexion.	Text.	14	Med. and Surg. Rep., June 4, 1881.
Cole.	Retroversion.	Text.	15	Loc. cit.
Hitchcocks.	Anteversion.	Text.	13	Trans. Am. Med. Assoc., xv., 104, 105.
Smith, Heywood.	Retroversion.	Text.	16	Prac. Gynecol., p. 108, 1878.
Thomas.	Anteversion.	Text.	17	Thomas, op. cit., p. 422, Fig. 163, 1880.
Gehring.	Anteversion.	Text.	18	St. Louis Med. and Surg. Jour., July, 1877.
Vulliet.	Anteversion.	XIV.	5	Trans. Obstet. Soc. Lond., xvii., 64.
Thomas.	Anteversion.	Text.	{ 19 20	Tiemann's Cat., Part III., p. 89.
Hewitt, modified by Thomas.	Anteversion.	Text.	21	Op. cit., Part III., p. 89.
Hewitt.	Anteversion.	XIV.	1	Hewitt, Dis. of Women, p. 523, Fig. 77.
Hewitt, modified by Beigel.	Anteversion.	XIV.	{ 2 3	Beigel, Die Krankheiten d. weiblichen Geschlechtes, Bd. i., S. 180, Fig. 1, A. and B.
Hewitt, modified by Schultze.	Anteversion.	XIII.	11	Archiv f. Gynäkol., Bd. iv., S. 387, Figs. 1 and 2.
Thomas.	Anteversion.	Text.	{ 22 23 24	Thomas, op. cit., p. 422, 1880.
Thomas.	Anteversion.	Text.	25	Thomas, op. cit., p. 421.
Galabin.	Anteversion.	XIII.	7	Obstet. Trans., Lond., xviii., p. 177, 1876.
Gehring.	Retroflexion.	Text.	28	St. Louis Med. and Surg. Jour., July, 1877.
Gehring.	Anteflexion.	Text.	27	Loc. cit.
Pallen.	Retroversion.	Text.	26	Am. Jour. Obstet., July, 1877.
Studley.	Anteversion.	XIII.	9	Am. Jour. Obstet., Jan., 1879.
Thomas.	Anteversion.	XIV.	8	Thomas, op. cit., p. 363, Fig. 126, 1872.
Clay.	Retroversion.	XIV.	9	Copied from Beigel, op. cit., Bd. i., S. 275, Fig. 92.

284 MECHANICAL THERAPEUTICS OF VERSIONS, ETC.

CLASS 2. — *Pessaries that act upon the Uterus by exciting Action of the Vaginal Walls.*

Name.	Form of Displacement.	Plate.	Figure.	Reference.
Hodge.	Retroversion.	XIII.	{ 1 2 3 4	Hodge, Dis. of Women, 415, Fig. a, b, c.
Hodge, modified by Hewitt.	Retroversion.	XIII.	4	Hewitt, op. cit., p. 521, Fig. 74.
Hodge-Smith.	Retroversion.	XIII.	{ 5 6	Thomas, op. cit., p. 446, Fig. 184, 1880.
Hodge-Thomas.	Retroflexion.	Text.	30	Thomas, op. cit., p. 446, Fig. 185.
The same.	Retroflexion.	Text.	31	Same reference.
Chamberlain.	Retroflex. and version.	Text.	{ 32 33	N. Y. Med. Record, viii., 396, 1873.
Carroll.	Retroflexion.	Text.	34	N. Y. Med. Record, March 30, 1878.
Woodward.	Retroflexion.	Text.	35	N. Y. Med. Jour., October, 1876.
Scattergood.	Retroversion.	XIII.	8	Thomas, op. cit., 380, Fig. 144, 1872.
Schultze.	Retroversion.	XIII.	10	Archiv f. Gynäkol., iv., 387, Figs. 1 and 2.
Thomas.	Retroversion.	XIV.	4	Thomas, op. cit., p. 378, Fig. 140, 1872.

CLASS 3. — *Pessaries that fix the Vaginal Cervix and prevent Rotation of the Uterus.*

Name.	Form of Displacement.	Plate.	Figure.	Reference.
Hoffman.	Retroversion,	Text.	36	Thomas, op. cit., p. 375, Fig. 136, 1872.
Hurd.	{ Retroflexion. Anteflexion.	XII.	6	Thomas, op. cit., p. 395, Figs. 150, 151.
Woodward.	Anteflexion.	Text.	37	N. Y. Med. Jour., October, 1876.
Fowler.	Anteversión or flexion.	Text.	38	Ut. Displacements Considered, Pamphlet, Youngstown, Ohio, 1881.
Fitch.	Anteversión or flexion.	Text.	39	Ill. State Med. Soc. Trans., 1875, p. 207.
Thomas.	Anteversión.	Text.	40	Thomas, op. cit., p. 421, Fig. 158, 1880.
Schroeder.	Retroflexion.	XII.	7	Dis. Female Sex. Organs, p. 175, Fig. 60.
Studley.	Retroversion.	XIV.	6	Am. Jour. Obstet., January, 1879.

GROUP III. — INTRA-UTERINE STEMS.

CLASS I. — *Stems having Support External to the Body.*

Name.	Form of Displacement.	Plate.	Figure.	Reference.
Simpson	Version and flexion.	Text.	41	Simpson, Obstet. and Gynecol., p. 703, Fig. 27.
The same.	As above.	I.	{ 2 3	Winckel, Die Behandlung d. Flex. d. Uterus, S. 19, Taf. I.
Kiwisch.	Version and flexion.	I.	1	
Valleix.	Version and flexion.	II.	{ 1 2	Winckel, op. cit., S. 20, Taf. I., Fig. V.
Kilian.	Version and flexion.	III.	1	Winckel, op. cit., S. 20, Taf. II. Fig. VIII.
Cutter.	Flexion.	{ Text. IV.	40	Cutter, Ut. Versions and Flex., p. 89 (modified).
Beigel.	Flexion.	III.	2	Beigel, Krankh. d. weiblich. Gesch., ii. Bd., S. 243, Fig. 71.

CLASS 2.—*Intra-uterine Stems attached to various Forms of Vaginal Pessary.*

Name.	Form of Displacement.	Plate.	Figure.	Reference.
Detschy's Hystero-mochlion.	Version and flexion.	IV.	1	Schmidt's Jahrbücher, Bd. 83, p. 321 (1854).
The same; another form.	Version and flexion.	VI.	6	Thomas, op. cit. (Wieland and Durbrisy), p. 393, Fig. 149, 1872.
Schultze.	Flexion.	VI.	5	Schultze, Archiv f. Gynäk., Bd. iv., p. 414, Fig. 14.
Schultze.	Flexion.	VI.	7	Schultze, loc. cit., Fig. 15.
Amann.	Flexion.	VI.	2	Amann, Zur. mechanischen Behandlung d. Versionen u. Flexionen d. Uterus, p. 45, Fig. 7.
Simpson, modified by Martin.	Flexion.	VII.	1	Beigel, op. cit., Bd. ii., p. 244, Fig. 73.
Hewitt.	Flexion.	VII.	2	Beigel, op. cit., Bd. ii., p. 245, Fig. 74.
Winckel.	Flexion.	VII.	3	Winckel, Die Behandlung d. Flexionen d. Uterus, p. 23, Fig. 18.
Winckel, modification of Valleix.	Flexion.	VIII.	1	Winckel, op. cit., p. 23, Fig. 15.
Chadwick.	Flexion.	VIII.	3	Trans. Am. Gynecol. Soc., vol. ii., p. 444.
Cutter.	Flexion.	VIII.	4	Cutter, op. cit., p. 128, Fig. 26.
Schultze.	Flexion.	VIII.	5	Schultze, Archiv f. Gynäk., Bd. iv., p. 413, Fig. 13.
Winckel.	Flexion.	VIII.	2	Winckel, op. cit., p. 23, Fig. 16.
Studley.	Flexion.	VIII.	6	Am. Jour. Obstet., January, 1879.
Hodge, modification of Simpson.	Flexion.	IX.	7	Hodge, Dis. of Women, pp. 411, 415.
Barnes.	Flexion.	IX.	2	Barnes, Dis. of Women, p. 614.
Williams.	Flexion.	IX.	3	Trans. Obstet. Soc. Lond., vol. xiv., p. 308.
Kinloch, modification of Hodge-Simpson.	Retroflexion.	Text.	42	Trans. S. C. Med. Assoc., 1875, p. 261, Figs. 2, 3.
Thomas.	Anteflexion.	Text.	43	Tiemann's Cat., Part III., p. 89, Fig. 411.
Thomas.	Anteflexion.	Text.	44	Thomas, Prac. Treat. Dis. of Women, p. 428, Fig. 169, 1880.
Thomas.	Anteflexion.	Text.	45	Thomas, op. cit., p. 428, Fig. 169, 1880.
Mossman.	Retroflexion.	Text.	46	Letter from Dr. B. E. Mossman, Greenville, Pa.
Thomas.	Lateroflexion.	Text.	51	Thomas, op. cit., p. 452, Fig. 197, 1880.
Van de Warker.	Anteflexion.	Text.	47	N. Y. Med. Jour., vol. xxxii., p. 561, 1876.
			48	
			49	
			50	

CLASS 3.—*Self-retaining Form of Intra-uterine Stem.*

Name.	Form of Displacement.	Plate.	Figure.	Reference.
Unknown.	Anteflexion.	Text.	53	Tiemann's Cat., Part III., Fig. 425.
Squarey.	Any flexion.	IX.	5	Lond. Lancet, 1874, p. 49.
Van de Warker.	Anteflexion.	Text.	6	
			54	N. Y. Med. Jour., October, 1873.

CLASS 4.—*Spring Intra-uterine Stems.*

Name.	Form of Displacement.	Plate.	Figure.	Reference.
Kiwisch.	Ante or retroflexion.	XI.	{ 1 2 3	Verhand. d. Gesellschaft f. Geburts. 4th yr. Taf., Figs. I., II., III.
Kiwisch-Mayer.	Ante or retroflexion.	XI.	{ 4 5	Winckel, op. cit., Fig. VII.
Wright.	Anteflexion.	X.	{ 2 3	Wright, Ut. Disorders, p. 86, Lond. 1867.
Wright-Chambers-Beigel.	Anteflexion.	X.	{ 3 4	Beigel, op. cit., Bd. ii., p. 248, Fig. 78.
Chambers.	Ante or retroflexion.	X.	5	Obstet. Jour. Gr. Br. and Ire., vol. i., p. 22.
Aveling.	Ante or retroflexion.	X.	6	Trans. Obstet. Soc. Lond., vol. vii., p. 156.
Simpson.	Anteflexion.	X.	1	Lond. Lancet, 1866, p. 531.

CLASS 5.—*Intra-uterine Stems with Simple Vaginal Attachment Necessary for Retention.*

Name.	Form of Displacement.	Plate.	Figure.	Reference.
Simpson.	Ante- or retroflexion.	V.	{ 1 2	Winckel, op. cit., Figs. II., III.
Simpson.	The same.	V.	3	Beigel, op. cit., 240, Fig. 68.
Simpson.	The same.	V.	4	Simpson, Dis. of Women, p. 779, Fig. 141.
Simpson.	The same.	V.	5	Simpson, op. cit., p. 778, Fig. 140.
Lazaruvitch.	Retroflexion.	V.	{ 6 7	Trans. Obstet. Soc. Lond., vol. xi., p. 79.
Schroeder, after Simpson.	Anteflexion.	V.	8	Schroeder, Dis. of Women, Ziemschen's Cyc., Eng. ed., p. 174, Fig. 59.
Peaslee, after Simpson.	Retroflexion.	V.	9	Trans. Med. Soc. S. N. Y., 1866, p. 100.
Tait, after Simpson.	Anteflexion.	VI.	1	Obstet. Jour. Gr. Br. and Ire., vol. i., p. 180.
Conant.	Retroflexion.	VI.	3	Tiemann, Cat., Part III., Fig. 422.
Edwards.	Retroflexion.	VI.	4	Tiemann, Cat., Part III., Fig. 427.
Braun, C.	Ante- or retroflexion.	VII.	{ 4 5	Winckel, op. cit., Figs. XIII., XIV.
Martin, E.	Anteflexion.	VII.	6	Winckel, op. cit., Fig. XV., et Martin, Neig. u. Beug. des Ut., p. 78.
Sims.	Ante- or retroflexion.	Text.	57	Also published.
Van de Warker.	Retroflexion.	Text.	{ 55 56	Buffalo Med. and Surg. Jour., April, 1874.
Donaldson.	Ante- or retroflexion.	Text.	58	Donaldson, Contributions to Prac. Gynecology, p. 61.

This classification may appear complicated; but take all of Group III. as an example, and we perceive that each of the classes is designed to act upon different principles, either in the correction of uterine distortion or of retention. With these differences I do not see how the classification of this group could be simplified. The same may

be said of Group II., which is exceedingly difficult to classify and describe.

GROUP I., comprising all those pessaries that act upon the uterus by support external to the body, represents one of the oldest forms of version and flexion pessaries. Much of the disrepute historically attached to the intra-uterine stem came from its fatal connection with this means of retention. The theory upon which this group of instruments was based was becoming obsolete, when it was revived by securing a place in Dr. Thomas's text-book.

The simplest form of this group is Class 1, being a simple firm loop passing into the posterior or anterior vaginal cul-de-sac, and retained in place by elastic support connected with an abdominal belt. Its modern form, known as Cutter's pessary, is a survival of an old form (Pl. XII., Fig. 1), which gained no reputation. It was invented by Priestley.

This theory is connected with another principle of mechanical change in uterine position, that of displacement. This constitutes Class 2 (Fig. 8). I apply the term displacement



FIG. 7.

to the introduction of any mass within the grasp of the vagina, sufficiently large to elevate the vaginal vault and displace the uterus from any position it may occupy in the direction of the least resistance. This implies freely movable walls. In combination with the Priestley form of instrument, the principle of its action is violated, for, the posterior vaginal wall against which the bulbous enlargement A,

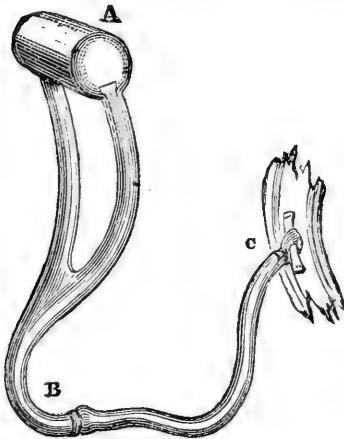


FIG. 8.

Fig. 8 (Pl. XII., Fig. 4) impinges, is fixed by the strong

upward pressure of the external support, while the mass A displaces the cervix forward in the ratio of its bulk, and the posterior vaginal wall antagonizes this forward movement by backward traction in proportion to the upward pressure of the external support. This enlargement of the upper part of the instrument was added, probably, for the purpose of increasing the bearing surface of the loop, seen to better advantage in Fig. 7, and thus obviating one of the dangers of this form of instrument, ulceration of the vaginal wall. It will be seen, however, that, from the counter strain upon the posterior vaginal cul-de-sac, it is exposed to more danger from this form than from Class I of this group.

In Class 3 we have presented a still more dangerous instrument (Pl. XII., Fig. 5), in which the upper part is formed into a coil which encircles the cervix, and thus causes absolute fixation. In this form by Wade we have united every bad principle that can be combined in a pessary. In another pessary (Cutter, Pl. XII., Fig. 3) we have nearly the same form with less incarceration of the uterine neck. In this class, in which absolute fixation is the distinguishing trait, we must also include Thomas's modification of Cutter's pessary. In this instrument there is an anterior loop prolonged backward until it meets the descending limbs, which connect it with the external support (Fig. 9).<sup>1</sup>



FIG. 9.

It is designed to correct intractable forms of anterior displacement, but in view of the limits to upward displacement due to the anterior vaginal wall, it is difficult to understand how it could materially change the relative position of the uterus with safety to the part.

There is necessary only a brief comment upon this group of pessaries. Nothing but an extraordinary combination of pelvic conditions would warrant the use of a version or flexion pessary that violates every rule for the proper adjustment of the instrument. Certainly, if the "physician possess

<sup>1</sup> Thomas, *Pract. Treat. on Dis. of Women*, p. 423, 1880.

only little skill in the use of pessaries," he had better employ an internal pessary, but not one connecting externally with a band. This form violates the law of uterine mobility; it interferes with the function of near parts, and by over-tension tends constantly to weaken the vaginal column. The principle involved in the mechanism of this group belongs to the correction of total prolapsus uteri, and even here it is not easy to get the subject to wear the instrument.

A form of pessary that must be classed among those having support external to the vagina is Weber's (Fig. 10). Here the T-shaped part passes in the posterior cul-de-sac, and is designed to correct a retroversion, and is kept in place by the stem passing backward over the perineum and attached to what resembles a pile instrument inserted in the rectum. The idea is an old one. Bond<sup>1</sup> invented a pessary of the same character. Weber's instrument is shown here as a mechanical curiosity, and as an evidence of what absurd things have been, and probably will be again, invented and called pessaries.

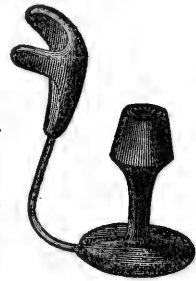


FIG. 10.

GROUP II. includes all the instruments that act within, and are limited by, the vagina, and are the most useful and scientific of all the mechanical means for overcoming a version. Notwithstanding the great variety of outline presented by the members of this group, the mechanical elements involved are few, and we may thus reduce them to comparatively few classes. It is difficult to demonstrate these mechanical elements, and equally so to prove the result of these elements upon uterine position. It is evident that the inventors have in many instances taken a wholly different view, both of the principles of construction and of the effects gained, from myself. And this seems the proper place to ask the indulgence of all my friends who have invented pessaries, and which I may classify and comment upon in a manner that does not meet with their approval.

<sup>1</sup> *Am. Jour. Med. Sciences.* April, 1849.

*Class I.*—Those pessaries acting by displacement, reduced to the simplest proposition is that of one bulk displacing another. This implies a more or less fixed point, that of counter-pressure, and the movement of contiguous parts in the direction of the least resistance. We may be able to get my idea of the theory of mechanical displacement from the diagram (Fig. 11). The cube  $E, E, E$ , is forced up in the elastic tube  $A, B, F, G$ . The line  $C D$  represents the direction of the least resistance, and the line  $A B$  the direction of counter-resistance. It follows, there-

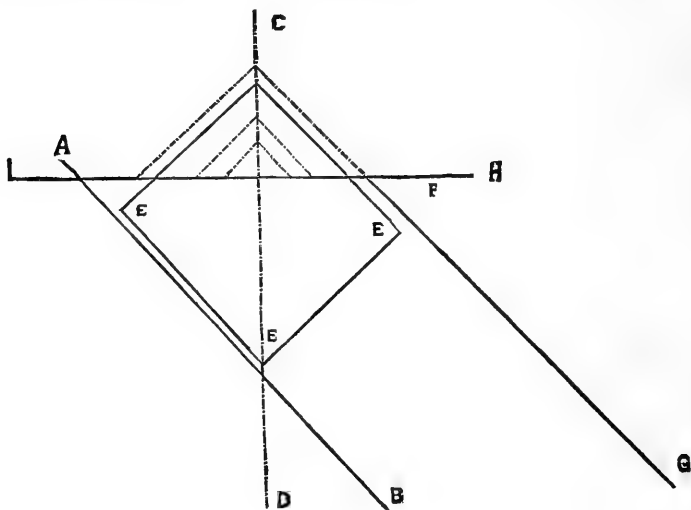


FIG. 11.

fore, that as the line  $AB$  cannot yield, and as the cube is forced onward, the yielding will be in the direction of  $C$ , the least resistance; the line  $I H$  is deflected in a manner represented by the dotted lines corresponding in direction to the upper angle of the cube. The extent of deflection in the line  $I H$  would be limited by the amount of compensation in the line  $FG$ , and would be at its limit an absolutely fixed quantity.

The lines  $A, B, F, G$ , may express the vaginal walls, and



for the cube we may substitute any possible form of pessary that, by mere bulk, will displace the line *I, H*, which expresses the vaginal vault. Theoretically I have represented the displacing force as a cube; in practice it would make no difference what shape the displacing body may have, provided it is of such a shape as to displace or separate widely the vaginal walls. So far as results are concerned, the instrument may as well have been made solid. One of the most perfect of this type is Page's "dumb-bell,"

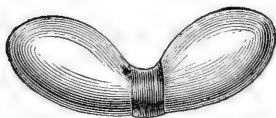


FIG. 12.

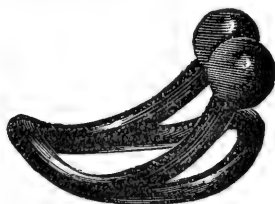


FIG. 13.

(Fig. 12). There is no attempt to disguise its action, and it represents all the others of this class here figured. (Fig.

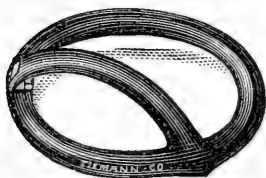


FIG. 14.

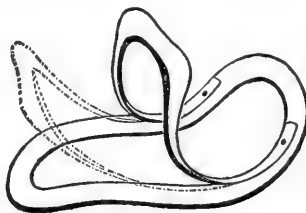


FIG. 15.

13), Pallen's anteflexion, and (Fig. 14), Hitchcock's anteversion, act upon the same principle.

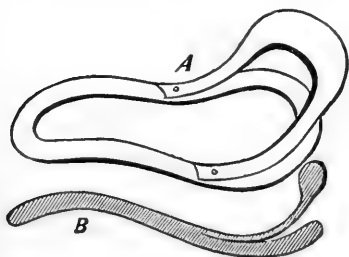


FIG. 16.

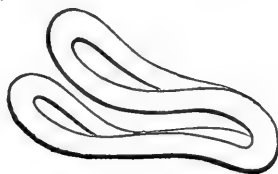


FIG. 17.

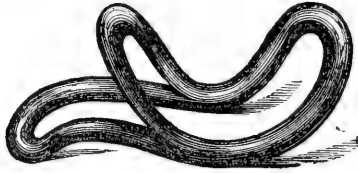


FIG. 18.

A more modern type under this class and group has the displacing force acting from its bulk combined with an elastic or spring force. Of this nature are Cole's anteversion (Fig. 15) and retroversion (Fig. 16), Heywood Smith's retroversion (Fig. 17), and Thomas's anteversion (Fig. 18). Under the most favorable circumstances it is difficult to estimate accurately the value of a spring force; but when a force of this nature is concealed in the vagina we have triple difficulties to contend with; we are in doubt as to the tension of the spring, also as to the degree of force opposed to it, and lastly, that this opposing force is constantly, and to an unknown extent, changing in intensity. An elastic force is one that living tissues cannot contend with. They must yield before it. Witness the effect of the elastic ligature in surgery. On these grounds one would say that such an instrument as Fig. 15 represents could not be worn with comfort or safety, especially as the anterior wall is exposed, which is prone to ulcerate under the best conditions.

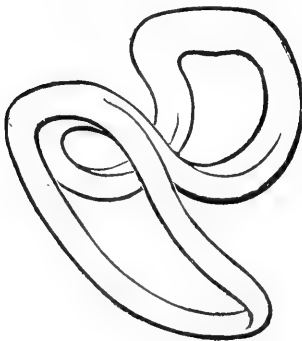


FIG. 19.

Fig. 17, Heywood Smith's, being a retroversion instrument, combines a defective theory with a defective principle; the lower bow, having somewhat the Hodge form, carries the posterior vaginal wall backward, but the tendency of the vaginal cervix to follow it, and thus elevate the fundus, is defeated by the upper bow which crowds it forward and expends the force of

the instrument upon the posterior cul-de-sac.

The antetype of this form of forward displacement pessary is Priestley's, shown in Fig. 19. It is simply an exaggeration of the modern form, and is figured here for its historical interest. The displacement of the anterior vaginal wall is so great that probably it could not be borne but for a few hours.

This displacement theory is generally applied to forward displacements, and is assigned any form of action to suit the idea of the inventor. In theory these instruments are sufficiently correct; but in practice it is surprising to what a limited extent the uterus may be lifted by a displacing force acting upon the anterior vaginal wall. If we conceive the upper angle (*C*) of the cube in Fig. 11, so turned that it will displace the line *FG*, the extremity of the line *G* being fixed, we shall understand how slight will be the deflection that will result. Displacement will result in little more than tension.

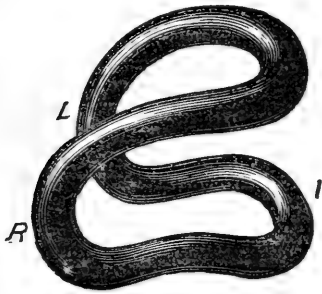


FIG. 20.

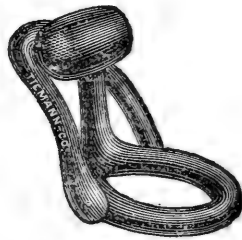


FIG. 21.

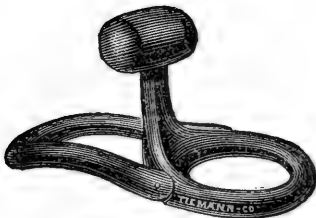


FIG. 22.

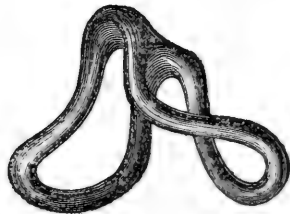


FIG. 23.

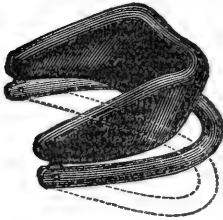
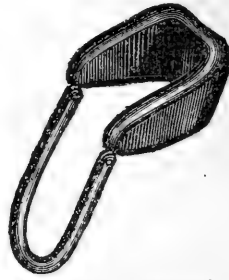
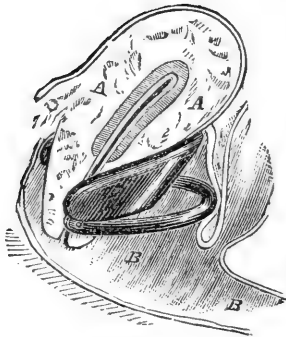


FIG. 24.



For introduction or withdrawal.  
FIG. 25.



Pessary in situ.  
FIG. 26.



FIG. 27.



FIG. 28.

Fig. 20 is Gehrung's anteversion ; its antetype may be seen in Pl. XIV., Fig. 5, in Vulliet's form, which has also been used in prolapsus, and in which it proved useful for its powerful displacing qualities. Figs. 21 and 22, Thomas's anteversion, must, when open as in Fig. 22, place the anterior vaginal wall under such tension as to defeat the purpose for which it was applied. Fig. 23 is Thomas's modification of Hewitt's pessary, and is the most scientific application of this mechanical principle. We see its original form in diagram in Pl. XIV., Fig. 1, and in the same plate, Figs. 2, 3, Beigel's modification is shown. By comparison with Thomas we see that the latter has diminished lateral displacement by contracting the ascending and descending

limbs, which is an improvement. Fig. 11, Pl. XIII., is a still further modification, that of Schultze, with displacing power greatly lessened by lowering the apex. In Figs. 24, 25, 26, Thomas's anteversion is represented in different positions. Fig. 26 shows the instrument in position, and gives the reader a realistic idea of its displacing qualities.

Another of Thomas's anteversion pessaries is shown in Fig. 27. It is essentially the same as Fig. 24 in action, and is probably the parent idea.

It is defective by fixing the vaginal cervix in its upper portion, when the cervix ought to be allowed to move downward and forward as the fundus uteri is raised. In Pl. XIII., Fig. 7, Galabin's anteversion pessary is shown. Radically it is constructed upon the theory of Hew-

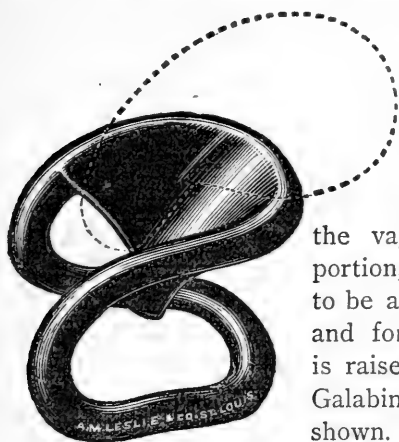


FIG. 29.

itt's. It is a curious fact that, by curving down the extremity *A*, Gehrung has converted it into a retroflexion pessary. Galabin antedates Gehrung about a year. Gehrung's retroflexion instrument, Fig. 30, and his anteversion, Fig. 29, are excellent types of this class. For anteversion, Fig. 29 is fully equal to that of Hewitt, or Thomas's, Fig. 27; but for anteversion, unless in a very relaxed organ, it could avail nothing. Palen's retroversion, Fig. 28, combines the



FIG. 30.

Hodge form with displacement. Notwithstanding the difference in form, and the absence of the spring attachment, the effect is that of Heywood Smith's, Fig. 17.

Pl. XIII., Fig. 9, shows Studley's anteversion, which is constructed upon the excellent plan of an adjustable displacement force in the upright tongue, the only instrument of the kind yet constructed.

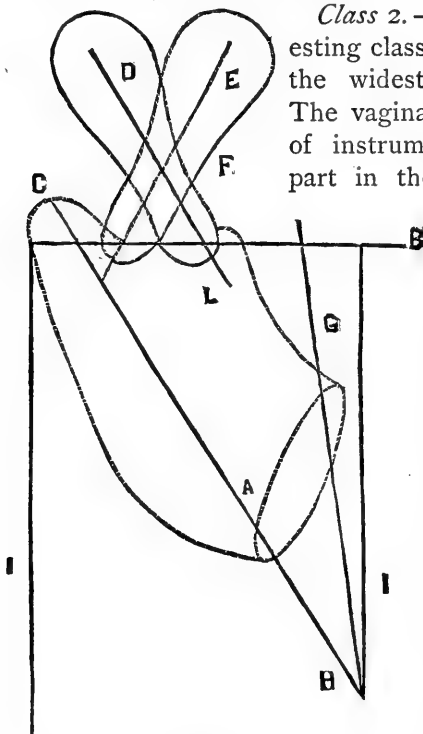


FIG. 31.

upon the vaginal cervix alone, and, by displacing it, the cervix alone responded to the movement, the position of the fundus remaining unchanged, thus relatively increasing the retroversion, or the organ rotated upon its long axis, depressing the fundus, and actually increasing the retroversion. It seems almost self-evident that, upon this theory, the Hodge instrument could not replace a retroverted uterus.

*Class 2.* — This is the most interesting class of this group, and with the widest range of usefulness. The vaginal wall is, by this class of instruments, made to play its part in the reposition of a retroverted or anteverted uterus. The law of uterine mobility is taken advantage of to replace and retain the organ in a position that approximates the norm. Hodge disclosed to gynecologists this wide field of uterine mechanical therapeutics. Yet Hodge did not seem to have a clear idea of the principle upon which his pessary acted. If its mechanism was that of leverage it could act

The diagram, Fig. 31, is an attempt to demonstrate the theory of action of this class of pessaries. Conceive of an elastic tube defined by the lines  $B, I, I$ , and that a force within it is acting in the direction of  $A C$ ; if this force is prolonged in the direction of  $C$  it will deflect the line  $B$ , as represented by the dotted line at  $C$ , and thus draw toward it any point upon the line  $B$  between this point and  $C$ . Obeying this movement, the line  $D L$  will assume the position of  $E$ , turning upon its axis of rotation at  $F$ . Compensation for the movement of  $L$  toward  $C$  is gained by the movement of the line  $I$  in the direction of  $G$ . This seems to my mind the only way in which pessaries of this class can operate beyond the limits of the vagina. It is equally evident to me that these instruments are useful only in versions. In case of flexions, the axis of the uterus, expressed by the line  $D L$ , will respond to the movement of the vaginal cervix, but remain in its distorted condition. The mere rotation of the organ will not straighten it.

First in point of interest are Hodge's instruments in their original form. Pl. XIII., Figs. 1, 2, 3. The instrument represented by Fig. 1 is now but little used. It is more particularly indicated in urethral and *bas fond* irritation of the bladder. Of all instruments of the class, the Albert Smith modification of Hodge is the most universally in use. The form of this modification of Hodge varies very greatly according to the ideas of the author who refers to it, or the instrument makers. Figs. 5 and 6, Pl.

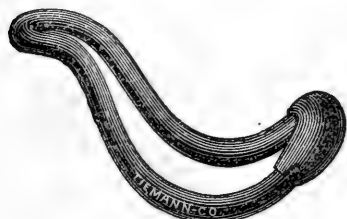


FIG. 32.



FIG. 33.

XIII., and Figs. 32 and 33, showing Thomas's modification of the Smith-Hodge, give a good idea of these changes

of form. Eight other alterations in curve and lateral outline are named and sold, but they do not deserve place here. Chamberlain's pessary, Figs. 34, 35, is the most radical change which the Hodge form of instrument has undergone. It can be worn with considerable comfort, but shows a marked tendency to drop down from its place, owing to the slight grasp of the vagina upon its lower limb. Carroll's instrument, Fig. 36, is a spring pessary, and its central constriction, being firmly grasped by the vagina, gives it great

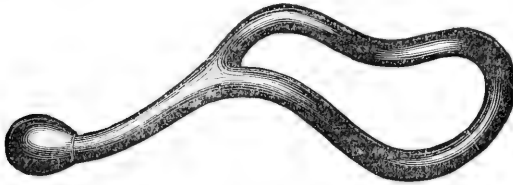


FIG. 34.



FIG. 35.

supporting power. It cannot, in my view of its action, correct a flexion. Woodward's pessary, Fig. 37, must be classed among the modifications of Hodge-Smith. It is simply furnished with a "cross-bar" to give additional support to the uterus. Scattergood's

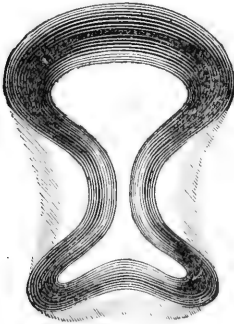


FIG. 36.

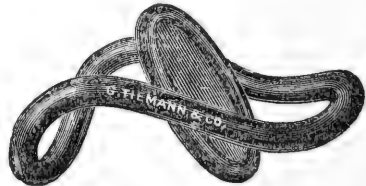


FIG. 37.

pessary, Pl. XIII., Fig. 8, has a spring concealed in its lower limbs. Aside from the error of its construction, it easily gets out of order, and becomes foul.



One word as to the general principle of construction of pessaries of this class. A pessary upon the Hodge plan retains its position in proportion to its amount of reversed curve. The Hewitt form (Pl. XIII., Fig. 4), while it corrects the uterine position perfectly, is constantly getting out of place, owing to the slight amount of curve. The same may be said of the Schultze instrument (Pl. XIII., Fig. 10); although the inventor endeavored to secure vaginal grasp by twisting the pessary twice upon itself in its long diameter, yet the general contour is straight, and the pessary easily drops out of place from supra-pelvic pressure. If, however, the curve is too great, it interferes with the traction exerted by the vaginal vault upon the cervix, and puts such a strain upon the walls of the passage that it cannot be borne.

The third class of this group is quite a modern and useful one. The distinguishing trait is the mechanical fixation of the vaginal cervix, so as to limit its lateral and antero-posterior rotations. This class has considerable reputation among those who have a prejudice against the intra-uterine stem of replacing a flexed uterus, and certainly, from their ability to firmly fix the cervix, they come nearer to this result than any other class of vaginal pessary. Many of these instruments combine other mechanical principles, but it is doubtful if these complications add any efficacy to the pessary.

Hoffman's pessary (Fig. 38) would accomplish considerable uterine rectification if it could be retained in proper adjustment. When small it is crowded too far back in the posterior cul-de-sac, and when of full size is not worn with comfort. The uterine neck, even when the central opening is of sufficient size, is pressed down with force enough to retard the circulation, and the discharges of the part add to danger of erosion. Soft rubber is always a bad material for a pessary. Hurd's instrument (Pl. XII., Fig. 6) carries out the same idea in a better way. It is polished and vulcanized, and more easily kept clean, but its effect upon the inclosed vaginal cervix is the same as

the Hoffman. Unlike the latter it is very easily introduced and removed, while the Hoffman is, after being worn some

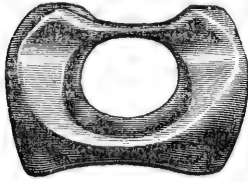


FIG. 38.



FIG. 39.



FIG. 40.

time, held with a vice-like grasp, owing to atmospheric pressure. Woodward's instrument (Fig. 39) is a modified Hodge, with an arched bar in front of the posterior curve which impinges upon the anterior vaginal wall. In very sensitive parts it cannot be borne. Fowler's (Fig. 40) has great reputation, and is a very useful instrument. The bow form is the one represented, and in my own experience is not an improvement. Fitch (Fig. 41) and Studley's (Pl. XIV. Fig. 6) are instances of the endless combinations which may be made on the Hodge form. The fixation in this combination is too great to be used with either comfort or

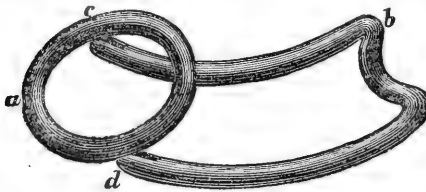


FIG. 41.

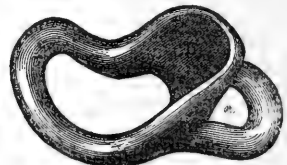


FIG. 42.

safety in the majority of cases. Thomas's anteversion (Fig. 42) is another variation of the principle of the Hodge, but fixation is very much less than in the two last examples, on account of the shorter projection into the grasp of the vagina. Schroeder's eccentric ring (Pl. XII., Fig. 7) combines

displacement with fixation, and is given for the purpose of showing the way in which the various groups merge into each other. All the instruments of this class might be used in cases where sensibility and engorgement of the parts are removed, and the case has settled down into hopeless displacement. Even here they are attended with one great drawback. In cases selected as above, the patient ought to be able to remove and adjust her support at her own option. I have found it very difficult to instruct the average woman to do this with this class of pessary.

GROUP III. — This group includes all those instruments known as intra-uterine stems. They are almost exclusively used for the correction of flexions of the uterus. Within their sphere they are theoretically the most perfect, practically the most useful. It is one of the oldest forms for the correction of versions or flexions of the uterus. In 1843 Simpson showed to the Medico-Chirurgical Society of Edinburgh both forms of the intra-uterine stem; while it was not until 1846 that Kilian introduced his elytromochlion. Both these instruments were followed by a numerous progeny. Gynecologists have been loath to abandon the mechanical theory of the intra-uterine stem. They have



FIG. 43.

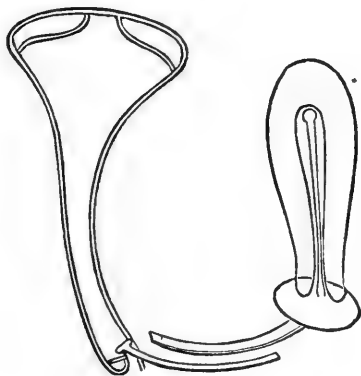


FIG. 44.

thus thought to evade supposed dangers by giving the instrument a great variety of forms. No advance has been made upon the first form of Simpson. To him we owe

the instrument, and to him also we owe its most dangerous variation.

*Class 1* in this Group III. is that form of the intra-uterine which is secured in place by support external to the body. Fig. 43, known as Cutter's, is one of its modern forms. By comparing it with Fig. 44, Simpson's "third form," it will be seen that the variation is not material.

Another slightly modified form of Simpson's instrument, copied from Winckel, is shown in Figs. 2, 3, 4, Pl. I. This author is in error in assigning the instrument of Kiwisch five years priority over Simpson's pessary.<sup>1</sup> Kiwisch's instrument (1847) is shown in Fig. 1, Pl. I.; Valleix (1850), Figs. 1, 2, Pl. II., has an inflatable rubber ring attachment, but it does not act as a guard against the dangerous penetration of the intra-uterine part of the instrument. Kilian (1849), Fig. 1, Pl. III., is of the same dangerous character. Beigel has invented the most inoffensive instrument of the class. It consists of an intra-uterine stem attached to an inflated rubber ball, and the tube through which the ball is inflated is caught up in a belt around the waist (Pl. III., Fig. 2.)

These instruments are figured in the interest of history rather than as being of any practical value. They violate every law governing the use of the intra-uterine stem. This group of pessaries owes its ill-repute to one of this class,—that of Valleix. I know of no good author who recommends their employment. There will probably never be a revival of this form.

*Class 2.*—Intra-uterine stems combined with various forms of vaginal pessary:—

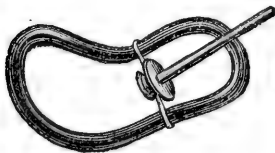


FIG. 45.

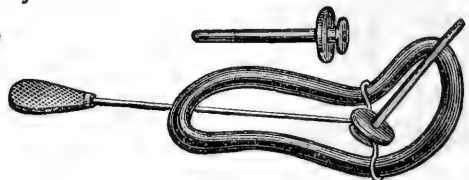


FIG. 46.

<sup>1</sup> *Selected Obstet. and Gynecol. Works of Sir J. Y. Simpson*, p. 706. New York. 1871.

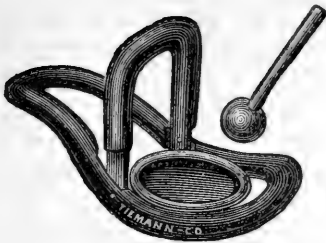


FIG. 47.

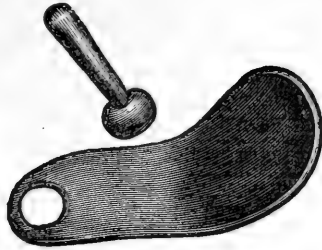


FIG. 48.

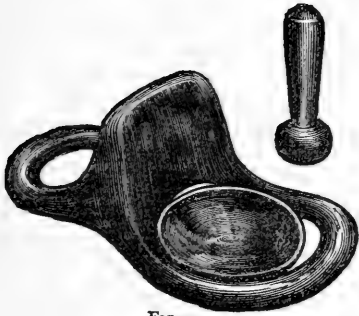


FIG. 49.



FIG. 50.

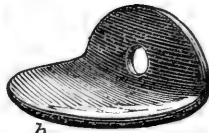


FIG. 51.



FIG. 52.

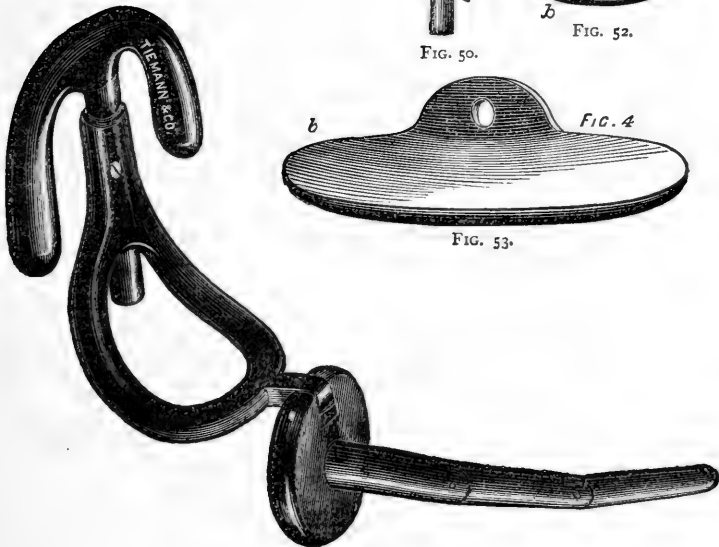


FIG. 53.

FIG. 54.

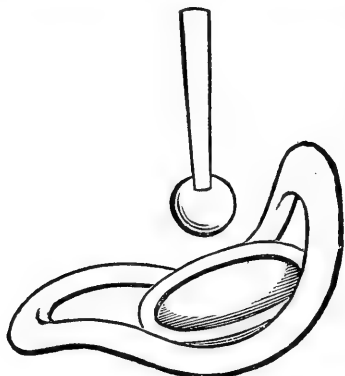


FIG. 55.

This combination is made for the purpose of correcting the tendency of a corrected flexion to result in a version. A simple intra-uterine stem may straighten a flexed organ, but of itself has no power to lift the depressed fundus. Almost any simple vaginal pessary that will correct a version — especially a retroversion — may serve for the vaginal attachment. Two rules must

govern us in the selection of the combined instrument: That the vaginal pessary does not produce undue uterine fixation; and that the intra-uterine stem be not too rigidly attached to the pessary.

Kinloch's instruments (Figs. 45, 46) are good examples of what a pessary of this kind should be. Fig. 47 is very liable to produce undue uterine fixation, but it will be observed that the stem has no fixed attachment, but plays in a cup-shaped depression between the limbs of the pessary. The pessary is by Dr. Thomas, and is, I suppose, abandoned by him, as it has no place in the later editions of his book. As it is offered to the trade, however, it is worth a notice. Thomas's other forms of anteflexion stem pessaries (Figs. 48, 49) are theoretically perfect. A lateroflexion stem pessary by the same author (Fig. 55) meets all the limitations which govern the use of these instruments. Mossman's pessary (Fig. 54), notwithstanding its novel profile, is a modified Hodge; its improvement consists in a jointed stem, and by the freedom of movement to the stem by its attachment to the pessary. It strikes me, however, that less tension would be exerted upon the os externum if the stem was planted in the centre of its disk instead of posterior to it, and if the lower part of the pessary was curved the reverse of the upper part the bladder and urethra might be saved possible pressure. The instrument

deserves trial. Bad examples of this form are seen in Figs. 1, 2, Pl. IX. — the Hodge-Simpson form. In this instance intra-uterine stem and pessary must move together, and the uterus be constantly subjected to a double strain. The Barnes pessary shows a similar instrument with this error corrected (Fig. 3, Pl. IX). The Williams (Fig. 4, Pl. IX.) and Winckel's (Fig. 2, Pl. VIII.) have the stem resting upon a perforated elastic diaphragm. Winckel's pessary, notwithstanding the great size of the ring, can conserve no other purpose than the simple one of sustaining the ring. Studley's pessaries (Figs. 6, 7, Pl. VIII.) have the stems supported by elastic bands crossing from limb to limb of the Hodge-Smith instrument, and are nearly ideally perfect. Schultze's (Fig. 5, Pl. VIII.) for anteflexion, must be an exceeding difficult pessary to adjust, while the larger part of the figure of eight must exert an undue tension on the anterior vaginal wall. Winckel's modification of Valleix's pessary (Fig. 1, Pl. VIII.) must, from the size of the ring to which the stem is tied by strings, rather tend to increase the tendency to retroversion. Chadwick's form (Fig. 3, Pl. VIII.), would evidently serve a very useful purpose when the tendency to retroversion is not strong. Winckel's original form (Fig. 3, Pl. VII.), the Simpson-Martin (Fig. 1), and Hewitt (Fig. 2, Pl. VII.) possess the common error of drawing the vaginal cervix forward, and thus tend to retrovert the uterus, instead of carrying the vaginal portion backward, a movement opposite to that of retroversion. Schultze's form (Fig. 5, Pl. VI.) has the stem attached in too rigid a manner, as well as having the error in construction of those last mentioned. Another form by the same author (Fig. 7, Pl. VI.) for anteflexion has the stem rotating upon a shaft between the limbs of a Hodge pessary, and its movement controlled by an extension of the stem at nearly right angles to it from the under side. Detschy's, of which two forms are given (Fig. 1, Pl. IV., Fig. 6, Pl. VI.), is an exceedingly dangerous form, and too strong language cannot be used in its condemnation. Strong language is happily not required; the instrument is obsolete. Cutter's

pessary (Fig. 4, Pl. VIII.) is a most unfortunate combination, every law governing the proper use of a pessary is violated in its construction. Another form of stem of this class consists of such a vaginal extension of the stem itself that the version is corrected by the same means which removes the flexion. Amann's intra-uterine stem (Fig. 2, *a* and *b*, Pl. VI.) for ante-flexion has the stem terminate in a flattened disk extending into the vagina parallel to the axis of the stem. After the stem is introduced the vaginal part is wedged backward by cotton, and the uterus maintained in an erect position. The instrument is very perfect in theory, but requires constant attention from the physician to keep the cotton in place. Taken altogether, grouped and classified, it is a stem pessary belonging to Group II., Class I, acting by displacement. My own form of pessary of this class is shown in Figs. 50, 51, 52, 53. A light stem rests before a shelf turned at right angles to a broad disk, *b*. The tendency to anteversion of the uterus after the stem is in position forces the disk *b* against the posterior vaginal wall, thus holding the uterus at about a normal inclination, while the posterior vaginal surfaces give an elastic and yielding support to the disk. The stem has great freedom of movement upon the vaginal attachment. As shown in the cuts, the disk may be given various forms to meet the requirements of different cases. Introduction is very simple; a wire is inserted into the part *D* of the stem (Fig. 50), and the stem is introduced as though it were a sound; after introduction the vaginal attachment is run on the wire as a guide, the end *D* is inserted into the opening of the disk, and the wire removed. The stem is worn with great comfort, especially in irritable bladder. The instrument was published in 1876.

*Class 3, Group III.* The self-retaining form has but few varieties. These instruments are designed for flexion of the uterine cervix, and especially of the vaginal portion. Methods of simple self-retention are out of the question in flexion located at the os internum, or of the uterine body; for, when situated at these points, uterine expulsive effort



is, at times, so strong that every form of intra-uterine stem may be expelled. When the flexed point is at the lower neck, the relative position of the organ above may be normal. This normal, forward inclination permits the os externum to rest lightly against the posterior vaginal wall in such a manner that a light intra-uterine stem may be prevented dropping out. An instrument such as is shown in Fig. 56 is very useful for this

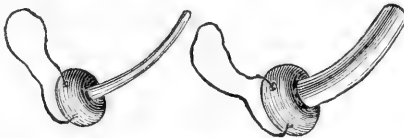


FIG. 56.

purpose, and is worn with the greatest ease and comfort by young girls, who are sometimes the greatest sufferers from flexion of the vaginal neck. Fig. 57 represents a form of my own which I occasionally use. The upper part of the stem is perforated, through which passes a short piece of pure gum tubing. It works very well in cases in which an intra-uterine stem has been worn for some time, and the explosive irritability of the organ diminished. As flexions at the os internum or uterine body are those forms of distortion in which we simply correct a flexion that we may contend afterward with a version, this, or any other form of self-retaining stem, is contra-indicated. Squarey's instrument is represented by Figs. 5, 6, Pl. IX. The pessary is flexible, and is introduced stretched out as in Fig. 6; by withdrawing the extending force the upper part of the tube expands, as shown in Fig. 5. The pessary has given excellent results in the hands of the inventor.



FIG. 57.

*Class 4. — The Spring, or Diverticulating Intra-uterine Stem.* This class is also a self-retaining form, but it differs so widely from Class 3 that it deserves separate study. While upon the subject of the displacement pessary with spring

action (Group II., Class 1), I referred to the difficulty of estimating the force of a confined spring, and the injury that elastic pressure was prone to inflict upon the soft parts. These objections hold good with double force when this elastic pressure is confined within the comparatively unyielding uterine cavity, and acts upon tissues disposed to resent continuous pressure. How slight this force may be, and yet excite uterine expulsive effort, the elasticity of the small cross-section of tubing in my own self-retaining form has convinced me. I generally found that these were not well borne unless previous tolerance had been gained by the use of the sound, or simple intra-uterine stem.

The idea of holding the instrument in place by elastic separating intra-uterine branches of the stem is an old one. In 1850 Kiwisch invented one of this class, which, regarded across the great space covered by achievement rather than by time, and which divides the present from the past in the history of gynecology, seems an impossible thing to apply to the uterus. Figs. 1, 2, 3, Pl. XI., give a fair idea of the instrument. The dividing branches *a* are drawn together by the cord *k*, operated by a screw at *m*, in the handle *e e*. Fig. 3 shows the handle as removed from the canula *i c*, and Fig. 2 represents the intra-uterine branches spread apart *in situ*. Figs. 4, 5, Pl. XI., exhibits Carl Mayer's improvement, which consists in guiding the cord over the convexity of the branches, instead of the concavity as shown at *k, a*, Fig. 1. The instrument is given here for its historical importance. It is an interesting fact in the history of these two instruments, that their descriptions appear as consecutive articles in the same number of the "Verhandlungen."

Fig. 1, Pl. X., exhibits Simpson's pessary; the springs are compressed for introduction by a ring, and released by drawing upon cords attached to the ring and passing through its vaginal bulb. It is figured full size, and is a powerful instrument. Fig. 2, Pl. X., represents Wright's, and is a much less objectionable pessary than that of Simpson. It is introduced by means of a handle that compresses the

blades, which is figured at *A*. Fig. 3 shows the instrument in position. Fig. 4 of the same plate is Chambers's modification of the last inventor's pessary, still further modified and figured by Biegel. It is difficult to understand the improvement over the original form of Wright's. Fig. 5, Pl. X., is the form of Chambers's. It is introduced by means of the handle *A*, which draws down the flange *C* as the handle is removed. It is well tolerated, and its field of usefulness, like that of all this class, except its Kiwisch and Mayer forms, is in flexions of the lower portions of the uterine neck, where the tendency to version is slight or wanting. Fig. 6 represents Aveling's pessary. The blades are confined by passing through a short canula, and are released by forcing the spring forward by means of the handle *B*. The action of the canula is well shown at *A*. Wright's and Chambers's instruments have been extensively used in England, and are quite well borne. The certainty of retention, especially in cases of dysmenorrhea due to flexion of the lower neck, has tended to make them popular. Other forms of self-retaining stems, or with simple vaginal attachments for retention (Class 5), not rarely become displaced just at the moment when they are most needed. My own experience of these pessaries shows that menstruation, while the instrument is worn, is more profuse and lasts longer than when the simple stem is employed. Careful supervision must be had over the patient while wearing instruments of this class.

*Class 5. — Intra-uterine Stems with Simple Vaginal Attachment necessary for Retention.* This class includes the ideally perfect intra-uterine stem. In all those cases in which a corrected flexion does not result in a version of such a degree that its replacement is required, this form of instrument is indicated. The vaginal part is added to the intra-uterine for the purpose of retaining the latter in position, nothing more. The greatest confusion has prevailed as to the size of the vaginal attachment necessary to accomplish this purpose. The illustrations of this class exhibit the great diversity in size. As a rule, the vaginal

attachment should be no larger than is necessary to retain the stem in position; that is, to resist the force of gravity and the uterine expulsive force. If there is any excess in size over this, normal uterine mobility is restricted, the function of the near parts may be disturbed, or the vaginal part may become displaced by expulsive efforts in defecation.

The form which I have used for many years, and after numerous trials of other instruments, is shown in Figs. 58 and 59.



FIG. 58.

The stem in Fig. 58 is actual size. I have the stems made after measurements of the uterine cavity. Sometimes, but rarely, the stem is made one fourth or three eighths of an inch longer, but never of greater diameter than in the cut. A wire is run into the end *a*, the cervix is exposed by a Sims' speculum, and firmly held by a tenaculum, and the stem introduced in the same manner as a sound. The flange, also actual size,

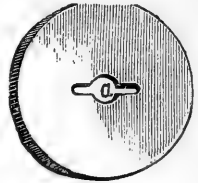


FIG. 59.

is slid over the wire through its central opening *a* until it is placed upon *a* of the stem (Fig. 58). At times difficulty is met in passing the flexed point; in this case a sound with proper curve is first passed and the uterus straightened, and held in that position for a minute or two, when, on the next trial, the stem will probably pass easily into the uterine cavity. If, however, it should not, use the sound a second time. Patience and gentleness of manipulation must be cultivated as an art by the physician who aspires to treat uterine flexions successfully. I have, on very few occasions, used a flange larger than that shown in Fig. 59. It will happen now and then that the flange and stem will get displaced. The remedy is a simple one: replace them, remembering that if a stem is so securely held in place by vaginal attachment that it cannot become displaced it is probably too good a fit, and the patient cannot wear it.

Fig. 60 represents Dr. Sims' intra-uterine stem. I have never used it, and am not aware that Dr. Sims has ever formally brought it before the profession; but the instrument has too many merits to neglect giving it a place in a monograph of this description. It deserves attention for the free motion of the stem upon the retaining portion, certainty of retention furnished by a ring over a solid vaginal part, and is evidently easy to introduce.

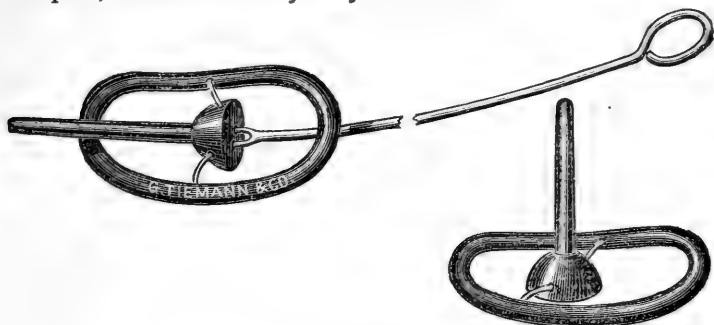


FIG. 60.

Fig. 61 represents Donaldson's pessary. It is a very recent invention, and deserves notice on account of the ingenious attachment of the intra-uterine stem to the retaining portion. The stem is fixed in the centre of a rubber diaphragm, which allows free movement in any direction. Another advantage has been noticed with reference to several other instruments, namely, the superior retaining power of an open or horse-shoe form over a disk or solid retaining part. One disadvantage it possesses in common with all forms of intra-uterine stems in which the stem is a permanent attachment to the retaining part. It is difficult to introduce the latter into the vagina while the former is being introduced into the uterine cavity. In some cases it is difficult to in-

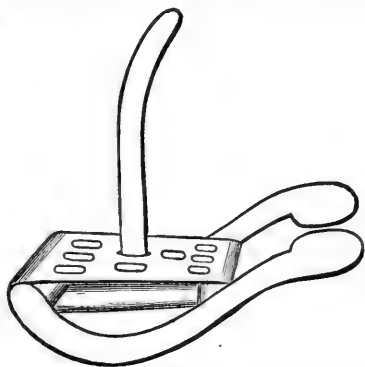
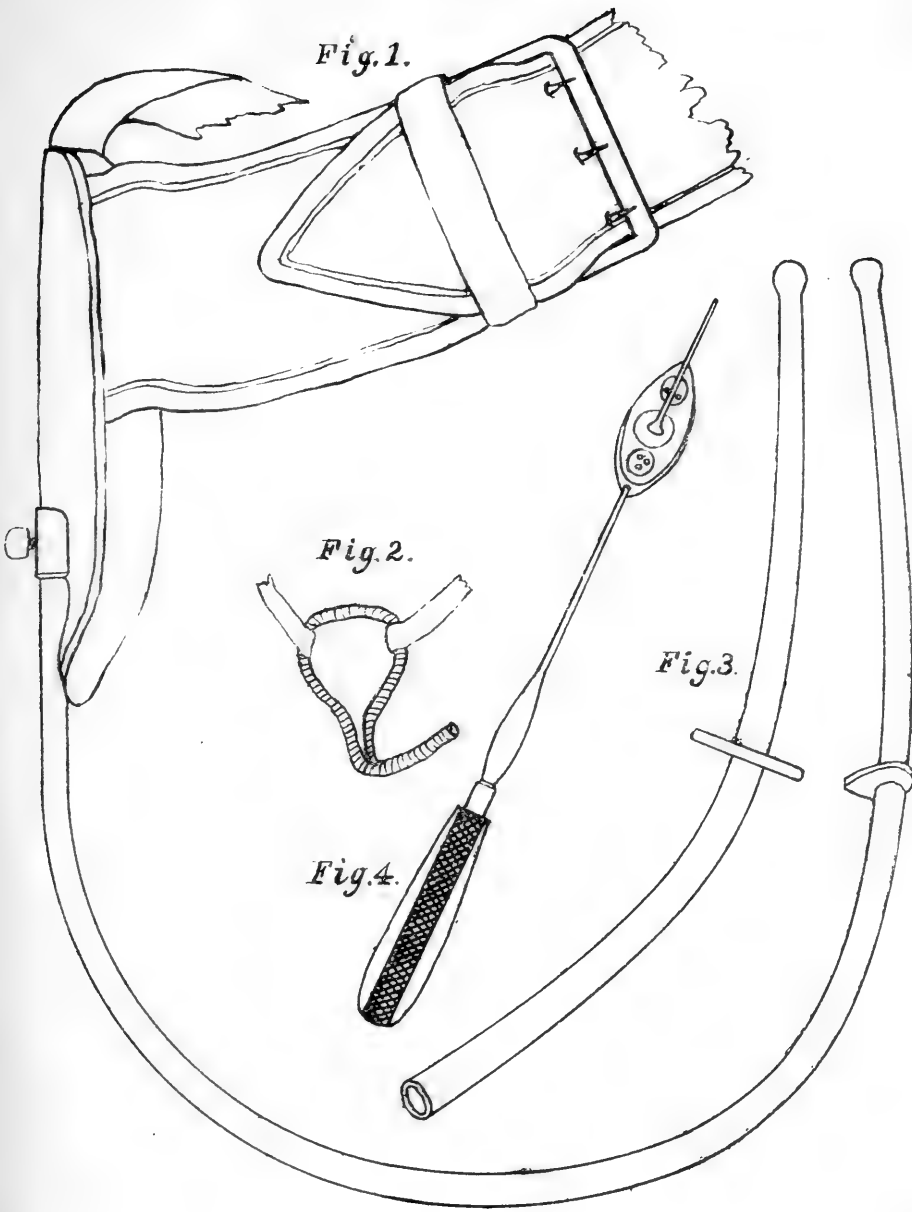


FIG. 61.

roduce even a sound, and in cases in which the vagina is narrow, as in virgins, who are very frequent subjects for intra-uterine stems, there is no room for the retaining portion, which ought, on this account, to be a separate part of the instrument.

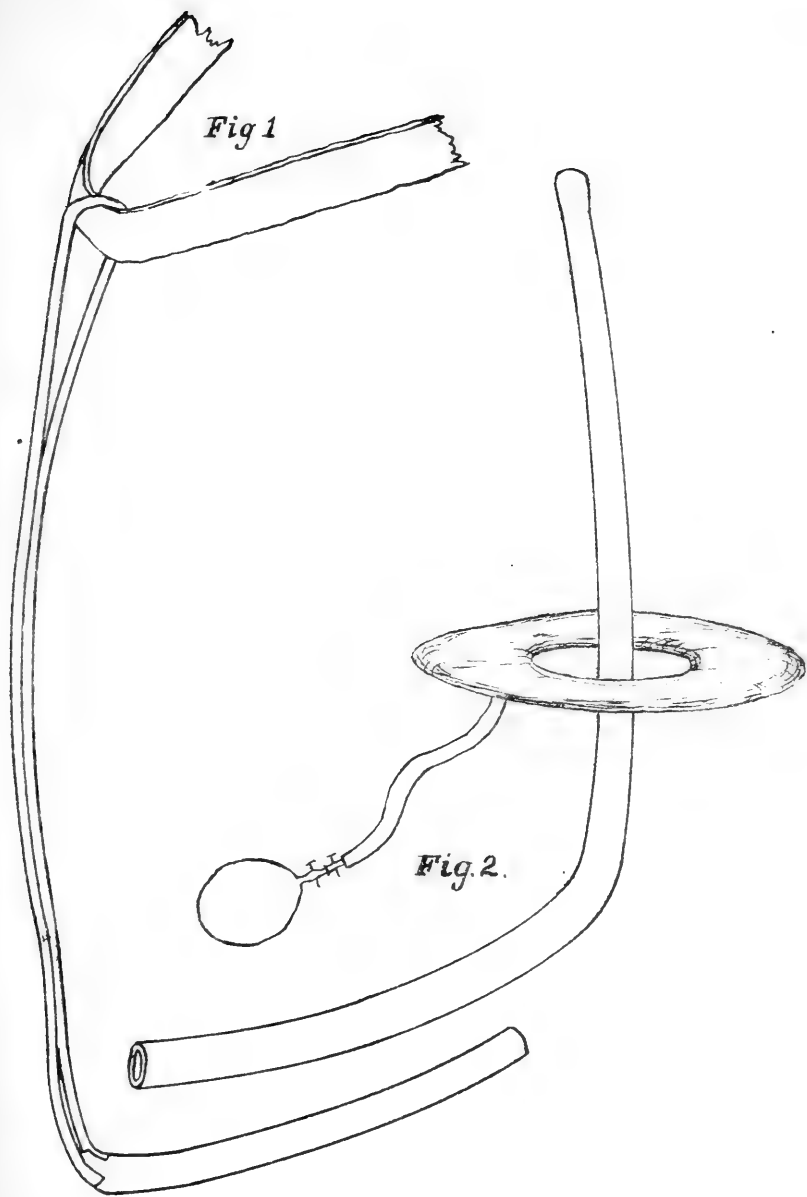
Simpson's forms of pessaries of this class are shown in Figs. 1, 2, 3, 4, 5, Pl. V. They are among the oldest forms of the instrument. Indeed, to Simpson we owe the first practical use of the intra-uterine stem; that he abandoned the idea later in life is evidence of his too indiscriminate use of it, rather than of any fault in the method itself. Fig. 4, Pl. I., shows another form of Simpson's pessary. Cazarewitch's pessaries are exhibited in Figs. 6, 7, Pl. V. Fig. 6 is made of glass, and shows a twisted form, the advantage of which is doubtful. The pessary represented by Fig. 7 is hollow, which, I think, is the result of a mistaken idea of the office of the stem. Shroeder's form (Fig. 8, Pl. V.) is closely after the model of Simpson. Fig. 9, Pl. V., expresses Peaslee's pessary. It also follows the model of Simpson (Fig. 3, Pl. V). The second bulb is attached for the purpose of retention. It is a very useful pessary, and holds its place securely. The hinge attachment for retention purposes is useless. The vaginal part is sure to collapse from the pressure of the passage. Conant's (Fig. 3, Pl. VI.) and Edwards's (Fig. 4, Pl. VI.) are examples. Tait's pessary, another model after the design of Simpson, is, from the structure of its bulb, held in place very imperfectly. It is shown in Fig. 1, Pl. VI. C. Braun's stem (Figs. 4, 5, Pl. VII.) has the retaining part in the form of a small globe detached from the stem, and perforated so that it may be attached to the stem. Its distinctive feature is the extreme curve of the stem. Curved stems are worn with great comfort. In very acute and strong flexures it is necessary. The normal uterus is not a straight organ, and the perfectly adapted stem ought to conform to this normal curve. E. Martin's pessary, shown in Fig. 6, Pl. VII., closely follows the model of Braun. In both these pessaries there is evidently no advantage to be gained in the globe form of the retaining part.

Fig. 1.











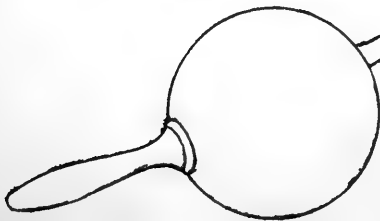
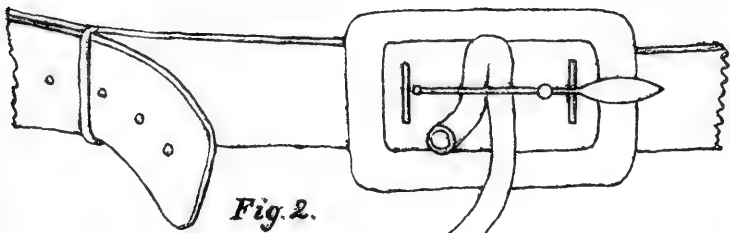
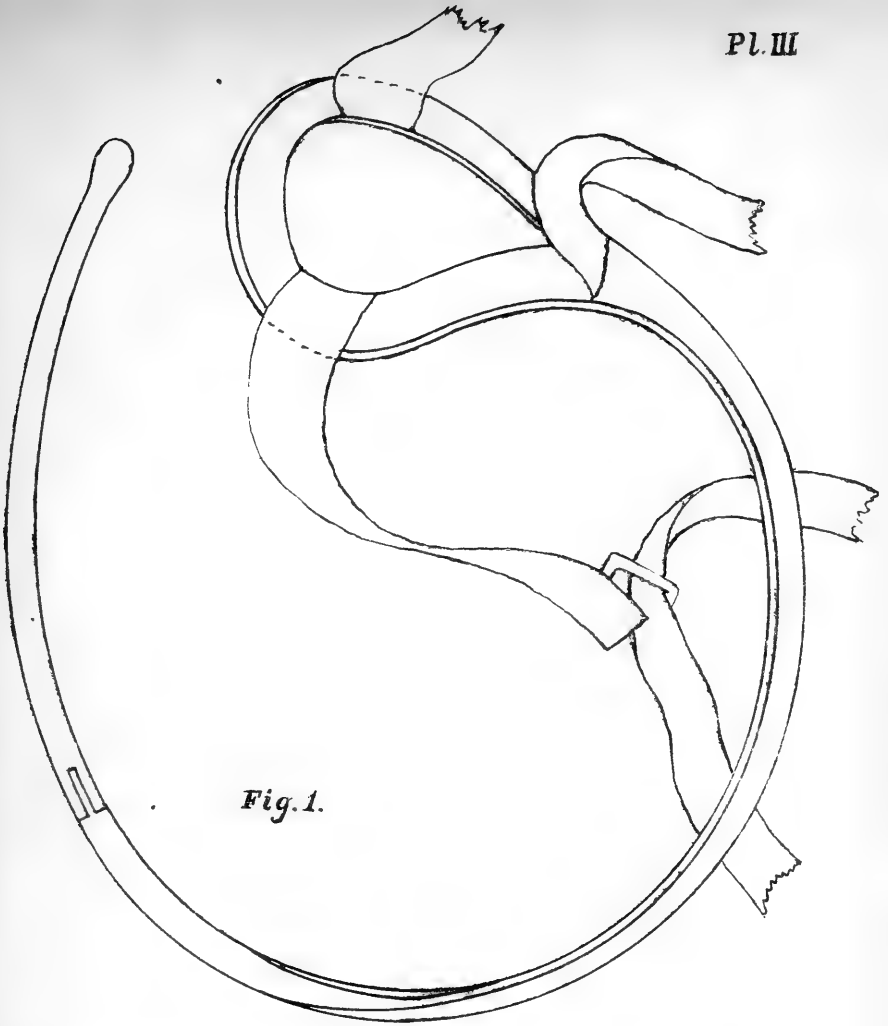




Fig. 1.

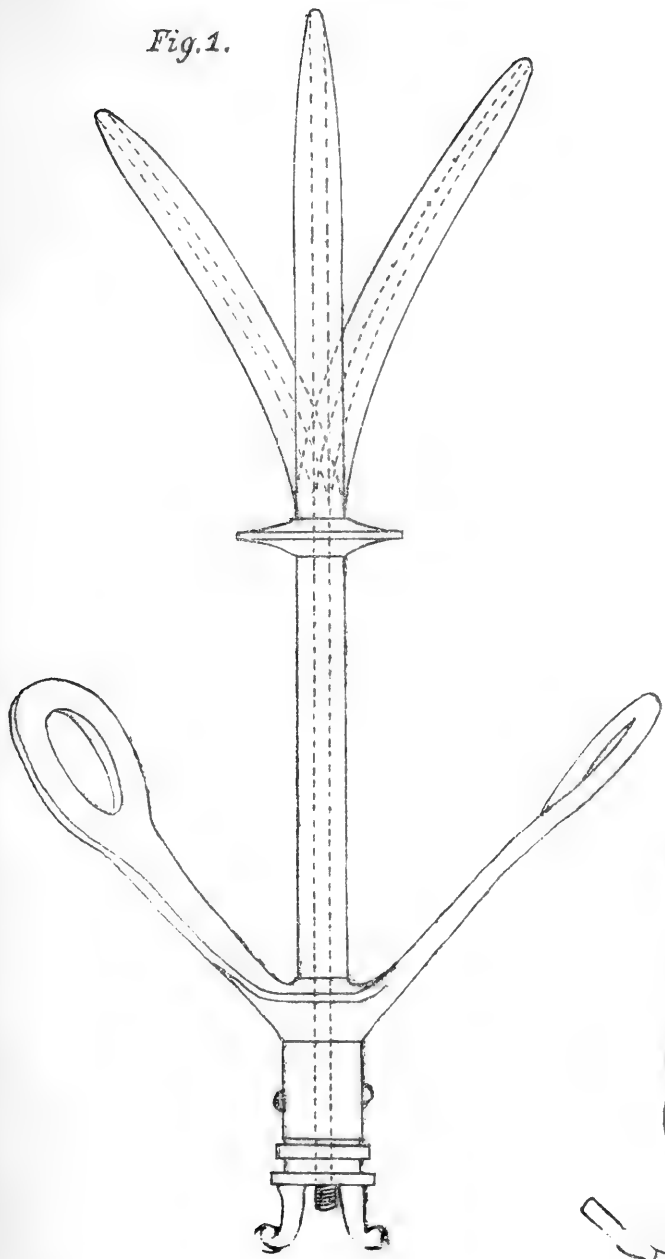
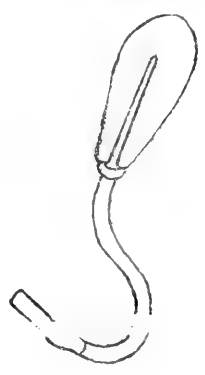


Fig. 2.





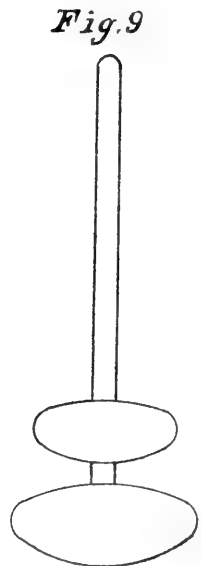
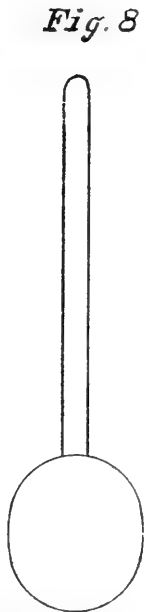
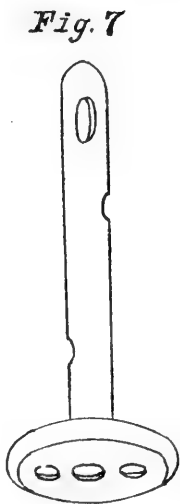
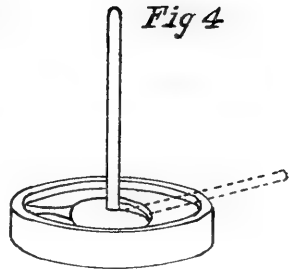
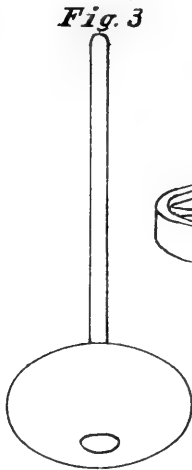
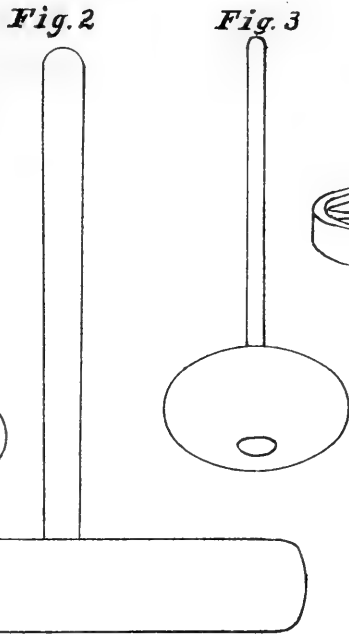
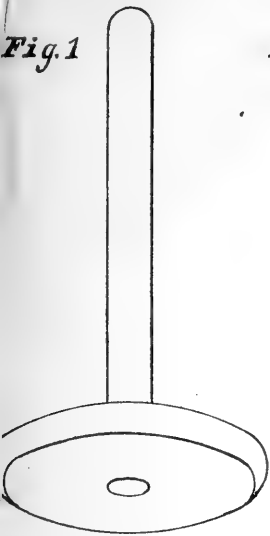








Fig. 1.

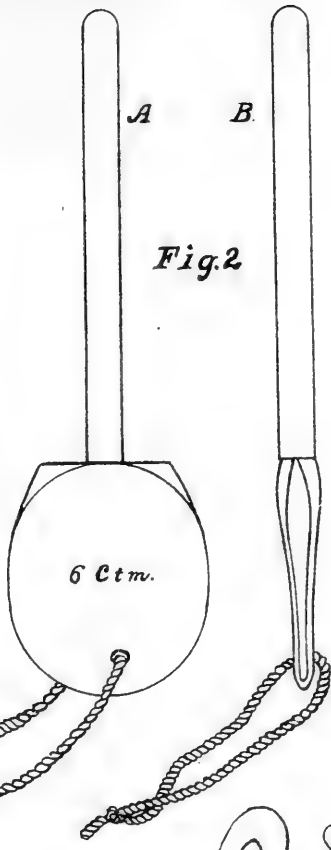


Fig. 2

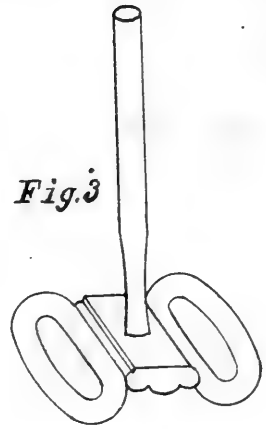


Fig. 3



Fig. 4

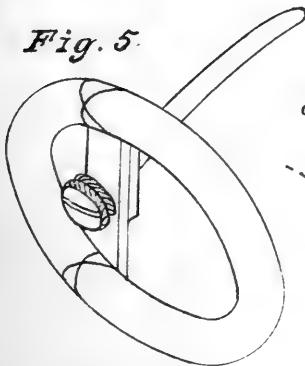


Fig. 5.



Fig. 6

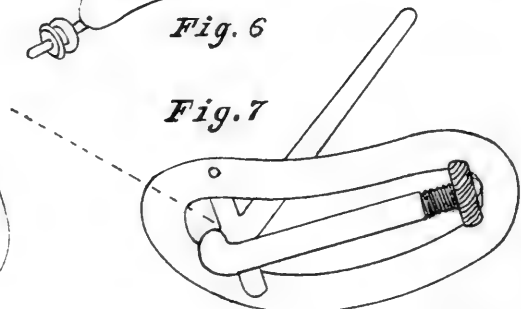


Fig. 7



Fig. 1

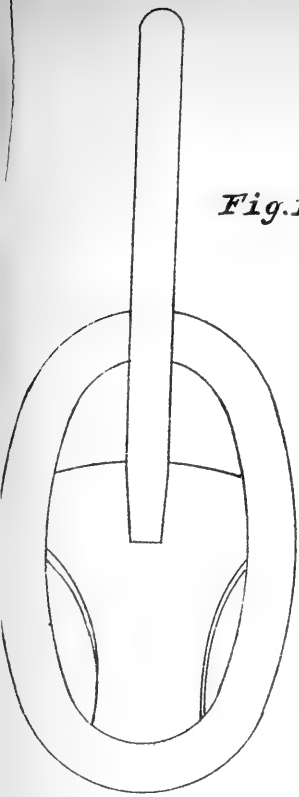


Fig. 2

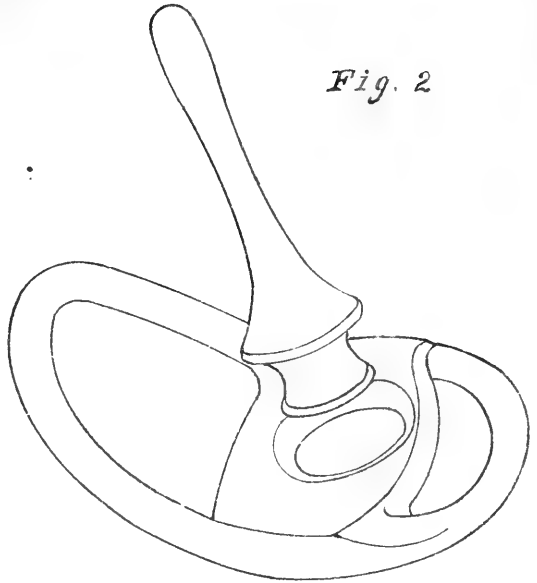


Fig. 3

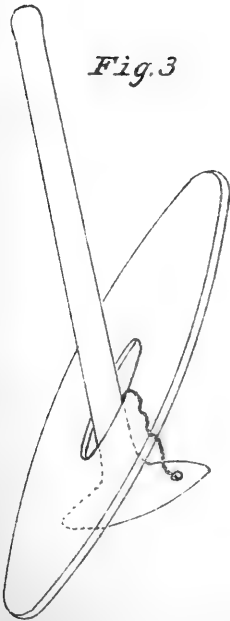


Fig. 4

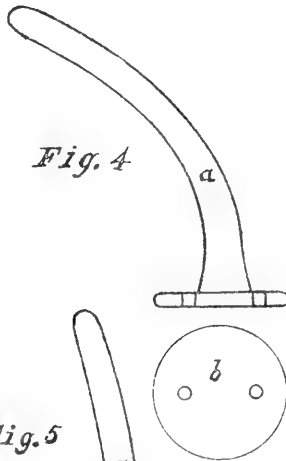


Fig. 5

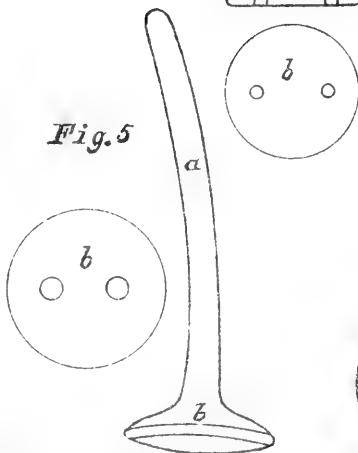


Fig. 6

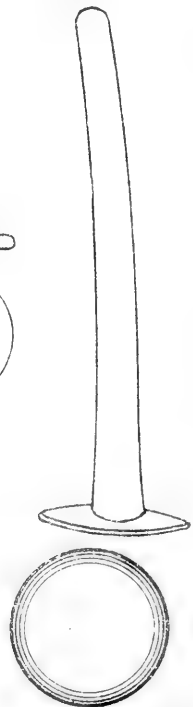




Fig. 1

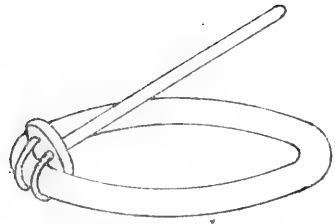
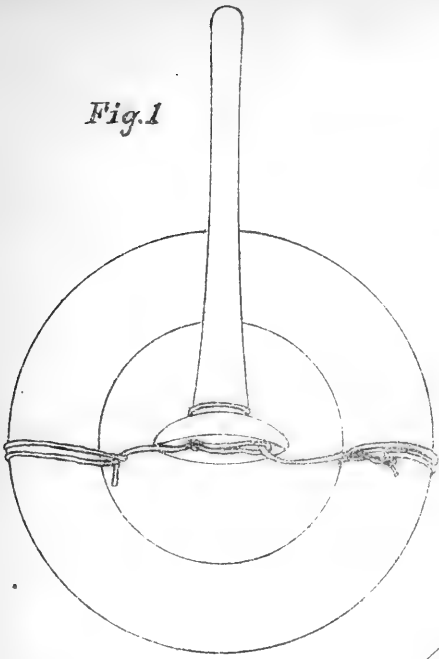


Fig. 3.

Fig. 4

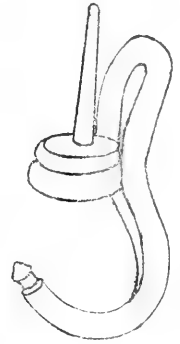


Fig. 6



Fig. 5.

Fig. 2.

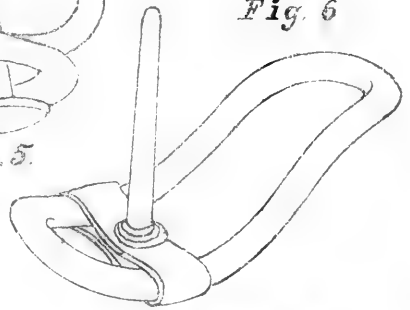
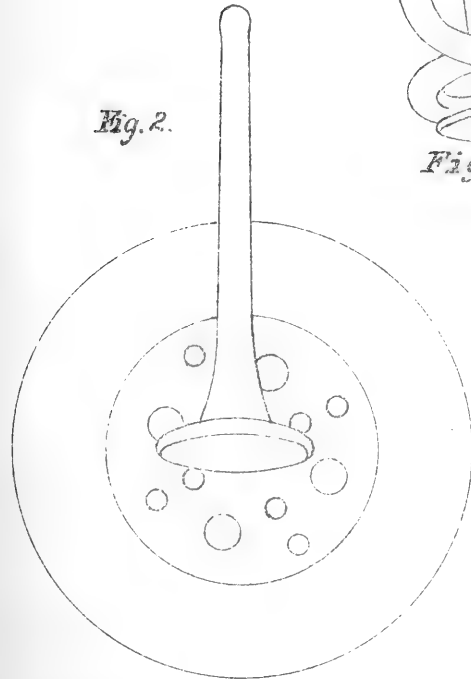


Fig. 7

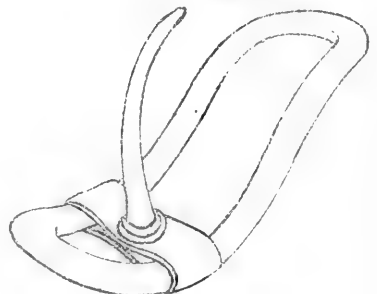




Fig. 1

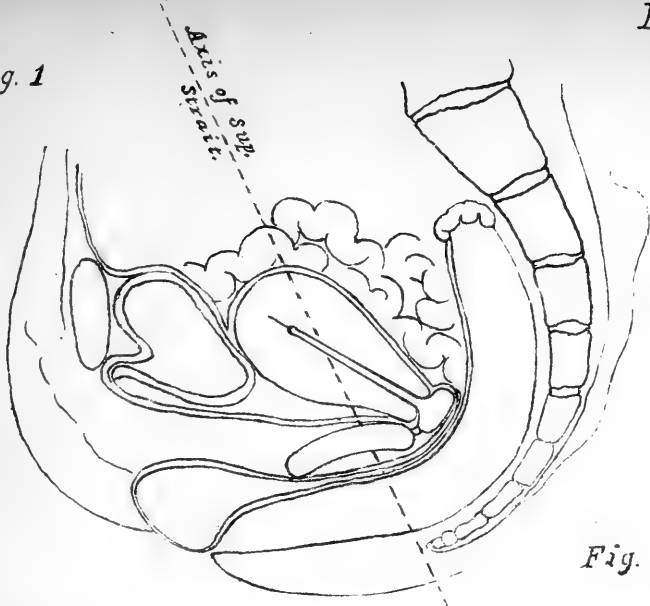


Fig. 3

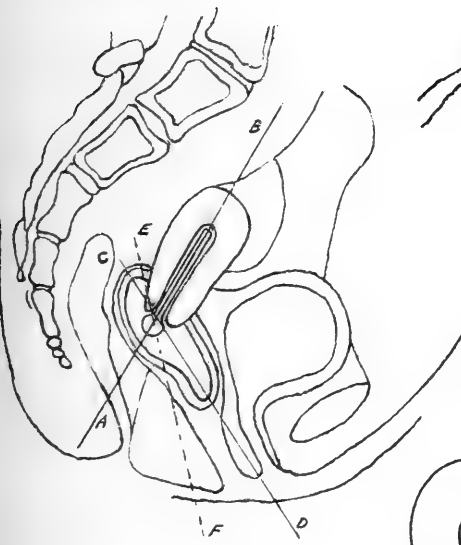


Fig. 2

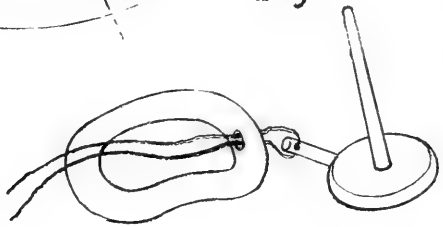


Fig. 4

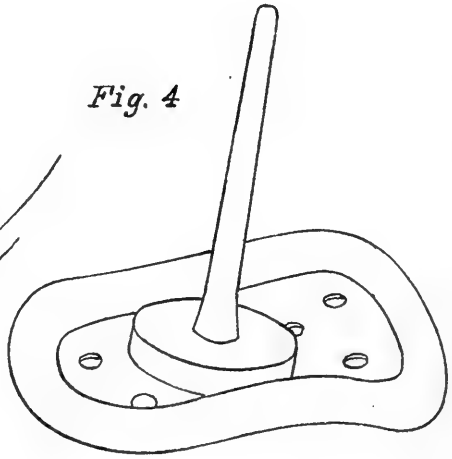


Fig. 5

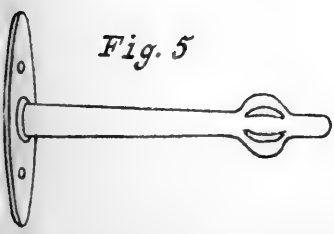
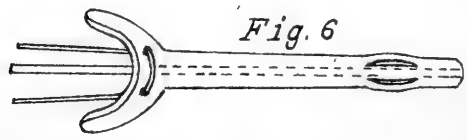


Fig. 6







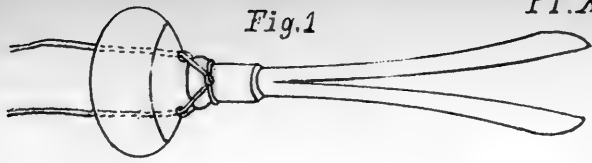


Fig. 1

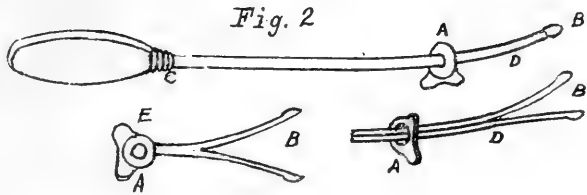


Fig. 2

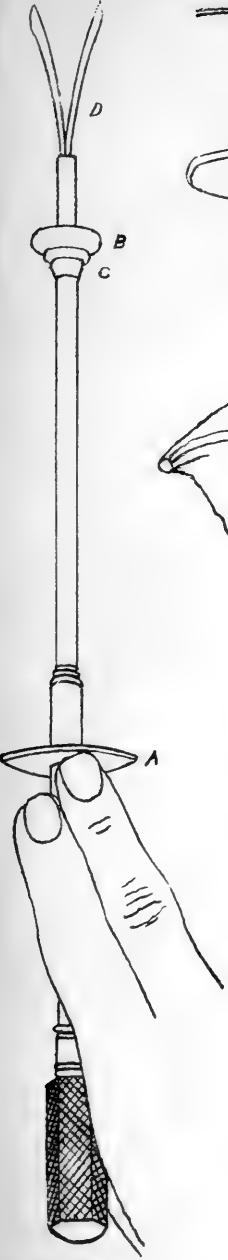


Fig. 4

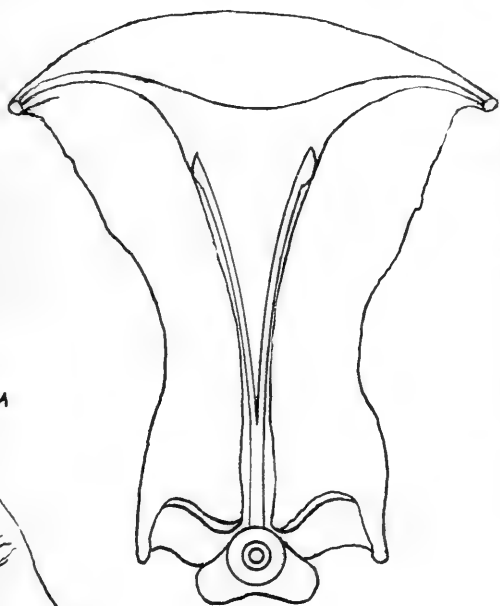


Fig. 3

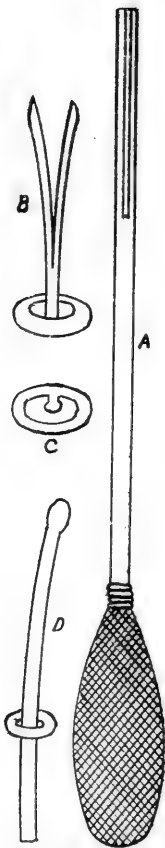


Fig. 5

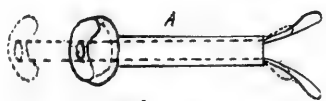
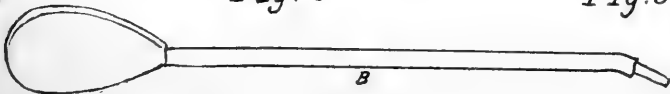


Fig. 6



B



Fig. 1



Fig. 2

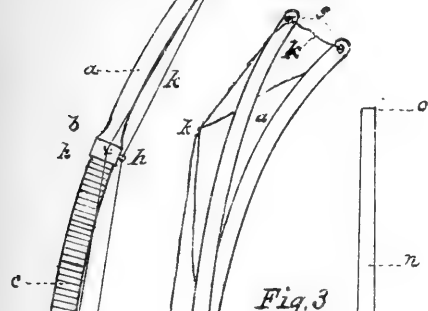


Fig. 3

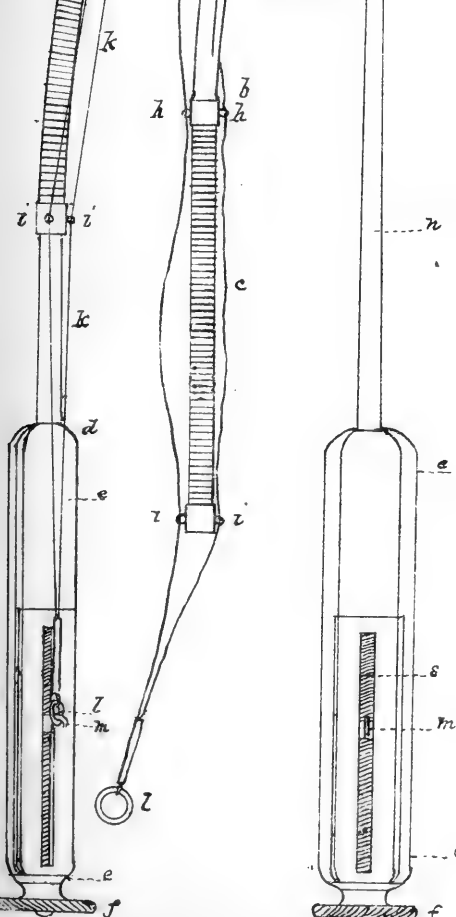


Fig. 1

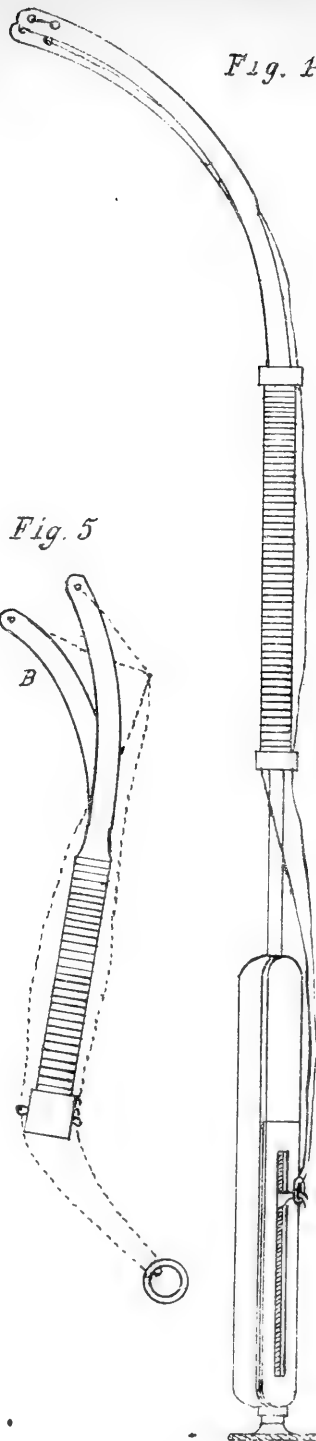
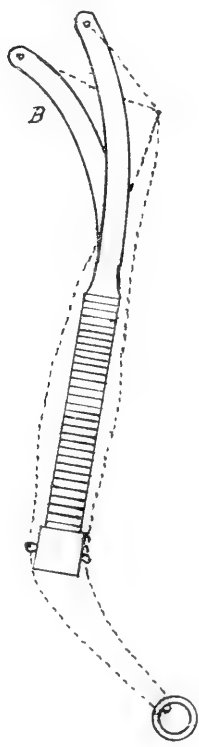


Fig. 5





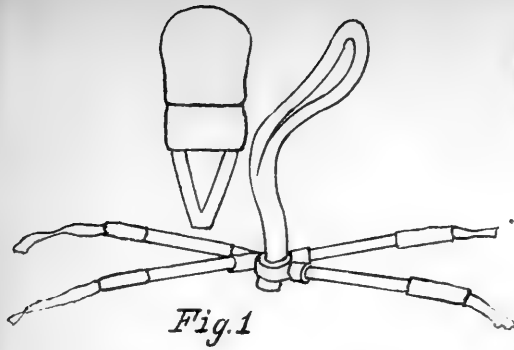


Fig. 1



Fig. 2



Fig. 3

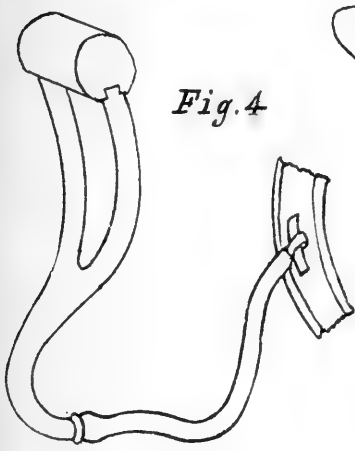


Fig. 4



Fig. 5

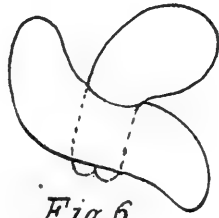


Fig. 6

Fig. 7

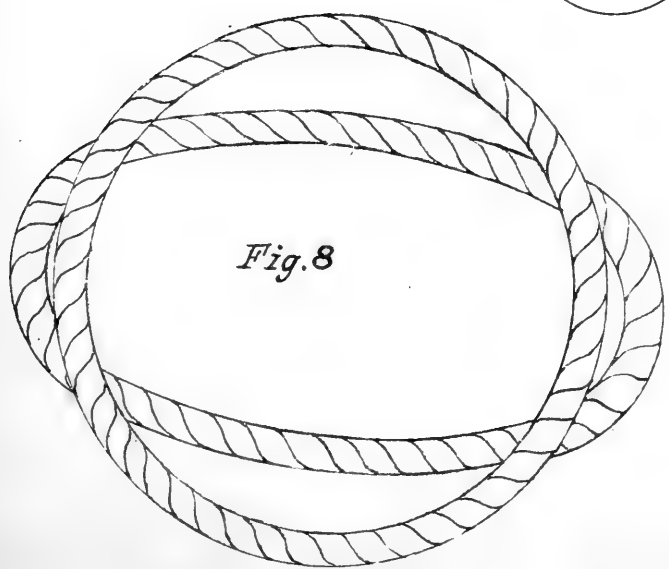
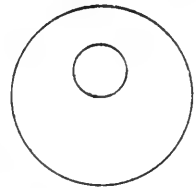


Fig. 8



Fig.1

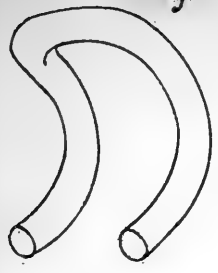


Fig 2

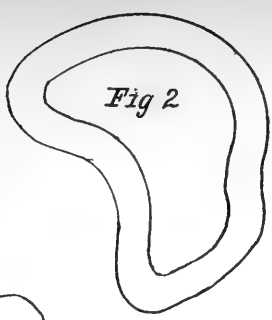


Fig 3

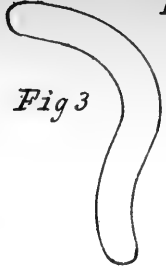


Fig.4

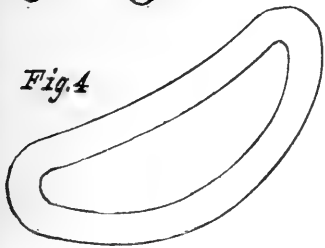


Fig.5

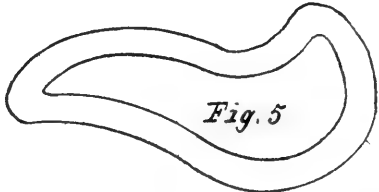
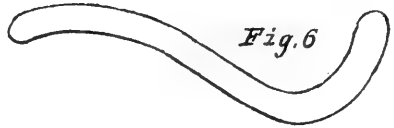


Fig.6



A

B

Fig.7

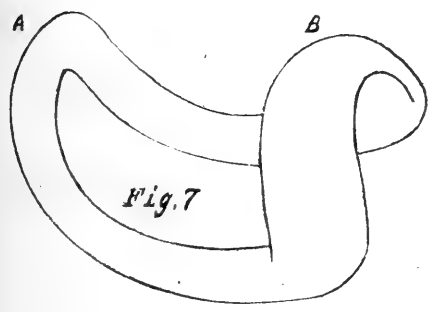


Fig 8

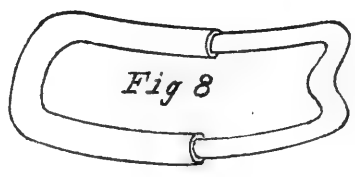


Fig.10

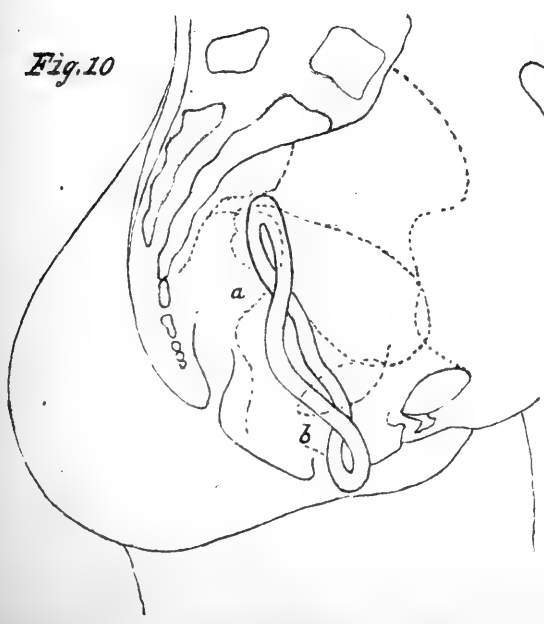


Fig.9

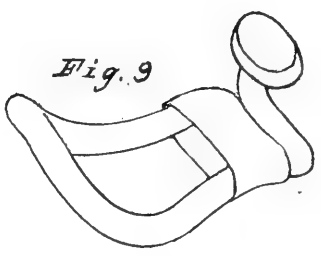
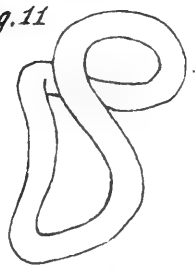
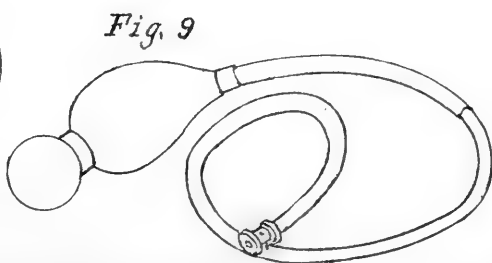
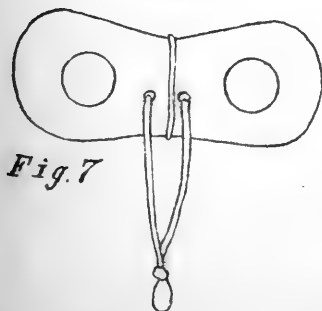
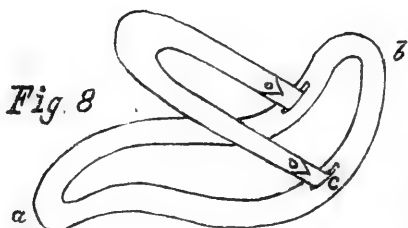
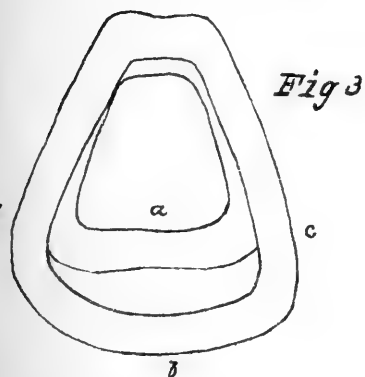
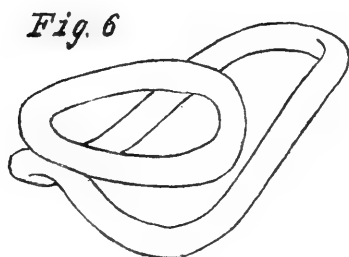
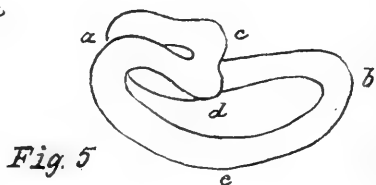
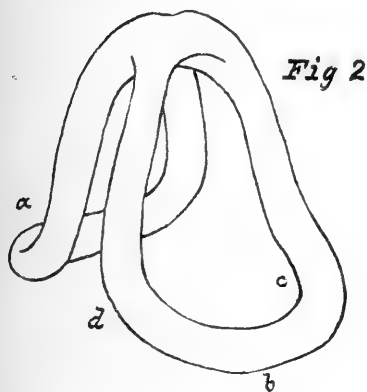
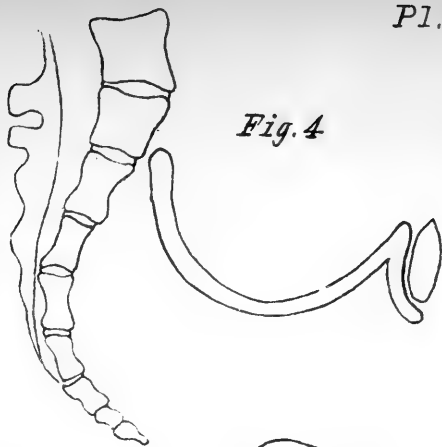
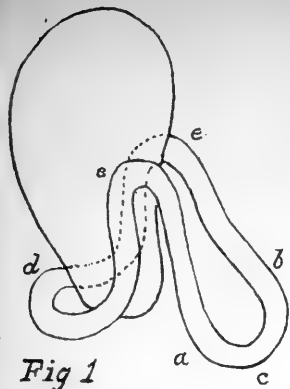


Fig.11











## DISCUSSION.

DR. H. F. CAMPBELL, of Augusta, Georgia. — I believe that uterine displacements, as they are the most frequent, are the most important gynecological questions with which we have to deal. I have listened with great interest to the paper just read by Dr. Van de Warker, and there are but few points upon which I dissent entirely, while there are many points which I would like to discuss, but can scarcely touch upon. In the first place, in a uterine displacement, the idea of the fitting of a pessary has always been quite repugnant to me. The term "fitting a pessary," in any sense of the close application of a thing to the thing containing it, is what I have always disliked as entirely inapplicable to the conditions contemplated. Whenever a pessary is introduced in a manner so as to *fit*, we shall certainly make what Dr. Van de Warker very properly calls "fixation of the uterus," which is, in every sense of the word, an abnormal condition of the womb. I do not know how, in the application of a pessary, we can properly adjust its proportionate size, and the support which it is to give, unless the womb be replaced previous to the introduction of the instrument. Simply placing the patient upon the back, and ascertaining the character of the displacement, will give no adequate idea of the support demanded by the requirements of the case. If applied in this position it will be found, I have no doubt, that if a pessary of two inches in length or diameter would fit tightly, one of one inch would fit almost as tightly, and that one three inches in length would fit but a little more tightly. Therefore, it must be seen, that until after full replacement of the womb, we cannot know how to adjust the mechanical support required in any given case. In order to illustrate this principle, I formerly announced this proposition: that "to introduce a pessary to support a dislocated uterus before replacing the womb is as unscientific as it would be to apply splints to a fractured limb before reducing the fracture." This principle will be found fully stated in vol. i. of "Gynecological Transactions," 1876, in connection with which methodical directions are given for the introduction of every variety of internal support after genupostural replacement, and while the patient is still in the knee-and-breast posture. First, then, replace the womb, putting

it as near as possible to the full limit of its moorings. This full replacement can only be made in the genupectoral posture. Now we can find out what room has been left for the pessary. When this has been done, select such an instrument as will fill the cavity left by the retirement of the womb somewhat loosely. If you estimate that the length or diameter of the instrument should be two inches, two and a half inches, or three inches, select one a little within the size, and then introduce it while the patient is still in the genupectoral, or knee-and-breast posture. The pessary must now be so placed that its upper segment will rest in the posterior cul-de-sac of the vagina, and upon the cervix uteri, while its anterior segment is held by the finger of the operator against the pubic wall of the pelvis. While still thus held the patient is directed to rise to the *erect-kneeling posture*, in order that the womb may settle down upon the pessary, and be supported by it. Many patients, being already in a kneeling posture, do not understand the request to rise to the *erect-kneeling posture*—“Madam, I mean the position of little Samuel.” As most ladies are quite familiar with the well-known picture or plaster cast of the devout child, the required posture is at once recognized by her assuming this erect position, and we have the pessary fixed by the uterus settling down upon it. A pessary is nothing more than a *crutch* for a too heavy womb and a weakened state of the ligaments, and the *ideal* treatment of uterine displacements by pessaries would comprehend the removal of the crutch at night, and its application again in the morning. This is not practicable, as few women can properly replace their pessaries. To come as near this *ideal* as possible, I instruct patients who have worn pessaries all day to *unship* or loosen them up at night by getting on the knees and breast, and letting air into the vagina with a tube-repositor. This is like laying aside the crutch for the night; the rim no longer presses on the posterior cul-de-sac. When she rises in the morning the crutch action of the pessary is again resumed, and she wears it all day without chafing unduly the tissues of the vagina, or cervix uteri.

Now, with regard to the stem pessary, it is one of the most unfortunate of expressions to call it “a pessary.” It is not a pessary. A pessary is a thing to *support*. It is, as I have said, a crutch to keep up a heavy womb, and to supplement and strengthen a relaxed state of the ligaments. But a stem is good for nothing for that, and was not designed for any such purpose. It is simply

a *splint* for a broken womb. There is a break comparable to what surgeons call "green-stick fracture," just at the point where that hinge-like curvature exists. It is just like green-stick fracture in a broken arm, in which, unless you put upon the outside a supporting splint, the deformity will remain unrelieved. So it is with the stem pessary. It operates upon the principle of an internal splint to straighten and support the womb until it can get well. There is danger in the stem, even when we properly recognize it only as a splint. To attempt to introduce this little straight instrument into a crooked and tender canal is apt to produce traumatic inflammation; the canal should be straightened as much as possible in its introduction, and the patient should be regarded as under actual observation and treatment as long as the splint is used.

I agree with Dr. Van de Warker, that there is no form of vaginal appliance which will ever straighten a flexed womb. It is a distorted womb. There is an intrinsic deformity produced by disease, and simply holding it up won't straighten it. I do not belong to the inflammatory or to the mechanical school. I hope that we all belong to both. Of course there are inflammatory conditions which have preceded, and which accompany, and which result from uterine displacements; and of course, also, these are to be treated. But just now we are discussing the mechanical side of the question. The stem is not necessarily injurious, if the woman is properly treated on the idea that it is a splint to be carefully applied to straighten and keep straight a broken womb. I believe that when we come to regard all pessaries proper as crutches to support a too heavy womb, with a weakened set of ligaments, and all *stems* no longer pessaries, but as *splints* to cure a broken womb, we shall have reached the true position.

DR. H. P. C. WILSON, of Baltimore. — There is no subject in gynecology of greater interest to me than displacements of the uterus and their rectification. When I meet with a lacerated cervix, thanks to our President, I know what to do with it. If I have to deal with a sharp ante flexion, I think I know how it should be treated. If I have a case of intra-uterine fibroid or a vesico-vaginal fistula to treat, I think I know what should be done; but when I come to a uterus which is displaced, it is all a matter of experiment, from beginning to end, as to whether I shall succeed in rectifying it or not. I have found, in my experience, that I cannot tell exactly, at first, what kind of a pes-

sary should be used. I have very, very rarely produced any benefit by treating an anteflexed uterus with a pessary. My successes have been more in the treatment of retroverted, or retroflexed, or perhaps prolapsed uteri, than in cases of anteflexion; and yet I never know exactly, when I treat such a case, what pessary will answer best. I am sometimes obliged to introduce five, six, or eight instruments before I get the proper one for the case. One may measure accurately the length of the vagina, or estimate as accurately as possible the resistance of the ligaments, but you cannot tell, until you have tried, what kind of an instrument would be necessary to keep the uterus up in its proper position. Not infrequently I receive letters asking me to send a pessary which will fulfill certain conditions, but it is impossible for me to do so. There is no definite rule for the use of these instruments. There is one rule, however, which I have derived from practical observation, and it is this: If, after replacing the uterus, and adjusting a pessary, I can pass my finger comfortably between the pessary and the vaginal wall, I have come to believe that it is not apt to do any damage. Therefore, when I introduce a pessary for any form or displacement, the last thing done is to pass my finger between the instrument and the vaginal wall. If it passes easily I am satisfied that it will do no harm. We are sometimes obliged to use instruments which our judgment tells us are larger than should be used. In some cases there is thickening of the broad ligaments or of the recto-uterine ligaments, or other pathological changes have taken place, such as have held the uterus down months, or even years, and we wish to raise it into position. To do this we are obliged to stretch these tissues, and work the uterus up gradually, little by little, and ultimately we can perhaps introduce a pessary which will hold the uterus in position and at the same time not press unduly upon the surrounding parts. In such cases we may temporarily introduce an instrument which aids us in overcoming these contractions, but it must be carefully watched, and the patient kept under constant observation; and at the same time other means than the mechanical treatment must be adopted, such as various local applications with the use of internal remedies. The principle laid down by Dr. Van de Warker is that the uterus should be movable. We should never use a pessary sufficiently long or broad to hold a uterus in a fixed position, as it is more or less mobile; and nothing which overcomes its mobility, and fixes it, can be

regarded as a proper pessary, except perhaps under the circumstances which I have just mentioned. But I must return to the first statement, that after all it is an experiment as to what pessary we shall introduce, and what pessary will finally be best adapted to the case. No pessary should be allowed in the vagina, if it is at all uncomfortable to the woman. If uncomfortable, it is evidence that it is wrong. No woman should realize that she has a pessary in the vagina, and that is a practical rule which I never fail to recognize.

DR. PAUL F. MUNDÉ, of New York. — The subject of adapting pessaries to uterine displacements is so wide that it would be impossible to cover it in one session. The point seems to be to make out what is the normal position of the uterus, and then we shall be able to understand what is abnormal, and find remedies for it. I do not agree with Dr. Van de Warker regarding the normal position of the uterus. He thinks that it is anteflexed.

DR. VAN DE WARKER. — Simply curved forward, not anteflexed.

DR. MUNDÉ. — Very well ; I should regard that as the normal position. Having fixed the normal position, the question arises, what shall we do for a displacement of the uterus, whether it be anterior or posterior? I may say that it seems to me that the anterior displacements do not demand mechanical treatment, as a rule, by means of intra-vaginal pessaries with or without abdominal support, unless there be combined with such displacement, whether anteversion or anteflexion, a certain amount of sinking of the uterus, so as to produce dragging upon the uterine ligaments, and pressure upon the bladder. Whenever there is such a forward displacement combined with sinking, perhaps sufficient to produce pressure upon the bladder, that uterus needs a support. In such cases we elicit symptoms from the patient, and we give relief with a support.

I would differ with Dr. Van de Warker, and also Dr. Campbell, who regard it as impossible to lift up the fundus, in a case of anteflexion, without a stem pessary. I would not like to subscribe entirely to the ground taken by our honored President that the stem pessary is an invention of the evil one, because I have seen the stem pessary do very well under certain circumstances ; but I have found it, as Dr. Goodell once expressed it, a most useful instrument to watch, otherwise I should not dare to employ it. I think that, by the use of Thomas's cup pessary, the fundus can be raised gradually, month by month, by lengthening

the anterior portion of the cup, and after a while the fundus of the anteflexed uterus can be raised until it is nearly straight. I have two cases to prove this, — not many to be sure, but in one the patient became pregnant after a sterility which had existed for several years, whether in consequence of this method of treatment I will not say, but certainly the uterus gradually became straight. These are exceptions, it is true; and, as a rule, in order to straighten an anteflexed uterus, I think it is necessary to put the stem pessary into the uterus. Whether we *cure* the patient by that mode of treatment is quite another thing. The advantage of treating the patient in this manner may be doubtful, while the risks are quite equal to the benefit. But if the patients can endure the stem, they will improve; if they cannot, and this unfortunately is the rule, no other method will cure them.

A few years ago I was very favorably impressed with Gehring's pessary, but after a little time I found that it would rotate in the vagina, and I was obliged to abandon its use. Thomas's *open* cup pessary works better for cases of simple anteversion. At the same time I believe it acts by lifting up the entire uterus, as much as it does by supporting the fundus alone.

As for retro-displacements, if I could treat them and get as much benefit as I can in treating anterior displacements, I should consider that I had made great advance in the mechanical treatment of uterine diseases. In making this admission, I refer chiefly to cases of retroflexion. It may be my fault that I do not have better success; perhaps I have not looked over the large number of pessaries sufficiently. I have examined many, and I find few which work well in cases in which the uterus is retroflexed. I do not think that our methods for retention of the organ in this form of displacement are at all proportionate to the wants of our patients. Of course, it is a primary rule that before the introduction of a pessary the uterus should be replaced, but, after having replaced the uterus, it is not so easy always to find a pessary which will keep the organ in position. One of the modifications of Hodge's pessary answers the purpose as well as any other, so far as my experience goes. But I am looking for a pessary which will always keep the fundus up in cases of chronic retroflexion. If a woman have a uterus which is entirely irreplaceable, there may be adhesions, and we must first use other means for bringing it into position. Thus, we may columnize the vagina, as we have heard it called. But it is a difficult thing



to bring the womb into position in these cases. Dr. Campbell speaks of the genupectoral position, and when it was first brought forward I hailed his discovery with great joy and delight. Accidentally I happened to discover the same method of treatment in a case of retroversion of the gravid uterus, and, for a time, I resorted to it with considerable enthusiasm. I tried it over and over again, and it succeeded and it failed; and, so, I think it will be found that it often succeeds and often fails. This is not at all detracting from his discovery, but it is simply stating that there is no rule without an exception. When I use a retroflexion pessary, I always direct the patient to assume the genupectoral position at least once a day, and when the instrument is removed. The lever action of the Hodge pessary is too great a subject to be discussed at this time. Dr. Van de Warker believes that it is not so great as we have been disposed to accept. I think that, the uterus having first been replaced, we have, in the Hodge pessary, a lever action upon the posterior surface of the uterus, which keeps the fundus anteverted; and I believe, also, the backward elongation of the vaginal vault by the pessary assists the lever action by drawing the cervix toward the sacrum. I have found in a certain number of cases, chiefly those in which there were adhesions of the uterus and a short posterior vaginal pouch, that Dr. Ephraim Cutter's supporter (an ordinary vaginal pessary with an external band) was effectual in lifting up the fundus. I have now three patients who are wearing this instrument with benefit, in whom all previously used vaginal pessaries failed. When I published my book, I had not met with cases which led me to believe that the instrument possessed special value.

DR. G. H. LYMAN, of Boston. — I had hoped, Mr. President, to hear a little more about pathology in these cases. There was one idea spoken of which, I think, we must always keep in mind, and that is this matter of fixation of the uterus. We are apt to forget that the uterus is not a fixed body. I do not know how many hundreds of pessaries have been invented, and what is the reason? The reason is that no one has yet found an instrument which fulfills the indications or answers the purpose for every case. And they cannot do so because there are no two cases which any one pessary will suit. I never invented a pessary, thank Heaven, but my habit has been to mould one, and I generally take the first one I can get hold of — Hodge's, perhaps, answers as well as any — and adapt it to the apparent indications

of the case which I am treating. Correct treatment involves careful study of the pathology of displacements. My opinion with regard to pessaries is, that they constitute the smaller part of the treatment of displacements. You meet with a displaced uterus, and it is in a fixed position; what is the cause of it? We perhaps cannot find the original cause if it has lasted for some time, but there is always, nevertheless, some cause for it; and my practice has been not to resort to pessaries in the first place, but to look for this cause, and see if there is not some method of overcoming the condition other than by resorting to mechanical treatment. I am satisfied that in very many cases, if not in all, when we investigate the antecedents, we shall find that the entire condition is due to previous cellulitis. Our President struck that keynote years ago, and I think, when I first heard it, it made more impression upon me than anything which I have learned from him — and that is saying a good deal. I do not think it is worth our while to go into the subject of this man's pessary, or that man's pessary, but each case has its own peculiarities, and if mechanical support is to be resorted to, you must fit your own pessary. As already said, I generally employ Hodge's pessary, because it can be distorted and turned, and twisted and moulded, so as to be adapted to almost any case. Dr. Van de Warker's classification of pessaries is all very interesting, and it gives us the action of mechanical forces; but in each case it will finally, I think, be demonstrated that we must go back to the cause of the displacement, and endeavor to find out what it is that keeps the uterus in its malposition, and having found that out, then determine whether or not we can get rid of it. If the cause is removable, when it has been removed we can keep the uterus in position without difficulty.

DR. VAN DE WARKER. — With reference to the criticism offered by Dr. Campbell on the term "fitting the pessary," it is simply a fit and nothing else. It is as much a question of fit as it is to go to a shoe store and get a shoe which fits the foot. I never understood for a moment that the uterus was not to be replaced before the introduction of the instrument. Dr. Campbell's ingenious method of replacing the uterus is one well worthy of trial. I wish to say, in addition to Dr. Campbell's remarks, that my own experience has proved to me that the only means of treating and straightening a flexed uterus is by means of the intra-uterine stem, and when it is properly adjusted, and the case is adapted

to it, it is safe and proper to be used. But the subject must not be lost sight of, and I think this rule applies just as effectually to any other mechanical means of replacing the uterus. The patient should understand that she is continually under treatment.

With regard to Dr. Wilson's rule, that if the finger can be passed easily between the pessary and the vaginal wall, it probably will do no harm. I think this rule will hardly hold true. I do not think that this gives room enough. We must make allowance for all the points which are exposed to pressure, and the mere fact that we can pass the finger is not a safeguard that it is properly fitted. You may do injury with such precaution on account of the expulsive forces in the pelvic cavity.

Dr. Mundé has referred to the normal position of the uterus. In fact there is no normal position, for the normal position is one of mobility. It is certainly difficult to say exactly what is meant by the lever action of Hodge's pessary. [Dr. Van de Warker illustrated, by a diagram on the blackboard, what he believed to be the action of Hodge's pessary.] My paper was not designed to be so practical as theoretical. I designed the introductory part to be partly practical, but with regard to the subject of the pessary, the use of this instrument must be studied separate and distinct from the pathology and the etiology of uterine displacement. We must study it as we would the action of opium or castor oil, separate from the pathological conditions in which we are going to use these medicinal agents.

# A NEW METHOD OF OPERATION FOR THE RELIEF OF RUPTURE OF THE PERINEUM THROUGH THE SPHINCTER AND RECTUM.

BY J. COLLINS WARREN, M. D.,  
*Boston, Mass.*

THE operation to be described is intended chiefly for the most serious cases of rupture, where not only the sphincter muscle, but also a portion of the anterior wall of the rectum has been torn through. The rent in these cases usually involves that portion of the rectal wall which bounds the perineal body posteriorly. During the process of cicatrization there is little or no union of the sides of the rent, but the

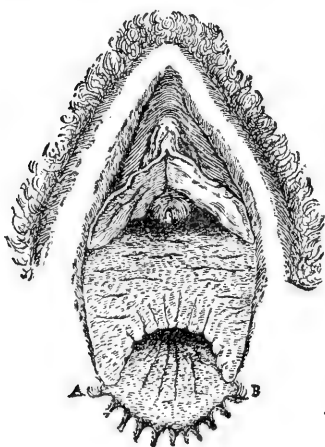


FIG. 1.

recto-vaginal septum is drawn downwards by cicatricial contraction, and is thus made to cover a considerable portion of the exposed rectum. The outlets of the vagina and rectum are, however, continuous, and form at the vulva a large cloaca. Fig. 1 shows the vulva, with the labia drawn apart so as to display a considerable portion of the posterior wall of the vagina. Below, between the letters *A* and *B*, we see also a portion of the posterior wall of the rectum bounded above,

in the picture, by the semi-circular margin of the septum, and below by the retracted sphincter muscle.

The weak point of every operation hitherto devised lies in the management of the rectal wound. The perineal body is not situated in front of the rectum, but forms, as it were, the floor of that cavity, which at this point takes a sudden curve backward to reach the anal orifice. A freshly united linear rectal wound at this point must, therefore, present itself at right angles to the axis of the rectum, and must sustain the full force of a column of gas or feces coming down from above. If the wound be a long one and the perineal body not sufficiently thick, the point of least resistance will be in the direction of the vagina, and a recto-vaginal fistula may result. Emmet, who, it must be acknowledged, has done more than any other surgeon to place this operation upon its present comparatively firm basis, has sought to overcome this source of danger by drawing down the edge of the septum to the sphincter muscle by means of his bag-string suture, and thus do away with a rectal wound as completely as possible. The moment, however, the edge of the septum has been released from its cicatricial bands by the scissors, it begins to withdraw itself to its original position; a point much further inside the pelvis than one would imagine who judged by its position in the cicatrized state. The tension of the recto-vaginal septum when drawn still further down by the bag-string suture is greatly increased, and displays itself first when the parts have become swollen by inflammation, the lower stitches being frequently sucked up, as it were, into the rectum; later, when the tissues are softer, the stitches cut through and the rectal wall retracts, forming an open wound in the rectum and exposing the lower portion of the perineal body. If we extend the line of the axis of the rectum downwards through the perineal body, we shall find that it emerges usually between the second and third stitches externally. It is at this point that the contents of the rectum force their way out, so far as the writer's experience goes, and establish a fistulous opening around which the freshly united tissues gradually melt away. The principle of the method described in this article consists in

shutting out the rectum entirely by a flap operation, so that it shall no longer enter as an element to be considered in the healing process. The material of which the flap is composed is that usually cut away by the scissors, and consists of vaginal and vulvar mucous membrane, and also of a certain amount of cicatricial tissue which is to be found at the margin of the rent. The flap is formed by dissecting the "butterfly" from within outward, preserving the materials just mentioned in one continuous mass, the pedicle being formed by the entire free margin of the septum (Fig. 1, *A B*), a hinge on which the flap is swung over so as to exclude the rectum from view. The dissection will be performed with greater ease and nicety if the knife is used, and should be made chiefly from the sides in the manner indicated in Fig. 2. In reflecting the central portion it is im-

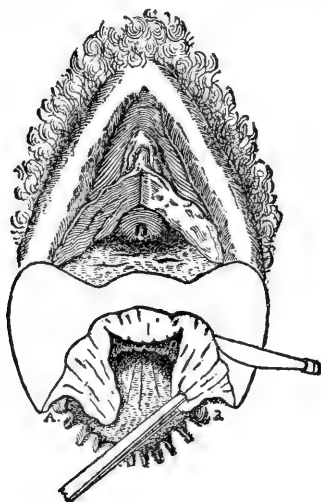


FIG. 2.

portant to avoid "button-holing;" and for this purpose it is well to keep the septum between the thumb and forefinger of the left hand, liberating the flap by gentle strokes of the knife to and fro, while the tissues are made tense by traction on the flap with the forceps in the hands of an assistant. The dissection should stop just short of the free margin so as to leave it intact, otherwise the pedicle of the flap would be severed; on the sides the dissection is carried down sufficient-

ly far to expose the ends of the ruptured sphincter muscle. We have now not only the customary butterfly, but, in addition, a twin butterfly hanging from its lower edge and forming a sort of apron (Fig. 3). A portion of the vaginal and vulvar mucous membrane has been folded over as in turning out one side of a hat-lining, and the vaginal mem-

brane becomes now a portion of, and continuous with, the anterior rectal mucous membrane.<sup>1</sup> The bowel now terminates in a sort of fimbriated extremity. This flap is redundant not only in length but in breadth, and must, therefore, be thrown into longitudinal folds and be pressed downwards, while the twisting of the first stitch brings the divided ends of the sphincter together over it. After the remaining stitches have been

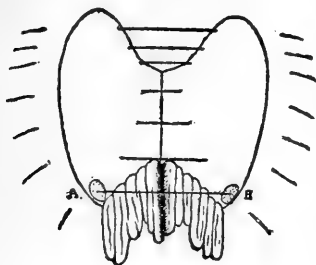


FIG. 3.

taken we find the end of the flap still projecting at the anterior margin of the anus. It is well not to trim this off short, as subsequent retraction will draw a considerable quantity of it into the rectum; on the other hand, if all is left, the flap is unnecessarily long and the tip of it is liable to slough. It can be disposed of by folding in longitudinally, as when we pinch the lower lip together between the thumb and finger, and stitching the apposed raw edges; or it can be spread out in a fan shape, and adjusted to a short curved incision through the edges of the skin at the bottom of the wound, as in Fig. 4. This curved incision might be continued all round the anus and the free margin of rectum, then readjusted so as to be more evenly distributed around the circle. The anus would then have exactly the appearance of an artificial anus as after colotomy, but such an additional dissection is hardly necessary. When the flap has been formed and allowed to drop down over the rectum, the cavity of the bowel is no longer seen and in finishing the operation we have a prob-

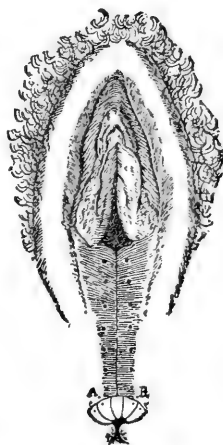


FIG. 4.

<sup>1</sup> This method was first proposed by the writer in the *Boston Medical and Surgical Journal*, January 3, 1878.

lem almost as simple to perform as the formation of a perineum when the sphincter has not been ruptured.<sup>1</sup> The general plan of taking stitches is shown in Fig. 3. It will be noticed that undue constriction is avoided, there being no necessity for the use of the bag-string suture, and the thickness of the perineal body is preserved. These deep sutures are so arranged as not to touch the flap or septum that it may have free play to assume its normal position, or that the flap may not be so restricted as to endanger its vitality. The adoption of the flap as a feature of the operation consequently involves a radical change in the method of taking stitches as laid down by Emmet. For these sutures annealed copper wire, silver-plated, is used of No. 29, Brown and Sharp gauge; the next finer grade used at the hospital, No. 24, though taking less room, being liable to break. Before they are twisted a few superficial cat-gut sutures are taken in the vaginal mucous membrane for greater security from vaginal discharges.

The first patient operated upon by this method was thirty-one years of age, and had sustained a severe laceration of the perineum involving the sphincter and rectum, during a long and difficult labor three months before her entrance to the hospital. She was in a poor condition and anemic, but complained of no uterine symptoms, and desired an operation for relief from the incontinence of the rectum. As a preliminary step in the operation, the sphincter was thoroughly stretched by seizing the free ends and pulling upon them much as one would pull molasses candy. The operation was then performed in the manner above described. The portion of the flap projecting from the anus being found unnecessarily long was trimmed slightly and then folded on itself longitudinally, and the raw edges were sewed together, giving it the appearance of a small hemor-

<sup>1</sup> As a convenient way of distinguishing the two varieties of rupture, the writer would suggest: that those cases in which the perineal body alone has been torn be called "simple rupture of the perineum;" and in those cases in which there has been a laceration of the sphincter or rectum, the term "compound rupture of the perineum" be used.



rhoid at the anterior margin of the anus. During the operation the exposed surfaces were irrigated by a warm stream of carbolized water (1-200) flowing from a fountain syringe, and a narrow strip of lint soaked in carbolized oil was placed on each side of the sutures after the operation and renewed daily for almost a week. The wound was thus kept in perfectly aseptic condition, and instead of the customary smart reaction there was scarcely a perceptible rise in the temperature, the thermometer ranging as high as 100.2° F. on one evening only. Vaginal douches were used after the second day, and the urine was drawn regularly with the catheter.

A special feature of the after treatment was the *diet*; a free use of milk, prescribed generally as a convenient form of liquid diet, has the great disadvantage of being followed by a large accumulation of fecal matter, the fatty portions being rolled together in hard or putty-like masses, which subjects the delicate union to a severe strain and may destroy it altogether. This peculiarity of milk as an article of diet in the sick-room has not been sufficiently recognized. Its extensive employment in diseases of the intestinal canal will doubtless be somewhat curtailed when this fact is more fully appreciated. The proportion of residual material in different forms of food is a point in the regulation of the diet which should receive more attention than it has hitherto. A liquid diet from which milk was rigidly excluded was prescribed in this and the other cases. It is well to begin this regimen the day before the operation, and for the first twenty-four hours after it to give little else than cracked ice and small doses of some fluid beef extract. The discomforts and dangers of flatus are also avoided. The following is the diet list of the case above mentioned :

First day, beef tea ℥viii., brandy ℥ii.

Second day, beef tea ℥xvi., brandy ℥iii.

Third day, beef tea ℥xxxii., cup of tea without milk for breakfast.

A few days later beefsteak was given, at first in small

quantities, and broths were substituted.<sup>1</sup> The stitches were removed on the fourteenth day, and the perineum was found to be firmly united throughout. The projection at the anterior margin of the anus had retracted so as to be imperceptible. As an experiment the bowels were not moved until the twenty-first day, and then, following a small dose of oil, an abundance of soft, slippery, and well formed scybala, in other words normal feces, was discharged.

In the second case the patient, thirty-five years of age, had a rupture of three and a half years' standing, which had been operated upon twice without benefit, the incontinence of the rectum being still complete; the rupture did not, however, extend beyond the sphincter. The entire flap made in the operation in this case was allowed to remain, and subsequently a portion of the tip about the size of a pea sloughed and was removed. Union of the perineal body was complete and there was absolutely no febrile disturbance. The same antiseptic precautions were observed during the operation and after treatment as in the first case. The stitches were removed on the twelfth day, and the bowels were moved by a small dose of oil on the twentieth day, the evacuations being normal in character.

The third case was one of the most aggravated forms of rupture one has an opportunity to see. It had existed but three months and involved the anterior wall of the rectum for a considerable distance from the anus. On separating the labia a large cloaca was disclosed, lined, particularly posteriorly, by a membrane in a state of irritation, a granular condition existing at some points. The patient was kept under preparatory treatment for two weeks to restore the parts to a healthy condition. The method of operating was precisely the same as in the other cases. The flap projecting at the anus, after the wound was closed, was folded on itself and held together by two fine silver sutures. The diet consisted chiefly of beef tea and chicken broth. The character of the bill of fare can be varied considerably, and

<sup>1</sup> A similar diet is also prescribed by the writer after operations on the rectum and uterus.

even solid food be taken at an early day, provided milk in every form is rigidly excluded. As illustrative of the tendency of the septum to retract, it may be mentioned that the flap was gradually sucked up into the rectum during the healing process, and was subsequently found nearly an inch from the outer margin of the sphincter. It could be felt in the rectum for some time as a little polypoid tumor, but eventually disappeared. If the tip of the flap was at this point, its base must have been situated from two to three inches from the sphincter muscle, showing how far the edge of the recto-vaginal septum withdraws into the pelvis when it has been liberated from its cicatrized position. The thermometer registered 100° F. on the second evening only. The stitches were removed on the thirteenth day, and the bowels were moved by an enema on the twenty-first day, when an abundant and natural evacuation occurred. No cathartic was given and no opiate was necessary, except one sub-cutaneous injection of one sixth of a grain of morphine the day following the operation. The body was not completely restored, but the union of the rectum and sphincter and a considerable portion of the body took place.

The points which the experience of the writer has shown to be of value in the treatment of this injury are: first, the restoration of the recto-vaginal septum by a flap, which does away with a rectal wound and with tension of the septum also; and secondly, the selection of an appropriate diet by which the character of the fecal discharges can be controlled. The plan, adopted by some operators, of having frequent and early movements of the bowel during the process of union does not seem to be in accord with good surgical principles, which recognize rest as a most important factor in the healing of a wound. It was designed to avoid a danger which with appropriate diet will not occur. The diet here recommended would doubtless be well adapted to such a method if it were thought desirable. The antiseptic douche, although it favors hemorrhage, keeps the parts well cleaned during the operation, and prevents inflammatory reaction, which, however, may be partially accounted for by

the lack of tension in the tissues. The stitches were kept in somewhat longer, as is the habit of the writer, than is customary. Experience shows that they do no injury, and serve a useful purpose in preserving the shape of the perineal body. The patients were all seen six months after the operation, and each one expressed herself highly pleased with the result.

NOTE. Since this paper was written, further experience in several cases shows the method of handling the flap as given in Figure 4, to be quite satisfactory. It is not necessary to dissect down the entire butterfly, but the dissection may be begun high enough on the vaginal wall to secure a sufficiently long flap. The denudation can then be continued with the scissors.

Emmet's plan of drawing down the vaginal mucous membrane by the upper stitch so as to cover the vaginal portion of the perineal body has been tried in two cases, with satisfactory results.

## MEASUREMENTS OF THE UTERINE CAVITY IN CHILDBED.

FOURTH AND FIFTH SERIES OF ONE HUNDRED AND EIGHT  
CASES EACH.

BY WILLIAM L. RICHARDSON, M. D.,

*Boston, Mass.*

AT the annual meeting of this Society, held in Baltimore in 1879, my colleague, Dr. A. D. Sinclair, presented the measurements of the uterine cavity made in one hundred and eight patients who had been delivered at the Boston Lying-in Hospital. These measurements were made under our direction, and at the annual meeting held in 1881 he presented two additional series of one hundred and eight cases each. This paper contains a fourth and fifth series of similar measurements. In each series we have given the same number of cases merely with a view to uniformity. These tables and analyses are the work of Dr. A. A. Jackson, one of the house physicians, and the averages have been calculated with a great deal of care and accuracy. The average depth of the uterine cavity in the first series of cases was 3.02 inches; second, 3.04 inches; third, 3.73 inches; fourth, 3.67 inches; fifth, 3.31 inches. It has not been deemed advisable to attempt any general deduction from these observations until we were able to present the analysis of one thousand cases. When that number is reached I hope that the general average will be of some practical value to the profession.

TABLE I.—MEASUREMENTS OF THE UTERINE CAVITY IN CHILDBED.

No. of Case.	Primipara or Multipara.	Age.	Duration of Labor.		Day of Measurement.	Length of Uterine Cavity in inches.	Position of Uterus at Time of Measurement.	Post-partum Condition. Remarks.
			First Stage.	Second Stage.				
			<i>h. m.</i>	<i>h. m.</i>				
1	Primipara.	16	9.	.11	24	3 $\frac{1}{2}$	Left lateral deviation.	
2	Multipara.	38	39-45	1-15	15	3 $\frac{1}{2}$	Normal.	Forceps.
3	Primipara.	26	12-30	1-10	34	3 $\frac{1}{2}$	Normal.	
4	Primipara.	20	5-30	1-30	36	3 $\frac{1}{2}$	Anteflexion.	
5	Multipara.	22	?	?	13	3 $\frac{1}{2}$	Normal.	Child premature; 6 $\frac{1}{2}$ months.
6	Multipara.	31	12.	.17	14	3 $\frac{1}{2}$	Anteflexion.	Ovaritis; perineum torn 1 inch.
7	Primipara.	29	4-15	.42	16	3 $\frac{1}{2}$	Anteflexion.	Cystitis; perineum torn 1 inch.
8	Multipara.	22	23.20	.45	18	4	Anteflexion.	
9	Multipara.	40	24.	2-15	23	3 $\frac{1}{2}$	Normal.	Version.
10	Primipara.	33	10.10	.17	15	3 $\frac{1}{2}$	Normal.	
11	Primipara.	19	?	2-40	15	3 $\frac{1}{2}$	Normal.	Stellate fissure of cervix.
12	Primipara.	21	10.30	8.55	14	3 $\frac{1}{2}$	Normal.	Perineum torn $\frac{1}{2}$ inch.
13	Primipara.	19	8.15	.37	30	3 $\frac{1}{2}$	Normal.	
14	Primipara.	16	?	.10	21	3 $\frac{1}{2}$	Normal.	
15	Primipara.	24	16.25	.54	15	4 $\frac{1}{2}$	Anteflexion.	Slight laceration of perineum.
16	Multipara.	32	3-45	.25	17	2 $\frac{1}{2}$	Normal.	
17	Primipara.	22	16.30	2-13	13	4 $\frac{1}{2}$	Normal.	Perineum torn 1 inch.
18	Multipara.	35	1.	?	18	4 $\frac{1}{2}$	Normal.	Precipitate labor.
19	Multipara.	23	5-25	.10	13	4 $\frac{1}{2}$	Normal.	Left lateral cervical laceration.
20	Multipara.	26	13.30	2.50	21	3 $\frac{1}{2}$	Retroflexion.	Face to pubes.
21	Primipara.	22	16.50	5.25	16	3 $\frac{1}{2}$	Normal.	
22	Primipara.	20	16.50	.17	50	3	Normal.	Pleurisy; perineum torn $\frac{3}{4}$ inch.
23	Primipara.	28	7.	.28	17	4 $\frac{1}{2}$	Normal.	
24	Primipara.	20	11.30	2.27	23	4	Normal.	
25	Primipara.	19	11.45	1.12	17	4 $\frac{1}{2}$	Normal.	Perineum torn $\frac{1}{2}$ inch.
26	Primipara.	23	14.	1-15	24	3 $\frac{1}{2}$	Normal.	Lateral cervical fissure.
27	Primipara.	22	13.	1.	31	3 $\frac{1}{2}$	Normal.	Mammary abscess.
28	Primipara.	22	5-25	3.	14	3 $\frac{1}{2}$	Normal.	Slight tear of perineum.
29	Multipara.	21	1-45	.10	19	3 $\frac{1}{2}$	Normal.	Bright's disease.
30	Primipara.	21	13.	.20	19	4 $\frac{1}{2}$	Normal.	Perineum torn $\frac{1}{2}$ inch.
31	Primipara.	22	16.20	1-30	14	4 $\frac{1}{2}$	Normal.	
32	Multipara.	20	8.53	.20	21	3 $\frac{1}{2}$	Normal.	Slight tear of perineum.
33	Primipara.	22	3-20	2-30	20	4	Normal.	Cystitis.
34	Multipara.	21	5.5	.10	10	4 $\frac{1}{2}$	Normal.	
35	Primipara.	17	4-15	2.24	22	4 $\frac{1}{2}$	Normal.	Perineum torn $\frac{1}{2}$ inch; adherent placenta; cystitis.
36	Primipara.	22	4.	2.	21	3 $\frac{1}{2}$	Normal.	
37	Primipara.	29	11.15	2.15	28	3 $\frac{1}{2}$	Normal.	Phlebitis.
38	Multipara.	21	9-35	.25	25	3 $\frac{1}{2}$	Normal.	Membranes adherent; laceration of cervix.
39	Primipara.	21	10.	4.	22	4	Normal.	Forceps; perineum torn $\frac{1}{2}$ inch; cystitis.
40	Primipara.	22	7-50	.10	14	4	Normal.	Foot presentation.
41	Primipara.	25	5-30	.10	14	3 $\frac{1}{2}$	Normal.	Version.
42	Primipara.	20	2-45	3-45	22	3 $\frac{1}{2}$	Normal.	Slight tear of perineum.
43	Multipara.	38	1-30	.25	22	3 $\frac{1}{2}$	Normal.	
44	Primipara.	21	7-30	2.	15	3 $\frac{1}{2}$	Normal.	
45	Primipara.	21	18.	.15	15	3	Normal.	
46	Multipara.	27	4-20	?	12	3	Normal.	Perineum torn $\frac{1}{2}$ inch.
47	Primipara.	22	7-40	.50	19	3 $\frac{1}{2}$	Normal.	
48	Multipara.	21	15-40	.20	12	3 $\frac{1}{2}$	Normal.	Slight cervical fissure.
49	Primipara.	22	9-30	.40	13	3 $\frac{1}{2}$	Normal.	Perineum torn $\frac{1}{2}$ inch.
50	Primipara.	24	4.	.30	11	3	Normal.	Cervix slightly fissured.
51	Primipara.	23	17-20	.50	13	4	Normal.	
52	Primipara.	19	25.	3-30	16	4	Normal.	Perineum torn $\frac{1}{2}$ inch.
53	Multipara.	22	8.	.35	11	4	Normal.	

MEASUREMENTS OF THE UTERINE CAVITY IN  
CHILD BED — *Continued.*

No. of Case.	Primipara or Multipara.	Age.	Duration of Labor.		Day of Meas- urement.	Length of Uterine Cav- ity in Inches.	Position of Uterus at Time of Measure- ment.	Post-partum Condition. Remarks.
			First Stage.	Second Stage.				
			<i>h. m.</i>	<i>h. m.</i>				
54	Primipara.	18	4.	1.15	14	3 $\frac{1}{2}$	Normal.	
55	Multipara.	21	?	?	13	3 $\frac{1}{2}$	Anteflexion.	Breech presentation.
56	Multipara.	25	9.50	.30	38	4	Normal.	Melancholia.
57	Multipara.	23	4.	.37	12	3	Normal.	Slight cervical fissure.
58	Primipara.	24	6.30	1.	15	4 $\frac{1}{2}$	Normal.	Perineum torn $\frac{1}{2}$ inch.
59	Primipara.	20	12.30	2.	20	4	Normal.	
60	Primipara.	21	16.5	1.55	15	3 $\frac{1}{2}$	Anteflexion.	Perineum torn $\frac{1}{2}$ inch.
61	Primipara.	29	9.30	.30	15	4 $\frac{1}{2}$	Normal.	Child still-born; footling; forceps; prolapse of cord; cervix fissured; perineum torn.
62	Primipara.	24	6.45	?	17	4 $\frac{1}{2}$	Normal.	
63	Multipara.	23	3.	1.	14	3 $\frac{1}{2}$	Normal.	
64	Multipara.	19	9.	.30	13	4	Anteflexion.	
65	Primipara.	21	5.45	4.45	28	3 $\frac{1}{2}$	Normal.	Secondary hemorrhage.
66	Primipara.	23	7.	2.	20	3	Normal.	
67	Multipara.	29	9.	1.17	14	3 $\frac{1}{2}$	Normal.	Tonsillitis.
68	Multipara.	35	2.50	.20	15	3 $\frac{1}{2}$	Normal.	
69	Multipara.	26	2.48	?	12	4 $\frac{1}{2}$	Normal.	
70	Primipara.	19	6.30	1.	20	4 $\frac{1}{2}$	Normal.	High temperature; offensive lochia.
71	Primipara.	20	6.30	.50	18	3 $\frac{1}{2}$	Normal.	Perineum torn $\frac{1}{2}$ inch.
72	Primipara.	23	16.30	.30	19	4	Anteflexion.	Cystitis.
73	Multipara.	34	4.15	.45	15	3 $\frac{1}{2}$	Normal.	
74	Primipara.	21	9.30	2.30	14	3 $\frac{1}{2}$	Normal.	
75	Primipara.	16	11.	1.10	22	3 $\frac{1}{2}$	Normal.	Slight lateral cervical fissure; perineum torn $\frac{1}{2}$ inch.
76	Primipara.	20	19.	4.30	20	3 $\frac{1}{2}$	Normal.	Perineum torn $\frac{1}{2}$ inch.
77	Primipara.	22	19.30	.30	14	4 $\frac{1}{2}$	Normal.	
78	Multipara.	27	21.45	.40	13	4 $\frac{1}{2}$	Normal.	Left lateral cervical fissure.
79	Multipara.	22	13.45	.20	22	3 $\frac{1}{2}$	Normal.	
80	Multipara.	25	6.	1.	24	3	Normal.	Slight right cervical fissure.
81	Multipara.	31	9.	.30	17	3 $\frac{1}{2}$	Normal.	
82	Primipara.	23	12.40	.15	17	3 $\frac{1}{2}$	Normal.	Slight lateral cervical fissure.
83	Primipara.	28	5.15	.15	26	4	Normal.	
84	Multipara.	25	21.10	.25	15	4 $\frac{1}{2}$	Normal.	Secondary hemorrhage.
85	Primipara.	24	8.	1.25	21	3	Normal.	Perineum torn $\frac{1}{2}$ inch.
86	Primipara.	19	12.35	.40	30	3	Normal.	Perineum torn $\frac{1}{2}$ inch.
87	Primipara.	27	28.30	7.55	16	4 $\frac{1}{2}$	Normal.	Perineum torn 1 inch.
88	Multipara.	33	3.15	.15	15	4	Normal.	
89	Primipara.	21	14.	.50	20	3 $\frac{1}{2}$	Normal.	
90	Primipara.	23	2.	1.40	14	4	Normal.	
91	Primipara.	23	6.30	.35	19	3 $\frac{1}{2}$	Normal.	
92	Primipara.	19	7.15	.10	18	4 $\frac{1}{2}$	Normal.	Slight cervical fissure; per- ineum torn $\frac{1}{2}$ inch.
93	Primipara.	19	10.30	.45	24	3 $\frac{1}{2}$	Normal.	
94	Primipara.	24	56.30	1.	26	4	Normal.	Perineum torn $\frac{1}{2}$ inch.
95	Primipara.	25	8.	1.30	19	3 $\frac{1}{2}$	Normal.	
96	Primipara.	20	28.5	.40	31	2 $\frac{1}{2}$	Normal.	Perineum torn $\frac{3}{4}$ inch.
97	Primipara.	21	4.50	.10	18	4	Normal.	Still-born at 7 months.
98	Primipara.	22	7.45	.15	13	4 $\frac{1}{2}$	Anteflexion.	
99	Primipara.	18	5.15	.35	17	2 $\frac{1}{2}$	Anteflexion.	
100	Primipara.	24	23.15	1.	26	3 $\frac{1}{2}$	Normal.	
101	Primipara.	17	10.30	3.25	16	3	Normal.	
102	Multipara.	25	5.25	.15	29	3	Normal.	
103	Primipara.	20	1.45	.30	23	3 $\frac{1}{2}$	Normal.	
104	Primipara.	20	18.30	.55	26	3 $\frac{1}{2}$	Normal.	Perineum torn $\frac{1}{2}$ inch.
105	Primipara.	19	18.	1.15	15	3 $\frac{1}{2}$	Normal.	
106	Primipara.	18	21.30	2.45	15	4.	Normal.	
107	Primipara.	18	12.30	1.10	14	4 $\frac{1}{2}$	Normal.	
108	Primipara.	24	13.30	5.35	14	4 $\frac{1}{2}$	Normal.	Perineum torn $\frac{1}{2}$ inch.

Analysis of the 108 cases gives the following results :—

1. Average age of the 108 cases was 23.28 years.
2. Average age of 75 primiparæ was 21.75 years.
3. Average age of 33 multiparæ was 26.75 years.
4. Average number of days in childbed when uterine cavity was measured was 18.86 days.
5. The uterine cavity measured  $2\frac{3}{4}$  inches in 2 primiparæ, 1 multipara.  
 The uterine cavity measured 3 inches in 6 primip., 4 multip.  
 The uterine cavity measured  $3\frac{1}{8}$  inches in 4 primip., 1 multip.  
 The uterine cavity measured  $3\frac{1}{4}$  inches in 6 primip., 4 multip.  
 The uterine cavity measured  $3\frac{1}{8}$  inches in 7 primiparæ.  
 The uterine cavity measured  $3\frac{1}{2}$  inches in 6 primip., 8 multip.  
 The uterine cavity measured  $3\frac{5}{8}$  inches in 1 primipara.  
 The uterine cavity measured  $3\frac{3}{4}$  inches in 17 primip., 3 multip.  
 The uterine cavity measured  $3\frac{7}{8}$  inches in 1 primip., 1 multip.  
 The uterine cavity measured 4 inches in 13 primip., 5 multip.  
 The uterine cavity measured  $4\frac{1}{8}$  inches in 4 primip., 4 multip.  
 The uterine cavity measured  $4\frac{1}{4}$  inches in 6 primip., 1 multip.  
 The uterine cavity measured  $4\frac{3}{8}$  inches in 2 primiparæ.  
 The uterine cavity measured  $4\frac{1}{2}$  inches in 6 primiparæ.  
 The uterine cavity measured  $4\frac{5}{8}$  inches in 1 multipara.
6. Average day on which the  $2\frac{3}{4}$  in. measurements were made (p. 24, m. 17), 21.67.
7. Average day on which the 3 in. measurements were made (p. 23.83, m. 19.25), 22.
8. Average day on which the  $3\frac{1}{8}$  in. measurements were made (p. 22.50, m. 14), 20.80.
9. Average day on which the  $3\frac{1}{4}$  in. measurements were made (p. 19.33, m. 18.25), 18.90.
10. The  $3\frac{1}{8}$  in. measurement was made on the 14th day.
11. Average day on which the  $3\frac{1}{2}$  in. measurements were made (p. 23.33, m. 17.12.).
12. The  $3\frac{5}{8}$  in. measurement was made on the 17th day.
13. Average day on which the  $3\frac{3}{4}$  in. measurements were made (p. 20.65, m. 19), 20.40.
14. Average day on which the  $3\frac{7}{8}$  in. measurements were made (p. 14, m. 20), 17.
15. Average day on which the 4 in. measurements were made (p. 18.92, m. 19), 18.94.
16. Average day on which the  $4\frac{1}{8}$  in. measurements were made (p. 15.75, m. 14), 14.8.
17. Average day on which the  $4\frac{1}{4}$  in. measurements were made (p. 15.17, m. 13), 14.86.
18. Average day on which  $4\frac{3}{8}$  in. measurements were made, p. 14.50.
19. Average day on which  $4\frac{1}{2}$  in. measurements were made, p. 17.33.



20. The  $4\frac{5}{8}$  in. measurement was made on the 12th day.
21. Average length of the uterine cavity in 108 cases, 3.67 inches.
22. Average length of the uterine cavity in 75 primiparæ, 3.74 inches.
23. Average length of the uterine cavity in 33 multiparæ, 3.52 inches.
24. Average length of uterine cavity in 46 cases (26 primip., 20 multip.), measured within 16 days, 3.71 inches.  
Average length of primiparæ, 3.85 inches ; average length of multiparæ, 3.71 inches.
25. Average day on which the uterine cavity was measured in 37 primiparæ, with more or less laceration of the perineum, 19.95.  
Average length of uterine cavity, 3.68 inches.
26. Average day on which the uterine cavity was measured in 13 multiparæ, with more or less laceration of the perineum, 17.23.  
Average length of uterine cavity, 3.70 inches.
27. Average day on which the uterine cavity was measured in 5 primiparæ, with more or less laceration of the cervix uteri, 16.40.  
Average length of the uterine cavity,  $3\frac{5}{8}$  inches.
28. Average day on which the uterine cavity was measured in 5 multiparæ, with more or less laceration of the cervix uteri, 17.20.  
Average length of the uterine cavity, 3.32 inches.
29. Average day on which uterine cavity was measured in 3 primiparæ, with more or less torn perineum and lacerated cervices, 19.  
Average depth of uterine cavity,  $4\frac{1}{8}$  inches.
30. One multipara, with torn perineum and lacerated cervix, had a uterine cavity of  $4\frac{1}{4}$  inches on the 13th day.
31. Case XXII. One primipara with high temperature, pleurisy, anemia, and lacerated perineum, had a uterine cavity which measured 3 inches on the 50th day.
32. Case XXXV. One primipara with adherent placenta, lacerated cervix, torn perineum, cystitis, and offensive lochia, had a uterine cavity which measured  $4\frac{1}{2}$  inches on the 22d day.
33. Case XXXVIII. One multipara with adherent membranes, lacerated cervix, offensive lochia, and very severe after-pains, had a uterine cavity which measured  $3\frac{1}{4}$  inches on the 25th day.
34. Case LVI. One multipara with melancholia, pyrexia, and offensive lochia, had a uterine cavity which measured 4 inches on the 38th day.
35. Case LXII. One primipara with prolapsed cord, a still-born foetus, post-partum hemorrhage, lacerated perineum and cervix, tenderness, and odor, had a uterine cavity which measured  $4\frac{1}{8}$  inches on the 17th day.
36. Case LXXIII. One multipara with adherent placenta, torn perineum, high temperature, and tenderness, had a uterine cavity which measured  $3\frac{1}{2}$  inches on the 15th day.
37. Case CII. One multipara with septicemia, had a uterine cavity which measured 3 inches on the 29th day.

TABLE II.—MEASUREMENTS OF THE UTERINE CAVITY IN CHILDBED.

No. of Case.	Primipara or Multipara.	Age.	Duration of Labor.		Day of Measurement.	Length of Uterine Cavity in Inches.	Position of Uterus at Time of Measurement.	Post-partum Condition. Remarks.
			First Stage.	Second Stage.				
			<i>h. m.</i>	<i>h. m.</i>				
1	Primipara.	21	4.	.5	23	3½	Normal.	Still-born at 8½ months.
2	Primipara.	23	6.20	.20	23	3½	Normal.	Secondary hemorrhage; perineal laceration.
3	Primipara.	24	21.	1.15	28	3½	Normal.	
4	Primipara.	19	3.50	.20	33	3½	Normal.	Cervical fissure; puerperal septicæmia.
5	Primipara.	18	17.40	6.40	15	3½	Normal.	
6	Primipara.	23	13.55	.45	16	3½	Normal.	
7	Multipara.	21	7.20	.20	20	3½	Anteflexion.	Lateral cervical fissure.
8	Primipara.	22	10.30	2.5	18	3½	Normal.	Perineum torn.
9	Multipara.	21	15.45	.15	28	2½	Normal.	
10	Primipara.	32	3.45	.15	13	2½	Normal.	Perineum torn.
11	Multipara.	30	6.5	.15	13	3½	Normal.	
12	Multipara.	24	22.10	.55	14	3½	Normal.	Lateral cervical fissure.
13	Primipara.	22	3.15	.50	13	3½	Normal.	Post-partum hemorrhage; perineum torn; cervix lacerated.
14	Primipara.	22	15.5	.20	23	2½	Normal.	
15	Primipara.	22	16.	.30	15	2½	Normal.	Lateral fissure of cervix.
16	Primipara.	22	30.	.45	15	3½	Normal.	Perineum torn.
17	Multipara.	26	35.	.10	13	3½	Normal.	
18	Primipara.	18	7.15	1.25	17	3	Normal.	
19	Multipara.	29	12.40	.10	15	3½	Normal.	Fissure of cervix.
20	Primipara.	22	6.	1.	23	2½	Normal.	Perineum torn.
21	Multipara.	19	1.30	.5	18	3½	Normal.	Post-partum hemorrhage; fissure of cervix.
22	Multipara.	32	7.	.15	15	3½	Normal.	
23	Primipara.	30	5.30	.15	15	3	Normal.	
24	Primipara.	30	2.30	.45	20	3	Normal.	Cervical fissure.
25	Multipara.	23	9.	.25	17	3½	Normal.	
26	Primipara.	20	20.20	.35	15	3½	Normal.	
27	Multipara.	22	5.45	.55	13	3½	Normal.	Cervical fissure.
28	Multipara.	33	16.	.8	17	3½	Normal.	Cervical fissure.
29	Primipara.	32	19.	1.5	14	3½	Normal.	Cervical fissure.
30	Primipara.	28	21.30	4.	21	3½	Normal.	Tear of perineum; ovaritis.
31	Primipara.	26	16.20	1.5	15	4½	Normal.	
32	Primipara.	22	11.20	.30	17	3	Normal.	
33	Primipara.	23	3.	1.55	14	3	Normal.	
34	Primipara.	21	8.	1.30	15	3½	Normal.	
35	Primipara.	22	13.	7.5	14	3½	Normal.	
36	Primipara.	20	11.	.20	14	2½	Normal.	Cervical fissure.
37	Primipara.	19	12.	1.20	14	3½	Normal.	Cervical fissure.
38	Primipara.	22	14.30	2.10	28	3½	Normal.	Perineal tear.
39	Multipara.	24	6.30	1.20	14	2½	Normal.	
40	Primipara.	23	20.	1.35	16	4	Normal.	Cervical fissure.
41	Primipara.	20	8.30	3.35	21	3½	Normal.	
42	Multipara.	21	8.50	.25	14	2½	Normal.	Cervix lacerated.
43	Primipara.	21	10.30	.40	22	2½	Normal.	
44	Primipara.	24	8.30	2.	16	3½	Normal.	Cervix lacerated.
45	Primipara.	21	?	?	15	3½	Normal.	Eclampsia; manual dilatation; version; cervical fissure; perineum torn.
46	Primipara.	21	25.30	2.55	24	3½	Normal.	Perineum torn; rheumatism.
47	Primipara.	22	12.45	1.5	14	3	Normal.	
48	Primipara.	36	4.30	1.55	14	2½	Normal.	
49	Multipara.	21	2.10	.50	27	3	Normal.	
50	Primipara.	16	13.	3.35	14	3½	Normal.	
51	Primipara.	22	26.15	.15	14	3½	Normal.	Perineum torn; lateral cervical fissure.
52	Primipara.	20	20.	1.25	14	3	Normal.	
53	Primipara.	22	18.45	2.3	28	2½	Normal.	Perineum torn.
54	Multipara.	27	5.40	.45	15	3½	Normal.	Cervical fissure.

MEASUREMENTS OF THE UTERINE CAVITY IN  
CHILD BED — *Continued.*

No. of Case.	Primipara or Multipara.	Age.	Duration of Labor.		Day of Meas- urement.	Length of Uterine Cav- ity in Inches.	Position of Uterus at Time of Meas- urement.	Post-partum Condition. Remarks.
			First Stage.	Second Stage.				
			<i>h. m.</i>	<i>h. m.</i>				
55	Primipara.	21	11.30	2.30	12	3 $\frac{3}{4}$	Normal.	Perineum torn. Forceps; perineum torn; cervix fissured. Cervical fissure. Cystitis.
56	Multipara.	26	6.	.20	14	3 $\frac{3}{4}$	Normal.	
57	Primipara.	24	14.30	9.28	24	3 $\frac{3}{4}$	Normal.	
58	Primipara.	20	5.30	3.2	17	4	Normal.	Perineum torn.
59	Primipara.	22	6.	7.10	17	3 $\frac{3}{4}$	Normal.	
60	Primipara.	23	14.13	.55	20	3 $\frac{3}{4}$	Normal.	
61	Primipara.	24	29.30	1.25	14	3 $\frac{3}{4}$	Normal.	Perineum torn.
62	Primipara.	19	25.15	1.23	17	3 $\frac{3}{4}$	Normal.	
63	Multipara.	28	7.10	.20	22	3 $\frac{3}{4}$	Normal.	
64	Primipara.	23	10.	1.55	20	3 $\frac{3}{4}$	Normal.	Twins; cervical fissure.
65	Primipara.	19	16.30	2.10	33	2 $\frac{3}{4}$	Normal.	
66	Primipara.	18	5.30	1.40	18	3 $\frac{3}{4}$	Normal.	
67	Multipara.	26	5	.5	14	3	Normal.	Perineum torn; cervical fis- sure; mammary abscess. Syphilis; child putrid. Cervical fissure.
68	Primipara.	18	15.45	.20	16	2 $\frac{3}{4}$	Normal.	
69	Primipara.	20	15.15	.30	13	2 $\frac{3}{4}$	Normal.	
70	Primipara.	24	32.15	.25	14	2 $\frac{3}{4}$	Normal.	Cervical fissure.
71	Primipara.	19	25.30	1.20	15	3 $\frac{3}{4}$	Normal.	
72	Primipara.	18	3.5	3.43	14	3 $\frac{3}{4}$	Normal.	
73	Primipara.	21	3.30	4.	25	3	Normal.	Cervical fissure. Perineum torn. Perineum torn. Cervical fissure.
74	Primipara.	20	29.	1.58	13	3 $\frac{3}{4}$	Normal.	
75	Primipara.	23	5.30	.20	13	3 $\frac{3}{4}$	Normal.	
76	Multipara.	23	5.20	1.35	13	4	Normal.	Perineum torn; cervical fis- sure.
77	Multipara.	26	8.	2.35	13	3 $\frac{3}{4}$	Normal.	
78	Multipara.	24	2.30	.10	14	3 $\frac{3}{4}$	Normal.	
79	Primipara.	27	15.50	2.5	23	3 $\frac{3}{4}$	Normal.	Perineum torn.
80	Primipara.	19	17.30	1.45	15	3 $\frac{3}{4}$	Normal.	
81	Multipara.	28	2.30	.45	18	3 $\frac{3}{4}$	Normal.	
82	Primipara.	24	1.50	.20	21	3 $\frac{3}{4}$	Normal.	Cervical fissure. Perineum torn. Perineum torn.
83	Primipara.	19	17.45	.30	20	3 $\frac{3}{4}$	Normal.	
84	Primipara.	18	8.20	1.40	16	2 $\frac{3}{4}$	Normal.	
85	Primipara.	26	18.45	2.23	15	2 $\frac{3}{4}$	Normal.	Perineum torn.
86	Multipara.	23	14.35	.15	13	2 $\frac{3}{4}$	Normal.	
87	Primipara.	20	29.30	.20	16	3 $\frac{3}{4}$	Normal.	
88	Primipara.	23	10.45	.10	14	2 $\frac{3}{4}$	Retroversion.	Tonsillitis; cervical fissure. Perineum torn.
89	Primipara.	21	15.40	.40	13	3 $\frac{3}{4}$	Retroversion.	
90	Primipara.	23	23.	.50	12	4	Retroversion.	
91	Multipara.	32	9.50	2.5	12	3 $\frac{3}{4}$	Retroversion.	Perineum torn; cervical fis- sure. Cervical fissure. Cervical fissure.
92	Primipara.	18	14.	.35	16	4 $\frac{1}{4}$	Retroversion.	
93	Primipara.	25	26.	1.35	15	4 $\frac{3}{4}$	Anteversio.	
94	Primipara.	22	21.10	3.25	18	4	Anteversio.	Cervix lacerated; perineum torn. Cervical fissure.
95	Primipara.	19	20.10	1.30	15	4 $\frac{1}{4}$	Anteversio.	
96	Primipara.	22	26.5	.25	14	3	Anteversio.	
97	Multipara.	27	13.5	.15	16	3 $\frac{3}{4}$	Anteversio.	Cervical fissure. Cervical fissure.
98	Primipara.	24	11.20	2.45	12	4	Anteversio.	
99	Primipara.	19	8.30	.45	14	3 $\frac{3}{4}$	Anteflexio.	
100	Primipara.	26	11.50	.40	15	4 $\frac{1}{2}$	Normal.	Perineum torn; deep cervi- cal fissure. Forceps; perineum torn; cervical fissure.
101	Primipara.	38	49.	2.5	14	3 $\frac{3}{4}$	Normal.	
102	Multipara.	28	15.15	.35	16	3	Normal.	
103	Primipara.	31	1.30	2.15	15	3 $\frac{3}{4}$	Normal.	Cervical fissure; cystitis. Cervical fissure.
104	Primipara.	24	18.40	6.15	16	3 $\frac{3}{4}$	Normal.	
105	Primipara.	28	10.50	.5	12	3 $\frac{3}{4}$	Normal.	
106	Primipara.	23	6.5	3.	14	3 $\frac{3}{4}$	Normal.	Perineum torn. Cervical laceration.
107	Multipara.	26	4.10	.10	13	3 $\frac{3}{4}$	Normal.	
108	Multipara.	24	12.	2.15	14	3 $\frac{3}{4}$	Normal.	

Analysis of 108 cases gives the following results:—

1. Average age of the 108 cases was 24.08 years.
2. Average age of 81 primiparæ was 22.68 years.
3. Average age of 27 multiparæ was 25.48 years.
4. Average number of days in childbed when uterine cavity was measured was 16.83 days.
5. The uterine cavity measured  $2\frac{1}{3}$  inches in 1 multipara.  
The uterine cavity measured  $2\frac{1}{2}$  inches in 8 primiparæ, 1 multipara.  
The uterine cavity measured  $2\frac{3}{4}$  inches in 7 primip., 2 multip.  
The uterine cavity measured 3 inches in 9 primip., 2 multip.  
The uterine cavity measured  $3\frac{1}{4}$  inches in 20 primip., 8 multip.  
The uterine cavity measured  $3\frac{1}{3}$  inches in 1 primipara.  
The uterine cavity measured  $3\frac{1}{2}$  inches in 15 primip., 9 multip.  
The uterine cavity measured  $3\frac{3}{4}$  inches in 10 primip., 3 multip.  
The uterine cavity measured 4 inches in 5 primip., 1 multip.  
The uterine cavity measured  $4\frac{1}{4}$  inches in 1 primipara.  
The uterine cavity measured  $4\frac{1}{2}$  inches in 4 primiparæ.
6. The  $2\frac{1}{3}$  in. measurement was made on the 28th day.
7. Average day on which the  $2\frac{1}{2}$  in. measurements were made (p. 18.62, m. 14), 18.11.
8. Average day on which the  $2\frac{3}{4}$  in. measurements were made (p. 17.71, m. 13.33), 16.77.
9. Average day on which the 3 in. measurements were made (p. 15.55, m. 19), 16.25.
10. Average day on which the  $3\frac{1}{4}$  in. measurements were made (p. 18.1, m. 16), 17.5.
11. The  $3\frac{1}{3}$  in. measurement was made on the 28th day.
12. Average day on which the  $3\frac{1}{2}$  in. measurements were made (p. 17, m. 14.22), 15.96.
13. Average day on which the  $3\frac{3}{4}$  in. measurements were made (p. 15.40, m. 16.66), 15.69.
14. Average day on which the 4 in. measurements were made (p. 15, m. 13), 14.66.
15. The  $4\frac{1}{4}$  in. measurement was made on the 15th day.
16. Average day on which the  $4\frac{1}{2}$  in. measurements were made, 15.25.
17. Average length of the uterine cavity in 108 cases, 3.31 inches.
18. Average length of uterine cavity in 80 primiparæ, 3.34 inches.
19. Average length of uterine cavity in 28 multiparæ, 3.29 inches.
20. Average length of uterine cavity in 61 cases (43 primip., 18 multip.) measured within 16 days, 3.34 inches.  
Average length of primiparæ was 3.36 inches; average length of multiparæ was 3.31 inches.
21. Average day on which the uterine cavity was measured in 14 primiparæ, with more or less laceration of the perineum, 19.74.  
Average length of uterine cavity, 3.25 inches.

22. Average day on which the uterine cavity was measured in 2 multiparæ, 14.5.  
Average length of uterine cavity,  $3\frac{5}{8}$  inches.
23. Average day on which the uterine cavity was measured in 18 primiparæ, with more or less laceration of the cervix uteri, 16.11.  
Average length of the uterine cavity,  $3\frac{3}{8}$  inches.
24. Average day on which the uterine cavity was measured in 9 multiparæ, with more or less laceration of the cervix uteri, 15.89.  
Average length of the uterine cavity,  $3\frac{1}{8}$  inches.
25. Average day on which the uterine cavity was measured in 14 primiparæ, with more or less torn perineum and lacerated cervixes, 15.36.  
Average length of the uterine cavity,  $3\frac{5}{8}$  inches.
26. Case XLV. One primipara with eclampsia, manual dilatation and version, torn perineum, and lacerated cervix, had a uterine cavity which measured  $3\frac{1}{4}$  inches on the 15th day.
27. Case LXIV. One primipara with twins, marked edema of feet and legs, large amount of albumen and casts, and a fissured cervix, had a uterine cavity of  $3\frac{1}{4}$  inches on the 20th day.
28. Case LXVIII. One primipara with torn perineum and lacerated cervix, mammary abscess, high temperature, had a uterine cavity of  $2\frac{3}{4}$  inches on the 16th day.
29. Case CI. One primipara, delivered by forceps, with torn perineum, lacerated cervix, had a uterine cavity which measured  $3\frac{1}{4}$  inches on the 14th day.

## SURGICAL OPERATIONS ON THE PELVIC ORGANS OF PREGNANT WOMEN.

[BY MATTHEW D. MANN, A. M., M. D.,

*Buffalo, N. Y.*

WHETHER or no it be best to operate on a pregnant woman is a question which will often force itself upon the attention of the surgeon. While sometimes the exigencies of the case will make clear his line of action for him, still he is certain to meet with occasions when he will be called upon to decide as to the propriety of operating, and where the nature of his decision will have a most important influence on the welfare of his patient. These occasions, to be sure, are rare; but this very rarity implies want of experience, and leads the surgeon to desire some guide, or some reliable observations, by the study of which he may come to an intelligent and safe decision. If he seeks to be governed by the rules of the books, or by the experience of others, he will find very little written to guide him, and very few recorded observations from which to draw conclusions. It is for the purpose of adding to our scanty stock of knowledge on this subject, and to enable us to deduce certain rules for our guidance in practice, that I have collected the cases here reported.

As the pregnant woman has generally been considered by the operating surgeon as a sort of a *noli me tangere*, the reports of operations performed during this condition are necessarily rare, and the operations are either those done unwittingly or those rendered imperative by the nature of the case. If this be so of operations in general, it is still more so if we limit our investigation to operations involving the

pelvic organs. We then find the material to be very scanty and widely scattered. To collect a sufficient number of cases, I addressed letters to certain prominent gynecologists,<sup>1</sup> asking for the results of their experience, and have been thus furnished with quite an array of cases never before published.

A number replied that they had never met with any cases, and among these were some of our most busy operators. To the cases thus collected I have added some taken from our current literature, and a few from my own experience.

My attention was first drawn to the subject by a case, to be detailed later, in which I repaired a torn cervix, and the woman, to my great surprise, bore twins at full term, about seven months later. This I at first considered a lucky chance, but since I have collected the material for this paper, have somewhat changed my mind. The question of performing ovariectomy during pregnancy presents so many points of a special nature, and has already received so much attention, that its discussion will be put outside of our present limits.

The reasons why operations have been avoided during pregnancy are based on the varied and striking changes which take place in the woman's organism with the advent of conception. I need only recall them to mind. The blood is altered both in its constituents and in its quantity. The red corpuscles become fewer, and the white more numerous. The blood also contains more of water and fibrine, and less of albumen and iron. To accommodate this changed condition of the circulating medium, the heart itself undergoes certain modifications. Its cavities are dilated, and there is hypertrophy of the left ventricle. As a result of the addition to the quantity of the blood, as well as the changes in the heart, we have increased arterial tension. The glandular and nervous systems also undergo very marked alterations.

<sup>1</sup> To the gentlemen who have thus kindly interested themselves in my behalf I wish to extend my sincerest thanks. In many instances I know it involved a great deal of personal trouble, which is fully appreciated.

But it is in the genital organs that we find the greatest changes. With the fixation of the impregnated ovum in the uterine cavity there is renewed activity in the formative processes in all the organs involved in the nourishment and expulsion of the growing fetus. The uterus at once increases in vascularity, and its ultimate fibres begin to grow in every direction. The blood-vessels increase in size and number, while the lymphatics, which were previously small and unimportant, become greatly hypertrophied and increased in number. The connective tissue around the uterus, and in the broad ligaments, is also hypertrophied and softened. Changes of the same nature take place coincidentally in the vagina.

All these metamorphoses, both those in the general organism and those in the special organs involved, would seem to invite accident in the event of an operation. The increased arterial tension, as well as the enlargement of the vessels, and the general softening of the tissues, would all seem to make probable the occurrence of more than the usual amount of hemorrhage, and make its arrest very difficult. The enlarged lymphatics would certainly open the doors to the rapid and easy absorption of septic material, while the quickened cell growth, as well as the increase in the number of white corpuscles in the blood, might lead us to expect a considerable tendency to pus formation.

But above all these *a priori* objections stands out — the great and undoubtedly real one — the danger of interfering with the growth of the product of conception, or, in other words, the danger of producing an abortion. There is little use in arguing about this, for the well-known differences which exist in individual tendencies and predispositions render all of our reasoning vain. As long as one woman aborts from a misstep while her neighbor goes through a severe accident without any interruption in the progress of the utero-gestation; as long as this is so, — and we are unable to explain the causes of the difference in the results, — so long will we be unable to predict with certainty the results of an operation to be performed on the genitals of a



pregnant woman. But while this must in general be admitted, still, from a careful study of the physiology of the parts involved, and from the consideration of the results already obtained by operators, we may be able to give a certain amount of probability to our prognostications which will enable us to act intelligently in any given case.

In addition to the changes already described as taking place in the uterus, we have the great change due to the presence in its cavity of a growing body. This of course produces a dilatation of the cavity *pari passu* with the growth of the ovum. In this dilatation, however, the cervix takes little or no part. While the cervical tissues increase to a certain extent, the growth is in no wise commensurate with the increase which takes place in the parts above the internal os. By the end of the fourth month the cervix has attained its full size, and thereafter remains unchanged until the beginning of labor. These points, although long contested, are now very generally considered to be settled. With the growth of the cervix occurs that peculiar softening of the tissues, which is so characteristic of the pregnant condition.

It will be seen then that an application may be made, even up into the cervical canal, without in any way necessarily involving the integrity of the ovum; and the same is true of a cutting operation, provided the internal os is not too nearly encroached upon. While this is true in a strictly anatomical sense, the peculiarities of the individual, already alluded to, or, in other words, the susceptibility of the reflex centres, introduce an element of uncertainty. As the uterus is left, the nearer we approach the vulva the less does this element of uncertainty enter into the case, the less danger is there of provoking uterine contractions.

The stage of the pregnancy is also an important element in the question. It is generally well recognized that in the earlier stages, and at the menstrual epochs, uterine contractions are more easily excited, and abortions more apt to occur than in the middle periods. The same is true toward the end of pregnancy, though after the child is viable, its expulsion is a matter of less importance.

Having grouped together the arguments against operating on the genitalia of a pregnant woman, it would be unfair not to give the points which might be urged in favor of the choice of this time for operating.

The greater amount of fibrine in the blood might, by increasing its coagulability, counteract the supposed hemorrhagic tendencies. The increased cell growth might also be thought to favor repair and aid primary union ; and also in the case of plastic reparative operations to so aid the growth of the newly-formed connective tissue as to make it sufficiently strong to endure the strain necessarily brought to bear upon it in the labor. These are scarcely arguments, and would not count unless there were other and mightier reasons for choosing pregnancy as the time for operating.

We have then two aspects of the question before us for discussion : The influence of pregnancy on operations in general ; and The effect which operations have on pregnancy. First let us see what have been the results of operations on other parts of the body.

The general feeling on the subject is doubtless well expressed by Dr. Priestley when he says : "It is generally supposed that no operation should be performed during pregnancy, even removing a tooth." Paget, however, says that pregnant women bear operations well. Cohnstein concludes, from the consideration of a number of cases, that repair goes on unimpeded, union by primary intention being rare, but suppuration sometimes very profuse. As regards the second question, Cohnstein found that after operations and injuries pregnancy terminated naturally in 54.5 per cent. of all cases. Massot concludes that ordinary surgical operations do not interfere with pregnancy, unless they materially and permanently disturb the uterine circulation, or excite uterine contractions by reflex irritation. Verneuil has observed a great number of traumatic lesions in pregnant women, and considers that temperature is the great factor in determining the results, whatever be the cause of the febrile action ; if 40° C. (104° F.) be reached, as a general rule, abortion and death follow. M. Nicaise expresses

the opinion that the nearer the lesion is to the genital organs, the greater is the danger of abortion, an opinion reëchoed by nearly every writer on the subject, and supported by Cohnstein's statistics. In them he shows that of the 45.5 per cent. in which abortion occurred, in 32 per cent. the genito-urinary organs were involved in the operation. In Massot's statistics the percentage of abortions in the two classes of cases are about the same. He collected 214 cases; of these 83 were accidents, and 131 operations. Of the 131 operations, 62 involved the genital organs, and 69 did not. Of the 62, 41 recovered, 66.1 per cent., and 19 aborted, 30.6 per cent. While of the 69 general operations, 47 recovered, 68 per cent., and 21, or 30.4 per cent., aborted.

These, then, are the general conclusions to which previous investigators lead us. As far as operations on the pelvic organs are concerned, they are based on too few cases to be at all conclusive, and fail to lay down any rules for practice. I propose, therefore, to examine all the cases which are accessible, grouping them according to the organs which they involved, and try to draw some practical lesson from their consideration.

#### OPERATIONS ON THE VULVA.

*Abscesses* of the vulva are not very uncommon during pregnancy. Cohnstein and Massot have collected a number of cases as follows:—

One case by Grenser, successful.

Two by Verneuil; first case (144),<sup>1</sup> abortion and death; patient was in the sixth month. There was in this case an abscess of the ovary and tube, probably due to the same cause as the abscess of the vulva, namely, gonorrhœa. This ruptured into the peritoneal cavity and caused death. There was, however, an angeioleucitis and lymphadenitis starting from the labial abscess, which may have been the cause of the abortion. Second case (146), in seventh month; was successful. Desprès (145), two cases successful. Petit, one case (147), in the fourth month. Spontaneous rupture, re-

<sup>1</sup> Numbers after cases refer to Massot's work.

covery. Five cases in all, with one abortion followed by death. The others healing quickly, and without accident.

*Tumors of the Vulva.* Cohnstein finds a case recorded by Simon, in which the lower half of the right labium was amputated for a large sarcoma in the second month of the pregnancy. The wound healed rapidly, and the pregnancy was not interfered with, but the sarcoma returned before labor set in.

Dr. Parvin<sup>1</sup> reports a very interesting case, as follows :—

“The patient, about twenty-four years old and pregnant for the first time, was found to have a large labial cyst. The tumor was first noticed at the age of fourteen, about the time of the first menstruation, but grew very slowly until after marriage. When she became pregnant it grew very fast, doubling in size within three or four months. I saw her when about four months advanced in pregnancy ; removed about one third of the cyst wall, — after exposure and evacuation of its contents, — and then filled the cavity with lint. The patient did well, and did not miscarry. The tumor was the size of a large orange.”

Dr. Paul F. Mundé sends me the following :—

“A colored woman, aged twenty-four, had borne four children, and had one miscarriage. During her first pregnancy, six years before, she noticed an enlargement of the labia. It subsided after the birth of her child, but during the second pregnancy it again developed. When seen it was of the size of the fist. It involved the nymphæ, clitoris, and labia majora. From being ulcerated it caused a great deal of pain. She was then four months pregnant. In view of the probable rapid growth of the mass (which was recognized as an elephantiasis of the vulva), and on account of the suffering it caused, its removal was determined upon in spite of the known pregnancy. The operation took place June 18. Elastic ligatures were used over three needles, transfixing the tumor transversely. The mass was then excised above the ligatures. There was no hemorrhage. After the removal of the ligatures, a dozen or so spurting arteries were

<sup>1</sup> Dr. Parvin also reports a case of amputation of the breast for cancer, and of the leg for malignant disease, with good results in both cases, and without inducing abortion.

caught and tied, and the wound closed by twelve sutures. Union almost by first intention, except in the tracks of the ligatures, which came away on the tenth day. No interruption of the pregnancy."

A somewhat similar case is reported by Churchill (157). The patient was in the seventh month. The nymphæ and clitoris were hypertrophied, forming three large tumors, the central one being as large as a turkey's egg. This tumor only was removed, by ligatures and excision, three days afterward. The patient recovered perfectly.

Massot (156) quotes from Aubenas an account of a large lipoma of the vulva. It weighed three pounds, was removed, and patient made a good recovery.

Of *Venercal Warts* or *Vegetations* of the vulva, Massot has collected a number of cases.

Velpéau (148), in 1845, removed an enormous vegetation. Considerable hemorrhage followed, and some days after abortion with recurrence of hemorrhage; recovery.

Gailleton (149) reports three cases where he removed vegetations unwittingly during pregnancy; two of his cases miscarried.

Chassaingnac (150) had a case where, after trying acetic acid and Vienna paste, he used a great number of ligatures. The patient was five months advanced, and made a good recovery without miscarriage. In a second case (151) at the third month he used the linear écraseur with satisfactory results; no hemorrhage or abortion.

Demeaux (152) met with a case where the vegetations, in two masses, reached from the mons veneris to the perineum, each one as large as a man's fist. The operation was performed in the fifth month, the tumors being excised and the hemorrhage stopped with difficulty with perchloride of iron. The hemorrhage recurred in the night, and again the next day. The wound was all healed on the eighth day, and the patient was finally delivered at term.

Demeaux (153) also operated on a mass as large as a fist. The patient recovered quickly and went to term.

Desprès (154) reports a case of a "*bouquet de végétations*"

as large as the head of an adult. The patient was twice operated upon when in the fifth month; hemorrhage was considerable, but she recovered and went her full time. He reports also (155), that he has removed very large vegetations from six patients, being from three to seven months advanced. All were primiparæ, and from seventeen to twenty years of age. None of them aborted.

Violet and Tilleaux also report two cases each, in which they removed large vegetations without accident. Total, nineteen cases of vegetations of the vulva, with three miscarriages. Unfortunately, of the cases which miscarried we have no details.

Here we have twenty-eight cases in which operations of more or less severity were performed on the vulva, and in only four instances were there any bad results; the others recovered without interruption of the pregnancy. As has been already said, one of the fatal cases was so from complications not connected with the operation.

#### THE PERINEUM.

The operation of *Perincorrhaphy* is so very common that it is not at all surprising that a certain number of operations performed during pregnancy are reported. Dr. Goodell met with two cases, one three months pregnant. She went to term, and, by making bilateral incision, he saved the raphe. The other went to term, but the effect on the restored perineum is unknown. He noticed a good deal of hemorrhage during both operations.

Dr. J. R. Chadwick sends a case as follows:—

“The patient was one in the country, whom I had never seen before. Two weeks later, after she had suffered from severe abdominal pain, I was hastily summoned, with the information that the operation seemed to be a success, but that the attending physician had that morning discovered something resembling a sloughing coil of intestines protruding from the vulva. This he had carefully pushed back. On uncovering the woman I found a two and a half months’ fetus hanging by the navel-string. I have since learned that, in extracting the placenta, a part of the united perineum was torn out.”

Dr. G. R. Shepherd, of Hartford, Conn., sends me the following very interesting case : —

“Mrs. A., aged twenty-eight, mother of two children, sustained a double laceration of the cervix in her first confinement, the perineum being also torn completely through the sphincter. The extent of the injury was recognized at the time, but no immediate surgical measures were adopted beyond confining the knees with a bandage, and consequently her second pregnancy, at the expiration of fourteen months, found her with the lips of the uterus widely separated and everted, though entirely covered with healthy mucous membrane. The sphincter ani was unable to retain either flatus or moderately fluid evacuations. She did not miscarry with her second child, but was confined at full term. Six months later she presented herself for operation upon the cervix. Menstruation had recurred, though irregularly, during her second lactation, and consequently I found it impossible to know just when to expect it ; but as her stay in the city was necessarily limited, I operated on the 20th of September, 1881, a little over six weeks from the last menstrual period. Pregnancy not being suspected, the uterine sound was carried to the fundus at the time of the operation, and again two weeks later, when the stitches were removed. The nausea and vomiting that followed the operation were very annoying, and continued to recur every few days for two or three weeks after the removal of the stitches. Her breasts began to enlarge and became sensitive, and, when I decided to operate upon the perineum on the 18th of October, she was feeling quite confident (and I very strongly suspected) that she was pregnant.”

“Both operations were successful, and pregnancy progressed without interruption. She left for the West in November. Her husband, a physician, watched her carefully, and wrote me, after the period of quickening, that he expected her confinement early in May, 1882, and stated that in her condition it was a great comfort to have the complete control of her sphincter, which the operation had given. In March she decided to return East for her confinement, but while on the way was attacked with pneumonia, and died at Montreal. I observed no greater care in this case than is my custom, and noted nothing at the time of the operation that was at all unusual. Regarding the question of hemorrhage, I can simply state from memory that, if anything, there was less than usual, though not markedly so.”

It may be objected to this case that it is not a fair one to draw conclusions from. A woman who, while pregnant, could bear the passage of the sound to the fundus on two different occasions could hardly be made to abort.

Dr. Reamy gives the history of two cases as follows :—

CASE I. — Mrs. F., aged twenty-eight, mother of two children, the youngest thirteen months old. During her first labor she suffered a laceration of the perineum, dividing the external sphincter, but not the recto-vaginal septum. She consulted me March 1, 1879; was then suffering from the symptoms usual after such an accident. Deformity of the vaginal entrance very marked, also considerable prolapse of the posterior vaginal wall. Vaginal contractility much impaired, greatly annoyed by the escape of wind from the vagina, especially when lying upon the side. Uterus slightly prolapsed; slight erosion of os. Much mental depression. Perineorrhaphy decided upon. Operated April 3, 1879; five sutures removed on the eleventh day; results perfect. At the date of the operation menstruation, which, had been quite regular for several months, was due in fifteen days. It did not, however, appear, and time proved that she was pregnant. She was delivered January 5, 1880, of a healthy child—weight, nine pounds—without any laceration of the perineum. I obtained from her and her husband the following facts: Previous to the operation, her child had been weaned three months. Her husband had been absent during the three weeks immediately preceding the operation, arriving at home April 1. Connection took place on the nights of the 1st and 2d; the operation was on the 3d of April. Intercourse was not again had until six weeks subsequently. The child was born two hundred and seventy-four days from the date of the operation. Consequently, insemination, if not pregnancy, occurred before the operation was done.

While this can hardly be called an operation during pregnancy, still it illustrates very forcibly the strength of the new adhesions formed during this period, there having been no rupture of the new perineum, notwithstanding a nine pound child.

CASE II. — Mrs. G., aged twenty-four, mother of one child two years old, came under my care in January, 1881. She was two months advanced in pregnancy, and was reduced to a mere skel-



eton, having vomited daily, often as many as twenty times a day for the past month. She was of the poorest class, and consulted me at the Good Samaritan's Hospital. The perineum had been torn at her labor through the anal sphincter, the rent in the bowel extending half an inch, but the internal sphincter was, of course, not totally destroyed. Her condition, however, had been miserable, for, as she was compelled to wash for a living, uterine prolapse, with all its concomitants, had occurred. Pessaries had proved to be of no use. At the examination I found the os protruding slightly beyond the external vulvar wall, considerably eroded, with some leucorrhœa. As she could not leave her family to enter the hospital, I determined to operate at her home. After keeping her in bed but one week, with the hips elevated and daily applications of cotton pessaries saturated with glycerine, carbolic acid, and tannin, the condition was so far improved that I operated, doing my own modification of Emmet's operation for restoring the perineum in cases involving the bowel. Vomiting ceased within twenty-four hours after the operation. The sutures were allowed to remain fourteen days. The result was perfect. She was kept in bed for three weeks after the removal of the sutures. The uterus was supported by a hard rubber bow pessary until the fifth month of gestation, when it was no longer needed. Vomiting never returned, and her general health became good. I delivered her of a male child weighing nine and a half pounds, August 21. There was very slight laceration of the perineum, of no importance. It was due to the fact that I had carried the base of the perineal body very far forward in the operation for its restoration.

This case not only shows the harmlessness of operating on the perineum during pregnancy, but it also gives us an indication for operating, and, like the previous case, illustrates the behavior during labor of a perineum only six months old, and made during pregnancy.

The late Dr. J. C. Nott met with a case of which the following is an abridged account: Mrs. L., aged thirty-seven, excessively fat and very short, general health very poor, two children, the last twelve years before. At that time the perineum was torn down to the sphincter ani. When seen she had not menstruated for eight years. The uterus

was very small, the uterine sound passing only two inches. A large cicatrix over the perineum was in a state of *extreme hyperesthesia*. Following two sponge tents a slight bloody flow occurred, but was not repeated. Four months later the perineum was operated upon, Drs. Sims and Thomas assisting. Pregnancy unsuspected. But Dr. Nott says: "Even if I had suspected pregnancy, I think the operation would have been justifiable, as her general health demanded relief, and it was clear to my mind that she could not, in her condition, carry a child to term." Union was solid, and the soreness and morbid sensibility disappeared. "Has not felt so well for years." Two months after the operation she aborted. Dr. Nott was charged with ignorance and malpractice in this case, because he did not know that she was pregnant, and because he operated during pregnancy. The experience of later operators, already detailed here, fully justifies Dr. Nott, when he says: "Although I would not have performed the operation without a consultation if I had been aware of pregnancy, still I believe her case to be a strong exception to the general rule forbidding it, and would unhesitatingly have advocated the operation." With the results now before us it would hardly be necessary to call the consultation. The occurrence of the abortion at so late a date after the operation could not possibly have been attributed to its effects. Dr. Sims, in speaking of this case, declares that he has repeatedly performed the operation on pregnant women, and would not have hesitated here for a moment.

In Dr. Chadwick's case there is no certainty that the abortion depended on the operation on the perineum. Although Dr. Chadwick does not state it, there is a possibility that he passed the sound, and that the abortion was due to that fact.

These six cases, if we throw out Chadwick's, are strongly in favor of the harmlessness of operations upon the perineum of a pregnant woman, should the occasion arise. All that were delivered seem to show that we may expect the newly-formed perineum to successfully withstand the

shock of labor. Dr. Reamy's second case and Dr. Nott's case both give indications for the performance of the operation during pregnancy.

## VAGINA.

*Venereal Warts* in the vagina as well as on the vulva occurring during pregnancy are apt to increase very rapidly, and may be so numerous as almost to be a cause of obstruction during labor. The first case of the kind I ever saw I treated with palliatives, astringents, etc., being fearful of serious results if I attempted to remove the growths. Later, however, emboldened by the success of my operation on the cervix of the pregnant uterus, I determined to operate. A young woman who had acquired gonorrhœa shortly after being impregnated for the first time offered an opportunity. My reasons for operating were, that the warts were so numerous and large as to almost block up the vagina. I found it impossible to cure the gonorrhœa while the warts were there, and feared that if left until labor set in, the distensibility of the vagina would be interfered with, and that the advancing head would tear off the growths, leaving open the mouths of the lymphatics and blood-vessels, by which the absorption of septic material would be favored. I feared also for the child's eyes, if the infective discharges were left, and also that the disease might extend into and through the uterus, producing a pelvic peritonitis. I had no difficulty in scraping out the growths with the curette and my finger. The hemorrhage was rather free, but was readily checked by introducing a large cylindrical speculum, and painting the whole vaginal surface with a forty-grain solution of nitrate of silver. A few other applications of silver were made in the same way, and the patient was entirely cured, and went through her confinement without difficulty.

Dr. Chamberlain, at a meeting of the New York Obstetrical Society (April 19, 1881), spoke of having seen extensive venereal vegetations removed, under very similar circumstances, from the vulva and vagina without bad results.

Hildebrandt mentions a case by Levy, of Munich, where, after removal of the warts, he cauterized the base with nitrate of silver, and washed out the vagina with lead water. The patient made a good recovery, but four weeks later there appeared on various parts of the body numerous wart-like excrescences, which remained until delivery, and disappeared soon after. Hildebrandt declares that he has frequently seen these growths disappear during the lying-in period, with cleanliness and rest; but for the reasons already given I should prefer to remove them at once.

The cases detailed here, together with those already mentioned in speaking of operations upon the vulva, in which the same indications exist, would seem to offer basis enough for such a conclusion.

*Applications.* — For the relief of the very troublesome discharges which sometimes cause a great deal of annoyance during the later months of pregnancy, and which I have considered as due in part, at least, to increased vaginal congestion and exudation, I have a number of times used nitrate of silver solutions in the way already indicated, with only good results.

Of *operations on the vagina* proper there are not many to report. Cohnstein remarks that he has never seen any bad results follow the puncture of small cysts in the vaginal walls. Dr. Protheroe Smith mentions having punctured an abscess as large as an orange in the posterior vaginal wall, at the sixth month of pregnancy, without bad results.

Dr. Bixby sends me the report of a case of vaginal polypus:—

“The tumor was nearly as large as a fist. The subject a stout, full-blooded woman. Notwithstanding the employment of an *écraseur*, the hemorrhage required the tampon. I saw the case in consultation. A few days later I learned that she had miscarried at the third month, greatly to my surprise, as I had not the faintest suspicion of pregnancy. Others had seen her before me, and possibly for differential diagnosis the uterine sound may have been used. She made a good recovery.”

It is too bad that some of the conclusions to be drawn

from this case are invalidated by the uncertainty as to the passage of the sound. This applies to many of my cases, as in very few of them was the pregnant condition suspected. Massot has collected a number of cases of this sort. One (158) was an obdurator hymen, cut in the third month, without any bad results. He has collected also three cases of polypus of the vagina. The first (160) was a woman aged twenty-three, in the seventh month of pregnancy. The tumor was outside the vulva, but was attached by a long pedicle to the posterior wall of the vagina; it was much larger than a hen's egg. It was tied, and cut on the fourth day afterwards. Recovery complete. The second case (161) was in Dr. McClintock's practice in 1857. Woman in the ninth month of pregnancy. Tumor attached to the posterior wall of the vagina. It was the size of a small hen's egg, and was sloughing. It was removed, and the patient returned home. Labor came on in a month after the operation, and the patient died in thirty-four hours, apparently of what we would now call septicemia. There was an ulcer on the posterior wall of the vagina, where the tumor had been. The third case (162) was six months pregnant. The tumor was attached by a large, firm pedicle to the anterior wall of the vagina, and was the size of a duck's egg. The pedicle was tied, and the tumor cut off. She recovered, and was delivered at term.

Dr. C. C. F. Gay, of Buffalo, kindly sends me a reference to a case published by him, with notes of the subsequent history of the case. Mrs. G., aged thirty-five, had had procidentia complete for thirteen years; had had five children, three of them since the occurrence of the procidentia. The os protruded two and a half inches beyond the vulva. She was operated upon in June, 1871, according to Emmet's method for narrowing the anterior vaginal wall. Union was perfect, and the patient relieved of her prolapse. Seven months later she was delivered of twins, at full term, one dead and one living. Dr. Bartow, who attended her, is under the impression that the newly attached tissues were torn apart at the labor. In 1876 she was seen

by Dr. Bartow, and the procidentia was found to be as bad as ever.

If stenosis of the vagina, due either to bands or a circular stricture, is discovered during pregnancy, Cohnstein advises that they should at once be cut with the probe-pointed bistoury, and says that no harm is likely to come of it. Verneuil's case, to be related later, leads to a rather different conclusion. At a meeting of the New York Obstetrical Society, Dr. F. Barker related a case where the most marked cicatricial contraction of the vagina gave way, and easily dilated before the advancing head. This would seem to show the uselessness of operating in such cases before labor sets in. Dr. Campbell's second case of vesico-vaginal fistula bears upon this point, and corroborates Dr. Barker's views. He writes of this case: "This rapid softening and stretching of nodular tissue (cicatricial) in the vagina on the occurrence of labor I think I have seen remarked upon by authors, though I cannot recall by whom. Occlusions of the vagina from inflammatory and traumatic causes are, I think, far more common in the African race than in the white. I have had many cases in negro women, and none in white, except in connection with a vesico-vaginal fistula. I was requested to operate on a favorite servant of a planter for occlusion of the vagina, many years ago. She was pregnant, and the operation was thought necessary to admit of safe delivery. She was taken in labor at term, and was delivered without difficulty, and so rapidly that the physician did not arrive until it was over. If there be a congenital atresia the case would be different, and might call for an earlier operation. Herzfeld reports a case, but the atresia was only discovered two weeks before labor, and was left until labor began, when it was torn with the fingers and the forceps applied.

Of seven operations on the vagina, only one resulted in an abortion. The result in Massot's second case is hard to explain, and it is difficult to say how much the old ulcer had to do with the fatal result. Hemorrhage seems to have been the principal difficulty, but in only one case (Bixby's)

was it severe. The method of operating in the other cases of tumor (ligature) may have had something to do with the results obtained.

*Vesico-vaginal fistula* operations during pregnancy make rather a bad showing. Dr. H. F. Campbell, of Georgia, reports to me two cases operated upon unwittingly in the second and third months of pregnancy, as follows :—

CASE I. — I was requested to operate upon a case of vesico-vaginal fistula in a colored woman (mulatto), aged thirty. She had had several difficult labors, but had not borne a living child. In her last labor forceps had been used, late in the protracted labor, and it was after this parturition that the fistula was observed. Bozeman's operation was performed, by which a considerable opening was perfectly closed. The hemorrhage was very severe, and much trouble was experienced in arresting the flow, to effect proper approximation. This was explained some five or six weeks after, when quickening took place, and the woman was found, unexpectedly to herself and to the physicians, to have been pregnant at the time of the operation. I do not remember any symptoms after the operation simulating labor pains, or pains threatening abortion. Being unaware of her condition, if such symptoms occurred they were not recognized.

Dr. Joseph A. Eve, who had charge of the case, had determined, in view of the woman's contracted pelvis and her uniform dystocia, to practice induced labor at the seventh month. It is my impression that spontaneous premature labor occurred at a viable period, and the woman was safely delivered, for the first time, of a living child. She did well after that labor, but died after a subsequent one, at full term, in childbed.

CASE II. — Mrs. J. was the subject of a vesico-vaginal fistula, with considerable opening, near the *bas fond* of the bladder. The accident resulted, I have no doubt, from delay in applying forceps when imperatively demanded. I failed in my first operation on account of fibrous bands distorting the vagina and dragging on the line of union. Only a small portion of the fistula remained open. After some six months or more, she returned for a second operation. I found the vagina still imperfectly prepared for the operation, the obstructing bands being a little less troublesome than before. Being apparently in the best of health, and in good condition otherwise, as I thought, for the operation,

I concluded to attempt the closure of the fistula. The ordinary operation, with silver-wire sutures, was performed. The bands were relieved by incision and stretching. Much troublesome bleeding attended every step of the operation, in contrast with the former one, in which no very serious hemorrhage had taken place. This we attributed, at the time, to the free incision of the constrictions. The sutures were finally satisfactorily applied, and the patient put comfortably to bed, with Sims' catheter in the bladder. Before we left the house, she began to complain of great distention of the bladder. Though bloody urine had flowed freely through the instrument, there was no blood in the vagina from the incisions; and not suspecting any unusual hemorrhage, we attributed her discomfort to other causes than distention of the bladder with blood. Returning some two hours afterward, we found the patient in an alarming condition. She complained of distention more than ever. She was extremely feeble, pulse almost imperceptible, skin cold and clammy. She was nauseated, and had vomited frequently. There was a large quantity of blood in the urinal, with but little or no urine. The vagina was filled by the distended bladder, which projected as a tumor at the hypogastrium. We made efforts at breaking up the clots, with the view of washing out the bladder, but the process was too slow and uncertain, in view of her low condition and the probable continuance of the hemorrhage into the bladder. The sutures were therefore removed as rapidly as possible, and the finger introduced into the bladder through the fistula, and the clots broken up and washed out with fresh warm water, and then iced water was used against the bleeding. So low was the patient that I did not dare to leave her, even after the bleeding had apparently ceased, without means to secure her against further loss of blood. Pledgets of lint, soaked in moderately strong solutions of Monsell's salt, were passed from the vagina through the fistula into the bladder, packing and distending the opening so as to compress the cut edges. She made a good recovery, and returned home. Though not suspecting it at the time, Mrs. J. must certainly have been in the early period of pregnancy. Shortly after returning home she felt motion. Refusing induced abortion, she was allowed to go to full term, and returned to Augusta to be delivered, by Dr. Eve and myself. I knew the vagina was terribly obstructed by the fibrous bands and adhesions, and I had a helpless horror of the approaching event, — catas-



trophe, as I considered it. Labor came on suddenly, and she sent for Dr. Eve and myself, at the same time. We had expected a most protracted and difficult obstructed labor: first, because the former labor had required forceps; and secondly, because of the occluded condition of the vagina. When I arrived, Dr. Eve was already on the ground, but, with all his readiness, he had failed to be "in at the birth," which it seemed to me was likely also to be the death. Labor had been accomplished with the most fearful suddenness. We found the woman almost dead, — cold and pulseless, as if after a most exhausting hemorrhage. We found that she had not bled excessively, and we both came to the conclusion that her condition was the result of shock, dependent on the rapid labor, under circumstances so adverse, namely, the condition of her vagina and the existence of the fistula.

The patient recovered, but the fistula remains unhealed. This is certainly a most remarkable case. It is contrary to the general expectation that such a hemorrhage should not have resulted in an abortion, nor should we expect so precipitate a labor in a vagina so constricted as this must have been.

M. Verneuil reports a case of a strong, robust country woman admitted to the hospital in November, 1875. Her last labor was eighteen months before, and since then she had suffered from a vesico-vaginal fistula. There was a sort of diaphragm across the vagina. As this was quite thin, he tore it with the aid of a speculum and his fingers. Two or three days later there was edema of the labia majora. The vagina was congested, with abundant bad-smelling secretion. Vulva very tender and swollen. She was ill three weeks. On her recovery she insisted upon an operation. This was done January 12th, five sutures were introduced, and all went well until the third day. Then there was a slight bloody discharge, which soon became a hemorrhage, with large clots, and an ovum of the second month was expelled. Stitches were removed January 16th. Union complete, notwithstanding all. Verneuil remarks that the case shows both the danger and the harmlessness of pregnancy in its effects on operations.

W. Schlesinger met with a case in which the woman had been delivered six months before, by craniotomy, with the result of a large vesico-vaginal fistula. She had not menstruated since confinement, but denied pregnancy. The cervix was greatly diseased, and, owing to the position of the fistula, was much in the way, bleeding profusely at the prick of the tenaculum. While the stitches were being put in, a great amount of edema of the cervix and vaginal walls was developed. The operation lasted an hour, and was completely successful. The patient remains well, having gone through her labor at term without difficulty. She must have been from two to three months pregnant at the time of the operation.

Massot mentions a case (159) of fistula, treated by Reybard's forceps or clamp. The patient was three and a half months pregnant, and aborted the night following the operation (the clamp being removed at that time). The continued presence of an instrument in the vagina, irritating the vagina and cervix, may have affected the result. Pregnancy was unsuspected.

Here we have five cases operated upon: two in the second month, two in the third, and one in the fourth. Two aborted; in two there was no union; the rest succeeded, but in two cases after a severe hemorrhage. Hemorrhage more or less severe, once nearly fatal, is mentioned in four of the cases. Such results are not very favorable, and would hardly induce any one to perform the operation during pregnancy, except from the most pressing necessity.

Hemorrhage from operations on the vagina is just what we might expect. The extreme vascularity of the vagina during pregnancy, giving rise to a peculiar bluish color, has often been noticed, and is laid down in the books as one of the cardinal signs of pregnancy. It stands for the red flag of danger.

#### RECTUM.

Operations on the rectum seem to be somewhat dangerous:

Desprès (104) converted a recto-vaginal fistula into an

ano-perineal fistula in a woman three months pregnant. No bad results followed, and the patient was delivered at term.

Dr. Engelmann is the only one, as far as I can learn, who has boldly advocated operating on a fistula during pregnancy. His case was a large, transverse recto-vaginal fistula, which had previously been operated upon by Dr. Greiner, of St. Louis. As the doctor wished Dr. Engelmann's assistance in the second operation, and as he was about to leave town for a long stay, he advised operating at once, although the woman was between five and six months advanced. "The operation was successful, healed kindly, and was not ruptured in the following delivery, which occurred at term. The patient was a strong, healthy woman, and has remained well since."

Compare this with a case by Dr. Cazin, in which he performed forcible dilatation of the sphincter ani, for fissure of the anus, in a young girl, and where abortion followed quickly, she being in the early stages of pregnancy. A similar case is reported by M. Rey. That abortion does not always follow this operation we learn from a case of Dr. Gayet (102), where he dilated, not only with the fingers, but with the speculum. The woman was five months pregnant, went to term, and was delivered of a healthy child.

Cohnstein relates two cases: one seen by Mauriceau, and the other done by Richet. In Mauriceau's case, the operation for fistula in ano in the eighth month was made, and Richet cut a stricture of the rectum in the third month. In each case the ovum was expelled, and in the first the death of the mother followed. Massot thinks a dose of croton oil given after the operation might be held accountable for the result in Richet's case.

Why there should be such a tendency to abortion in these cases is hard to say, but the facts gathered here should put us on our guard against interference with the lower part of the rectum during pregnancy, especially during the early months.

## BLADDER.

The operations on the bladder of which I find reports are not very numerous. Dr. Goodell has used forcible dilatation to relieve irritability of the neck of the bladder a number of times without any harm resulting. Dr. Byford successfully resorted to the same procedure for the removal of a Hodge pessary (open lever?). Dr. Tremain, U. S. A., tells me that he has removed a urethral caruncle in a pregnant woman without any trouble following.

An operation which might be called for at this time is that for stone. This would be demanded not only for relief of the symptoms, but because its presence might prove an obstruction to labor. If small, experience shows that it could be removed by way of the urethra; but if too big to pass easily by this channel, crushing would seem to be the best way of getting rid of it.

McClintock and Phillippe have extracted stones through the urethra in cases respectively at the fourth and seventh months of pregnancy. In neither case were there any bad results. Thomas performed lithotomy on a woman twenty-seven years old, in the fourth month. She went to term. The stone in this case was very large. The woman recovered perfectly, but was delivered of a dead child. This could scarcely have been the effect of the operation.

Massot finds reported three cases of stone extracted through the urethra during pregnancy without any bad results; one was five, one six, and the other seven months advanced. Dr. Reamy writes that he has removed, by cystotomy, in a woman six and a half months pregnant, a double hair-pin. It was incrustrated, and resisted efforts at extraction *per urethram*. The incision was left open, and healed spontaneously in a very short time. The woman went to term without any trouble. Massot refers to a case where cystotomy was done by Verneuil in the third month of pregnancy with perfect success. Indications not given.

The dangers of labor with a stone in the bladder are so great that, encouraged by these results, we should certainly operate in every case.

Thus far we have considered only what might be called the accessory organs. The main organ, that which contains the growing ovum, is the one which we should *a priori* be the least inclined to touch. It is the one, however, which has been most subjected to operative proceedings. In this connection I shall treat, not only of the severe operations, but of the minor as well; for, although of very little importance under ordinary circumstances, they may be of great moment if done during the pregnant condition.

## UTERUS.

*Applications to the Cervix.* I have received two communications on this subject from the same city, but containing such diametrically opposite views that, coming as they do from men high in the ranks of the profession, I must present them to the reader side by side.

Dr. H. P. C. Wilson, of Baltimore, writes:—

The most remarkable surgical operation on the neck of the uterus which I have performed was in the case of a woman about forty years of age, mother of eight living children, and several miscarriages. In her last pregnancy she began bleeding from the uterus with the advent of pregnancy, and bled so profusely all the time that, although she was in the hands of two of our best physicians, nothing could be done to arrest it. At six months I was called in to bring on an abortion to save her life. She was so feeble and bloodless that I refused to produce an abortion then, hoping to carry her to term. At seven months I was forced to bring on the abortion to save her life. I did not see her again until last October, when she came to me, stating that she was again pregnant, and wished for an abortion. I refused to operate, and began mopping out the cervical canal with chromic acid, Monsel's solution, and glycerine, and Churchill's solution of iodine, using one application at one time, and another the next. *I passed my mop carefully just within the internal os.* In two months the erosion and varicose condition of the vessels in the cervical canal was cured. The woman has had no bleeding since, is well, and going on naturally to term. I have seen no such case before. We were at a loss to know, in the first instance, where the blood was from, but after I produced the abortion I was certain that

it came from the cervix and cervical canal ; and I then stated to the gentleman with whom I was in consultation that if she became pregnant again I would treat her just as I have now described.

This is certainly a very striking case, but *audi alteram partem*.

Dr. W. T. Howard writes :—

In treating the so-called granular erosion about the cervix during pregnancy, in my earlier gynecological practice, in applying carbolic acid, Churchill's tincture of iodine, etc., I have had some three or four cases to cast off the product of conception. I am so entirely satisfied that the abortion was caused by the applications that I now never use them under such circumstances. In my lectures I always warn students never to apply caustics to the cervix in pregnancy, so strong are my convictions of the great danger of producing abortions, notwithstanding the recommendation of high authorities to use them for the purpose of relieving nausea and vomiting.

Dr. Howard cites two cases recently observed in his practice, in one of which abortion was evidently induced by tincture of iodine applied by another physician to relieve a condition resembling, only less severe, the case described by Dr. Wilson. In the other, the uterus was apparently induced to throw off a dead ovum, retained more than three months, by a free application of carbolic acid to the eroded cervix.

Dr. M. O. Jones, of Chicago, has advocated the application of nitrate of silver to the cervix for the treatment of vomiting during pregnancy. He uses the solid stick, and cauterizes the whole vaginal portion of the cervix, not to cure an abrasion, but as a sort of derivative. He reports five cases, all cures.

Dr. Sims gives his approval to this method, and says that it has relieved a number of cases in his hands. It is, I am informed, the standard treatment to-day in the wards of Professor C. Braun, of Vienna. It is in use by many practitioners. Lusk advises a ten per cent. solution to be brushed on the cervix, and makes no mention of any danger of producing an abortion.

My own experience is confined to a few cases. In one I applied pure carbolic acid to the cervix, and just within the external os, in the second month, and this was followed by the expulsion of the ovum. In several cases I have used a strong solution of nitrate of silver without bad results.

If we seek an explanation of the differences in the experiences of various authorities mentioned, may we not find it in the character of the materials applied? Carbolic acid and iodine are highly diffusible substances, as well as violent poisons to all forms of life, especially the lower. If we consider the fetus, in its earlier stages, as belonging to the lower forms, and take into consideration the rapidity with which the agents named are absorbed, especially by denuded or abraded surfaces, we can easily see how continued doses of such a poison as carbolic acid, or one large dose, may, by killing the fetus, cause an expulsion of the ovum. Dr. Howard mentions as his principal agent, iodine and carbolic acid. Dr. Jones uses nitrate of silver, a substance which is not particularly poisonous, and which by its peculiarity of forming insoluble compounds with albuminous bodies is absorbed very slowly, or not at all. But even this latter agent may, and perhaps has, produced abortions. In these cases we must suppose that the result was accomplished by irritating the nerves, and thus exciting uterine action in an organ peculiarly susceptible. To be sure, Dr. Wilson's case is against this theory, but then it must be taken as an exception which proves the rule.

We may class all caustics which, like nitrate of silver, produce only local effects in the same category. If we do, we get an additional argument from the researches of Courty. Speaking of the treatment of granular condition of the cervix, he says, "An indication for the actual cautery exists in every case of granular cervix. It exists exceptionally in pregnancy, for formidable accidents, such as uncontrollable vomiting, appear to be caused or kept up by the granular condition. I have long ago demonstrated, not only the harmlessness and usefulness of cauterization of the cervix with the red-hot iron during pregnancy, but

also the accomplishment of normal parturition in these cases after the use of the cautery." Cohnstein gives as his experience that nitrate of silver is harmless, and considers the potential cautery as without danger, but quotes a case from Broca, where the second application of the hot iron brought on an abortion, with fatal peritonitis.

There are two other methods of treatment applied to the cervix during pregnancy which demand notice. Although not now so much the fashion to apply leeches as it was formerly, still it is practiced to a certain extent, and it is recommended as a preventive of abortion. Tilt speaks of it, and says:—

"Leeches may be very useful in preventing abortion, when it has been repeatedly caused by a severe inflammatory condition of the neck of the womb, with distended varicose veins. Under such circumstances it is well to apply from four to six leeches to the womb, at two or three successive menstrual periods. By so doing I have repeatedly conducted pregnancy to its full term in women who had previously always miscarried."

He quotes Whitehead as abundantly illustrating the utility of this plan. Dr. J. Henry Bennet is also strongly in favor of this plan. Tilt mentions one or two cases where abortion followed, but seems to doubt the causative effect of the leeching, except in one case, where the leeches got into the canal.

Among the methods which have been brought forward for relieving that most distressing complaint, the vomiting of pregnancy, that suggested by the late Dr. E. Cope-man, of England, for a time, at least, attracted much attention. It consists in dilating the external os and canal with the finger carried in as far as the first joint, care being taken to avoid going far enough to disturb the integrity of the os internum. Its author considered the method as infallible, and published some striking cases in support of his views. Others reported successful cases, but abortions following its employment were also reported. Dr. J. Marion Sims met with an abortion, but thinks the result came from the woman having the habit of aborting, she having had two miscarriages previously.



With neither of these last two procedures have I had any experience. The treatment of abrasions of the cervix with solutions of nitrate of silver is now so well understood and so frequently practiced that it may be considered as a settled and legitimate therapeutic measure. Most of those who advocate it, however, deem it necessary to put in a word of caution; nevertheless, I have been unable to find a single recorded case where abortion was unquestionably due to this treatment. The application of leeches and of the actual cautery, while they seem not to be dangerous in the hands of their advocates, and may, to a certain extent, be beneficial, are seldom demanded in practice.

Copeman's method is one which requires so much skill and judgment for its application that it can never be safe in the hands of the general practitioner, and will not come into the general use which the enthusiasm of its originator predicted.

*Trachelorrhaphy.* — One of the most interesting facts in this connection is that Emmet's operation for lacerated cervix may be performed during pregnancy without necessarily interfering with the integrity of the ovum. The first case, which came to my notice, was in my own practice. Mrs. E., multipara, applied for relief at the New York Dispensary, November 9, 1877. She was very weak, suffering so severely as to be scarcely able to walk into the consulting-room. She stated that her last menstruation was on September 20th. On examination I found the cervix exquisitely tender, so much so as to make an examination very painful. The whole cervix was red and denuded, and the seat of a deep bilateral laceration. No satisfactory examination of the body of the uterus could be made, except enough to notice that it was nearly in position and a little enlarged. I explained to her the necessity of an operation for her permanent relief. A month was spent in making arrangements and in preparatory treatment, during which time I made no digital examination. December 10th I operated, Dr. Mundé assisting. The condition of the cervix was greatly improved, but it

was still tender and somewhat denuded. I noticed that the tissues were very soft, and that the hemorrhage was greater than usual. Five sutures were introduced, and during the time that they were in there was a profuse purulent discharge from the vagina, such as I have never before or since seen to follow this operation. Union was complete, and the relief of the symptoms perfect. March 8th she returned to say she was not well, and upon examination I found an ulcer on one side of the cervix, round and deep. This I considered to be chancroidal, as her husband had contracted a chancroid on his glans penis while his wife was in the hospital. This yielded to treatment, and I saw no more of her until the summer, when she came in to say that she had recently given birth to twins. I saw them: they were well-developed children. The cervix was not torn, and only showed a depression on the side where the chancroid had been.

The next case which I met with was in the practice of Dr. Mundé. While attending Dr. Mundé's patients at the Woman's Hospital, out-department, for him, during his absence, I saw Mrs. S., aged thirty, having one child. As the uterus was plainly to be felt in the posterior vaginal pouch, I made the diagnosis of retroversion. Dr. Mundé examined her a few weeks after, and diagnosed probable pregnancy, merely from softness of the cervix and slight enlargement of the uterus. There was a bad bilateral laceration of the cervix. As the uterus did not seem to grow, the idea of pregnancy was given up, and Dr. Mundé operated upon the cervix during July, 1878. Menstruation had been very irregular for some time, and there were no rational signs of pregnancy. The operation was successful, and the stitches were removed, leaving a virgin cervix. Twelve or fourteen days afterward, as Dr. Mundé was again absent, I was called to attend the woman, and delivered her of a three months' fetus, which had evidently been dead for some time. The cervix was again torn by the passage of the child. The woman made a good recovery. Dr. T. A. Emmet operated for a double laceration during the second

month, pregnancy unsuspected. She made a good recovery, went to full term, and had no trouble afterward.

Dr. Reamy also sends notes of a case as follows :—

Mrs. J. B., aged thirty-four ; married six years ; mother of two children, eldest three years, youngest nine months. During her first confinement, which was tedious, and the delivery instrumental, she suffered a severe left lateral laceration of the cervix. Before the second pregnancy occurred, she was placed in my charge. As she was suffering from most of the symptoms which usually follow such conditions of the cervix, I urged an operation. Her husband would not consent. I was surprised to hear of her pregnancy, as the local conditions rendered it improbable. I attended her at confinement. Labor quick and easy, but she remained in poor health, was anemic, and suffered from exhaustive leucorrhea.

I saw her again July 10, 1880. Examination showed erosion of the posterior lip, considerable hypertrophy, and marked induration, especially at the bottom of the laceration, where there was a large cicatricial plug. The laceration was quite extensive, and the erosion more especially of the posterior lip, which bled at the slightest touch. I feared approaching malignancy. An operation was again urged, and cheerfully agreed to. She had not menstruated since her last confinement. There were no signs of pregnancy, and it was scarcely considered. I operated August 3d, and found the bleeding more profuse than usual. Four silver sutures were introduced. Result was perfect. The patient's health improved rapidly, and soon fetal movements were unmistakable. I delivered her of a perfectly developed child, weighing eight pounds, March 18, 1881. Labor natural and easy. The os dilated promptly and safely, and was not torn at all. Labor terminated in three hours after the first pains. The patient must have been in the second month of pregnancy at the time of the operation.

Dr. Goodell says that he performed the operation for a lacerated cervix, unwittingly, on a pregnant woman, who had apparently menstruated a week before ; but six days after the operation, a six weeks' ovum forced its way through and tore open the wound.

These, with Dr. Shepherd's case, already reported, make a total of six cases in which the operation was done. In

four the results were perfect in every way, while the other two aborted and tore open the freshly united wound. In my own case, I am sure the sound was not passed, as I forgot to take the instrument with me. It is, I believe, the general custom to pass the sound both before and after the operation, so that it is altogether probable that, in the cases which aborted, the abortion was due to this cause. Dr. Shepherd says that it was twice done, but, curiously enough, no abortion followed.

These cases are of great interest, in that they show what treatment a pregnant uterus will stand without being excited to contraction, provided the interference is confined to the cervix. The only practical deduction which we may make is that if we find a case of "habitual abortion," where the habit evidently depends upon a torn cervix, and where the woman is already pregnant, we may still hope to save the ovum by a careful performance of this operation. The operations were all done in the early months of pregnancy, and, as in the operation on the perineum, union occurred in every case.

*Polypi of the Cervix.* — Small mucous polypi of the cervix may be twisted or snipped off during pregnancy, and the bleeding points touched with an astringent. Dr. H. P. C. Wilson mentions having done this frequently, and other cases are reported, especially one by Tanner. But this operation, slight as it is, is not devoid of danger. Dr. Lusk met with a case where he snipped off a polypus not larger than a good-sized pea, which protruded from the cervix and caused profuse leucorrhœa. The patient was two and one half months advanced in pregnancy. She was seized with pains on leaving the doctor's office, and aborted a few hours afterward.

As showing how these cases can be safely treated, it may be interesting in this connection to mention a case reported by Dr. Horace Williams. A small polypus of the cervix was discovered in the third month of pregnancy. It gave rise to some hemorrhage. The doctor asked the opinion of the Philadelphia Obstetrical Society

as to its removal. The verdict was unfavorable, so he treated it with a strong application of tannin, after which the hemorrhage ceased, and, two months later, no traces of the polypus could be seen.

*Large Polypi*, which may be mucous, but which are more generally fibroid in character, present a more complicated problem for solution. That these tumors may cause very serious trouble during pregnancy and labor cannot be doubted. Under the influence of the increased nutritive energies which involve the parent organ at this time they often increase very rapidly. During pregnancy, the principal symptom which is indicative of their presence is hemorrhage. The flow may be continuous or periodic, and to this cause may be attributed many of those curious cases of menstruation during pregnancy. If they do not cause any trouble beforehand in labor, they may present an actual obstacle to the passage of the child, or, on being torn off, may cause a considerable hemorrhage of an obstinate character. Again, the extreme and long-continued pressure to which they are subjected may cause their death, with breaking down of the tissues, fetid discharges, absorption, and septicemia.

It becomes, then, our duty, in every case in which such a tumor is discovered during pregnancy, to decide at once as to its removal. We have to balance on the one hand the danger which we may encounter if we remove it, and on the other, the risks of leaving it. Besides the danger to be anticipated in child-bed, the presence of the tumor, either by causing severe hemorrhages or by its mechanical action, may bring on an abortion. On the other hand, interference may provoke abortion, either directly, or by the high temperature following the absorption of septic material from the large suppurating surface likely to be left. This latter danger depends upon the size of its attachments, while the danger of direct abortion depends rather upon their seat. Let us see what have been the results thus far obtained.

Dr. Lusk reports having removed a polypus as large as

an egg from the cervix of a woman seven months advanced, with good results. A periodic flow which had lasted throughout pregnancy ceased after the operation. Dr. Jenks writes that he has met with one case. "It was a cellular polypus, about three inches in length. The woman was in the fourth month of pregnancy, and had been complaining of frequent floodings of late. I found the polypus protruding beyond the os internum, and apparently attached above it, quite a distance. I passed a wire *écraseur* around it up to the os internum, and removed it without interfering with pregnancy, as she went to full term." Cohnstein has collected fourteen cases. The results were as follows: In two cases, in which the tumor was cut off with scissors, abortion followed at once in one; the other went to full term. Torsion was used three times without abortion. The other nine cases were operated upon by the ligature, and Cohnstein remarks that the results show that in the first three months the operation may not only lead to abortion, but "that fatal peritonitis follows with relative frequency. In the later months the results are favorable both to mother and child." Unfortunately, he gives no figures for these nine cases. We are thus compelled to throw them out, and we may do so the more readily because they were operated by a method now nearly obsolete.

Massot refers to a case (180) by Aston Key, where a tumor as large as a small apple was removed by ligature. It separated with the tumor on the second day. The patient was imprudent, and got up the next day, when pains came on, and abortion followed. Metro-peritonitis set in, and she died on the fourth day after the miscarriage.

West (181) excised a fibrous polypus, as large as a hen's egg, from the anterior lip. The patient was pregnant, made a good recovery, and, six months afterward, was delivered at term. There was some hemorrhage.

We then have nine cases from which to draw conclusions. Of these nine, six were successful. Three of them were in the third month, one in the fourth, and one in the seventh. One of those in the third month miscarried.

Demarquay and Saint-Vel, in writing of fibroids in pregnancy, say there should be certain favorable conditions, one of which is that the tumor should be pediculated and prominent in the vagina (compare Dr. Jenks's case), and also that it promises to be, later, a cause of dystocia. They prefer the *écraseur*, and add: "The excision of the polypus is the only operation which we ought to take into consideration in cases of metrorrhagia. Besides being radical, it proves less likely to provoke abortion than the tamponade. In the majority of recorded observations of ligature and excision of polypi of the neck, pregnancy has not been interrupted; but since such results have obtained, intervention ought to be only from necessity." As to when the necessity arises, the condition of each case must determine. They refer to two cases where large fibroids of the neck were enucleated during pregnancy. One was by Danyau, in the sixth month. The tumor filled the whole pelvis, and had its seat in the posterior lip. Child dead, and extracted by version; recovery. The other was by Braxton Hicks: a multipara, in labor twelve hours. Large tumor filling the posterior part of the pelvis, situated in the posterior lip of the womb. Enucleation without any hemorrhage; child and mother living. I am unable to present any more cases, but from the few here given it may be seen that, in a case demanding interference, on account of either hemorrhage or threatened abortion, the removal of the polypus will offer a fair chance of relief without danger to the child. Whether every case should be operated upon at once on its discovery, as a precaution against possible danger, we have not the means of deciding. I should give it as my opinion that it would be better to wait, under such circumstances, until later in the pregnancy, but to operate before labor set in. The method of operating which we should choose would be by the galvano-cautery wire.

*Cancer of the Cervix.* — The questions which interest us in regard to this unfortunate complication of pregnancy are: Should an operation be undertaken in the earlier months, for the removal of the growth? What are the

chances for the mother and child in case an operation is done? What will be the result if it is left alone? The only form of uterine cancer which is liable to exist during pregnancy is that which affects the cervix. In a majority of instances the growth of the ovum is not interfered with. Nor is this so unfortunate as might at first seem, for it has been found that an abortion does not much help matters, and that the mother's life is not greatly prolonged by it. The dangers of abortion are also very great. The treatment, then, resolves itself into the question, Shall we remove the growth in the early stages, or let the pregnancy and the tumor go on together? If pregnancy goes on, it may result in the death of both mother and child, and is quite likely to be fatal to the former. The increase in the nutritive energies of the uterus is generally shared by the tumor (exceptionally it remains quiescent), and it may grow to such a size in a short time as to render the passage of the child impossible. In such a case we are compelled to resort to Cæsarean section, in the interests of the child, the mother's chance for life, under any circumstances, being so small as to be practically of no account. If not an absolute hindrance to labor, it still may cause severe hemorrhage, and induce other complications, which may result in the loss of both lives. Thus there is every inducement to early operation, if this can be done with a fair chance of success. That this can be done without especial danger, and that such practice is good and justifiable, the following cases seem to show.

Dr. C. Godson reports a case in which he removed a large cauliflower excrescence in the sixth month, with the *écraseur*. The patient, a multipara, went to term, and was delivered of a living child. Two years later she was again confined. A dead child was extracted by version, but the patient died, thirteen days after, of exhaustion.

Dr. Mundé adds two cases to the list:—

CASE I. — Mrs. H., aged thirty-four, three children. When seen (1875) she had been flowing for six months. An examination revealed a large cauliflower growth (epithelioma) of the



cervix. The hemorrhage was so profuse on examination that the vagina was immediately tamponed. No bimanual examination was made, on account of the flow. The mass was amputated in two slices by the galvano-cautery wire ; time, twelve minutes. There was no hemorrhage at the time of the operation. On the night of the sixth day after the operation violent pains set in, with hemorrhage, and were followed by the expulsion of a two to three months' fetus. The placenta was retained, and had to be removed by the curette. The patient made a good recovery from the operation and the abortion. Pregnancy was not suspected.

CASE II. — Mrs. D., aged forty-one, ten children and four abortions. Had been flowing for three or four months. Flow never profuse. Her general health was good. A vaginal examination showed a soft, very pulpy mass, the size of a large lemon, attached to the posterior lip of the cervix. The anterior lip was healthy. No bimanual examination was made, as the diagnosis of epithelioma was clear, as also the possibility of removing it entirely, at least macroscopically. Pregnancy was not suspected. April 12, 1882, the mass was removed by the galvano-cautery wire, close to the posterior vaginal cul-de-sac. Time occupied in the removal, seven minutes. No hemorrhage. The vagina and cervix looked blue, which was attributed to the presence of the tumor. The patient made a good recovery from the operation. She was examined again on several occasions by the speculum. The last time was June 25th, when the exceedingly blue color of the labia was again noticed. A bimanual examination then revealed the head by ballotment, and the fundus reached nearly to the umbilicus. The motion of the child had been perceptible to the patient for some three weeks. She was evidently five to six months pregnant, and consequently must have been in the third month at the time of the operation. The growth had not reappeared.

Cohnstein has collected four instances where amputation of cancer of the cervix was performed in the earlier months, and in only one did an abortion follow.

Thus we have seven cases, with two abortions, but recovery from the abortion in each case. In no instance was the return of the growth, before the confinement, noticed. This is certainly a very encouraging showing, but unfortunately this method of treatment is applicable to but few cases,

from the fact that the tumor is not apt to be discovered in time. It should lead us, however, in multiparæ no longer very young, to make an examination during pregnancy even for a slight hemorrhage or a persistent discharge, even though the discharge be not offensive. I have now given every case of operation on the pelvic organs during pregnancy, records of which I have been able to obtain. Having no preconceived ideas, no opinions to sustain, I have tried to draw my conclusions in as fair a spirit as possible, and in formulating them shall give only those points which seem to be justified by the facts. The conclusions to which I have come may not seem to others to be the correct ones; but be this as it may, the facts are here, and each one may judge for himself. In looking over the cases, the reader must have been struck by the number of times that pregnancy was overlooked. This was doubtless sometimes due to carelessness, sometimes to the entire absence of all symptoms pointing to the existence of a fetus in utero, and sometimes to the impossibility of detecting pregnancy in its earlier stages.

In adding up the cases for the purpose of taking a general percentage, for the sake of making some comparisons, I have omitted all cases which could not be strictly called operative. Where it is stated that such and such an operation was done several times, I have translated "several times" as twice. In this way I count a total of ninety cases.

If will be observed that in twenty cases (22.2 per cent.) abortion followed the operation, and that four patients died. These results are better than those arrived at by Cohnstein (45.5 per cent. of abortion), where all sorts of operations and injuries were included, and compared favorably with Massot's statistics, — one hundred and thirty-one operations of all kinds, with forty abortions (30.2 per cent.). But it would be hardly fair, therefore, to conclude that operations on the pelvic organs give a more favorable result during pregnancy than operations upon other parts of the body.

NATURE OF OPERATION.	Number.	Abortions.	Deaths.
Venereal warts of the vulva . . . . .	19	3	-
Venereal warts of the vagina . . . . .	3	-	-
Elephantiasis of the vulva . . . . .	2	-	-
Sarcoma of the vulva . . . . .	1	-	-
Lipoma of the vulva . . . . .	1	-	-
Cyst of the vulva . . . . .	1	-	-
Abscess of the vulvo-vaginal gland . . . . .	5	1	1
Unruptured hymen . . . . .	1	-	-
Polypus of the vagina . . . . .	4	1	1
Cyst of the vagina . . . . .	1	-	-
Abscess of the vagina . . . . .	1	-	-
Stenosis of the vagina . . . . .	1	-	-
Anterior elytrorrhaphy . . . . .	1	-	-
Vesico-vaginal fistula . . . . .	5	2	-
Urethral caruncle . . . . .	1	-	-
Dilatation of urethra for stone, etc. . . . .	5	-	-
Cystotomy . . . . .	2	-	-
Recto-vaginal fistula . . . . .	2	-	-
Stricture of the rectum . . . . .	1	1	-
Fissure of anus . . . . .	3	2	-
Fistula in ano . . . . .	1	1	1
Ruptured perineum . . . . .	7	1	-
Polypus of cervix (small) . . . . .	3	1	-
Polypus of cervix (large) . . . . .	7	3	1
Lacerated cervix . . . . .	6	2	-
Cancer of cervix . . . . .	6	2	-
	90	20	4

The number of abortions is certainly very small; strikingly so if we throw out operations on the rectum, and cases where the bad result might be properly attributed to causes outside the operation itself. It is really astonishing to find that such operations as those for torn cervix and perineum, or for the removal of large polypi and cancerous growths of the cervix, have such a small per cent. of abortions. If we examine carefully all cases where abortions occurred, we should find that many of them were not directly due to the operations.

The history of the three cases where abortion followed the removal of venereal warts from the vulva are too short to allow of any study. The case where abortion and death followed the opening of an abscess of the vulva will be referred to when considering the deaths. The death fol-

lowing the amputation of a vaginal polypus was not preceded by an abortion, but followed labor at term. The abortion, after a similar operation, lies open to the suspicion of having been caused by the passage of the uterine sound.

The same is true of the two cases of lacerated cervix, and one of ruptured perineum. One of the cases of vesico-vaginal fistula was operated upon by a clamp, which was left in the vagina, and to this, in part at least, the occurrence of the abortion may be attributed.

Four abortions follow five operations on the rectum. The abortion following the excision of a small polypus of the cervix must be attributed to the excessive sensibility of the uterus in this case. Thus more than half of the abortions might perhaps have been avoided, had the operators refrained from operating on the rectum, and had they in other cases been cognizant of the condition of their patients. The remaining cases (a little more than 10 per cent.) must be set down against the operations; but this is a very small proportion, and one which should not cause us much anxiety in case we are called upon to operate during pregnancy. It is generally supposed that severe hemorrhage predisposes to abortion. This, however, is not borne out by the authorities who have studied the subject, and by the histories of these cases. Where the hemorrhage was freest, as for instance in one of Dr. Campbell's cases, there did not seem to be any tendency to abort. Massot comes to this conclusion from the study of a number of uncomplicated hemorrhages, and quotes with approval the conclusion of M. Brume, who says: "The efficacy of hemorrhage as a cause of abortion cannot be admitted without more proof."

The number of fatal cases is hardly larger than would have been probable in a like number of similar operations on non-pregnant women, and is probably less than would have occurred among these same women had no operation been performed upon them at all. One death followed the opening of a vulvar cyst, but could be fairly attributed to the coincident rupture of a cyst in the tube of the ovary.

In Key's case, death from metro-peritonitis followed an abortion, but the latter was apparently due to carelessness on the part of the patient. Nicaise's case is without details; while the fatal result in the case reported by Massot did not occur until labor came on at term. A polypus of the vagina was removed by ligature early in the ninth month, and the resulting ulcer may have had something to do with causing the fatal septicemia.

In all the plastic operations, union by first intention occurred even when a previous operation had failed. Of the case in which the period of pregnancy is stated, there were thirteen before the third month, twenty-six in the third, seven in the fourth, six each in the fifth, sixth, and seventh months, and one each in the eighth and ninth months. More than half the operations, then, were performed in the first four months, the time when abortions are supposed to occur most easily, — a supposition which is supported by the facts; for all the abortions of which the date is given occurred on or before the third month, except two; one of these was in the sixth month, the other in the eighth.

If now we sum up our conclusions in the form of propositions, we may say:—

1. Pregnancy is not so decidedly a bar to operations on the pelvic organs as is generally supposed. The results, however, vary with the operation and the organ operated upon.

2. Union of denuded surfaces is the rule, and the cicatricial tissue formed during the earlier months of pregnancy is strong enough to resist the shock of labor at term.

3. Operations on the vulva involve very little danger either to mother or child.

4. Operations on the vagina are likely to cause severe hemorrhages, but are not otherwise dangerous.

5. Venereal warts and vegetations of large size and non-syphilitic are best treated by removal, whether they occur in the vagina or are confined to the vulva.

6. Applications of nitrate of silver and astringents of this class may be made with safety to the vagina and cervix.

Diffusible poisons, like carbolic acid and iodine, should not be used pure or in strong solutions for such applications.

7. Operations upon the bladder and urethra are not dangerous, or likely to be followed by abortion.

8. Operations on the rectum involving the sphincter ani, even if slight in their character, are dangerous.

9. The operation for vesico-vaginal fistula should not be undertaken during pregnancy, as the dangers of hemorrhage and abortion are considerable.

10. Plastic operations on the cervix and perineum may, if necessary, be undertaken in the earlier months of pregnancy with a fair prospect of success, and with a good chance that the results may not be impaired by labor.

11. Small polypi of the cervix may best be treated by torsion or strong astringents. If cut, there is some danger of abortion following.

12. Large polypi may, if causing hemorrhage, be removed at once, with a fair chance of good results. If not doing any harm, then removal is best left until near the close of pregnancy.

13. Cancer of the cervix discovered during pregnancy should, if possible, be removed at once.

NOTE. — As a great deal more material is necessary in order to decide whether these conclusions are correct, it is earnestly requested that those having notes of cases bearing on the points discussed in this paper will send them to the author.

#### LITERATURE.

Priestley — *Obstet. Jl., Gt. B. and I.*, vol. iii., p. 48.

Cohnstein — *Ueb. chirurg. Operat. bei Schwang.*

Volkmann's klin. Vortrög. No. 59. 1873.

Massot — *De l'influence des traumatismes sur la grossesse.*  
Paris, 1873.

Verneuil — *Gazette méd. de Paris*, p. 262, 1876; also in Massot.

Verneuil — *Gazette méd. de Paris*, March 18, 1876.

Nicaise — *Gazette méd. de Paris*, March 18, 1876.

Tillaux — *Gazette méd. de Paris*, March 18, 1876.

Nott — *Am. Jl. Obstet.*, vol. ii. p. 637.

Hildebrandt — *Billroth, Handbuch d. Frauenkr.*, 8te Abschn., pp. 48 et seq.

- P. Smith — *Lancet*, Oct. 22, 1871.  
Herzfeld — *Wien. med. Pres.*, 1868, No. 34.  
    In *Am. Jl. Obstet.*, vol. ii. p. 134.  
Schlesinger — *Centralblt. f. Gyn.*, No. 25, 1882, p. 398.  
Cazin — *Gaz. méd. de P.*, 1876, p. 285.  
Rey — *Gaz. méd. de P.*, 1878, p. 480.  
Thomas — *Lancet*, vol. i., No. 2, 1839.  
M. O. Jones — *Lancet*, May, 1878, p. 216. Notes by Dr. Sims.  
Courty — *Traité prat. des mal. de l'utérus*, 12th ed., p. 773.  
Tilt — *Uterine Therapeutics*, N. Y., 1864, p. 45.  
Copeman — *Brit. Med. Jl.*, 171.  
Sims — *Archives of Med.*, vol. iii., p. 269.  
Lusk — *Science and Art of Mid.*, p. 119, 262.  
Tanner — *Signs and Dis. of Preg.*, p. 456.  
Williams — *Am. Jl. of Obstet.*, vol. viii., p. 171.  
Demarquay et Saint-Vel — *Traité clin. d. mal. de l'utérus*. Paris,  
    1876.  
Danyau — *Arch. gén. de médecine*, April, 1851.  
Braxton Hicks — *Lancet*, July 30, 1870.  
Godson — *Obstet. Jl., Gt. Brit. and I.*, vol. iii., p. 47.  
Gay — *Buffalo Med. Jl.*, vol. xi., 1870, p. 7.

Personal communications were received from the following gentlemen: Drs. Billings, Bixby, Byford, Campbell, Chadwick, Emmet, Engelmann, Gay, Goodell, Howard, Jenks, Lusk, Mundé, Parvin, Reamy, Shepherd, and Wilson.

## HYPEREMIA OF THE VESICO-URETHRAL MEMBRANE.

BY W. H. BAKER, M. D.,

*Boston.*

THE operation of cystotomy, in the treatment of chronic cystitis and vesical ulceration, has been well established, and the great benefits derived from this method of procedure in preventing stagnation and decomposition of urine in the diseased organ have been almost universally recognized. A resort to this operation, however, in the treatment of chronic localized urethritis, or of some other forms of intractable urethral disease, as practiced by Dr. Emmet and advised by Dr. Skene, has been less generally adopted, while in no case that I have seen reported has the formation of a vesico-vaginal fistula been recommended in the peculiar state of vascularity of the neck of the bladder to which I would now call your attention.

The state of hyperemia of the vesical neck is a usual accompaniment of cystitis in either its acute or chronic form, but is less frequently present in an uncomplicated case of urethritis; this condition of increased vascularity, however, limited to the vesico-urethral junction, unaccompanied by disease of either the bladder or urethra, or even by any ulceration, fissure, or swelling of the mucous membrane at the point of increased blood supply, is in my experience a rare circumstance, but in such few instances a most important one to recognize, and often demanding the most decided and active treatment for its relief. I would not have you understand that by this hyperemic state I refer to a hemorrhoidal condition of the part, for there is no such collection of veins present in the class of cases referred to;



neither should it be confounded with the general hyperemia found in the swollen, injected membrane of a localized urethritis of this point. The cases of vesico-urethral hyperemia to which I would limit the considerations of this paper are those where, the mucous membrane of the bladder and the urethra being perfectly healthy except at the point of their junction, there exist at this last-mentioned site a few tortuous blood-vessels running over an otherwise healthy membrane. These blood-vessels are evidently veins, as the most careful examination fails to discover in them the least pulsation. It seems almost incredible that so slight a deviation from a normal condition should create so great a disturbance to the nervous system and cause so much local pain as I have seen present, yet the result obtained in the cases which I shall introduce would seem to prove the importance of the lesion; and when we remember the suffering oftentimes endured by those in whom a slight fissure exists at this highly sensitive point, we shall be less likely to underrate the importance of the present subject.

The predisposing causes would seem to be: *First*, a very thin and delicate mucous membrane; as such are less tolerant, even in certain variations within the limits of health. *Second*, a highly developed nervous system; for in such an individual we always see the possibilities of hyperemia the greatest, since here the stronger stimulus which is possible, conveyed through the influence of the vaso-dilator nerve fibres, tends at once to increase the amount of blood in the part to which these fibres are distributed, and in the case in point the hyperemia may be otherwise aggravated by the nearness of the blood-vessels to the seat of irritation. *Third*, a state of neurasthenia; for here the nervous system, being continually fatigued, fails to give the proper amount of tone to the vaso-contractor nerve fibres, and thus an excess of blood is supplied to the part, which, increasing as it does the irritability of the neck of the bladder, keeps up or even intensifies the neurasthenic condition. In this way it may not only be the cause, but likewise become an effect of, the hyperemia. *Fourth*, a continued habit of constipation

should be mentioned in this connection, as it interferes with the free venous return, and thus occasions blood stasis throughout all the pelvic viscera.

Prominent among the exciting causes are acute diseases of the bladder or urethra; instrumentation of the urinary passages; prolonged retention of the urine; frequent spasms of the neck of the bladder, as are often present in some abnormal condition of the urine, or dependent on nervous excitation; violence or increased congestion, resulting from the newly married state; and onanism. Nearly all of these, acting either by direct injury or by determining an increased flow of blood to the part, may at once become the immediate cause of this affection.

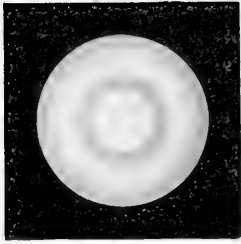
The symptoms are more nearly like those present in cystitis than in any other disease. There is the same frequent desire to urinate, although in a much more aggravated form than I have ever seen in that disease, the patient often being obliged to pass urine from twenty to thirty times during the night, and quite as many times through the day, until she becomes completely worn out from want of rest, and resorts to opium in some form to obtain it. There is the same sensation of scalding in passing the urine that is present in an acute attack of cystitis. Unlike that disease, however, there is not the continued sense of weight and fullness in the pelvis; and slight jars of the body, as in riding or in taking a misstep, or even a person walking heavily across the room, is not complained of. In fact, the patient is usually able to be about the house, and would venture out of doors were it not for the fear that within a few moments she must empty the bladder, and the knowledge of the great suffering to which she would be exposed if she should be where she could not find immediate relief. Another symptom sometimes present is the manner in which the urine is passed; for after a few drops have been expelled a spasm of the neck of the bladder occurs, and her suffering is almost intolerable until the remainder of the urine passes, and the straining which she then exercises tends really to increase the hyperemia at the

site of the disease. This spasm may be repeated two or three times before the whole of the urine is passed, while the great suffering of the patient, together with all the efforts which are likely to be made in hot applications, changes of position, and the like, so fatigue her that finally, when the act is accomplished, she is so exhausted and unnerved that she may cry, or not unfrequently a hysterical convulsion may follow. These severer times are more apt to ensue if the patient has delayed passing the urine for a longer time than usual, on account of some person being present that she felt she could not leave from a delicacy of feeling, or if she was where she could not reach a suitable place to relieve herself. Experience of such times of increased suffering tends to keep the patient confined to her own home, if not to her room, and thus her general health is seriously impaired, while her nervous strength becomes literally a complete wreck. The urine itself shows no change other than that we should expect to see present in a patient who had become so hysterical: that is, at one time a greatly increased quantity of pale dilute urine, while at another time a small quantity of dark concentrated fluid; no pus, no unnatural amount of mucus, no sugar or albumen, no excess of crystalline deposit, not strongly acid; in fact, the most careful examination of the urine, both chemical and microscopical, fails to reveal any change from a perfectly normal character. Sometimes, however, we find a patient with the above-described trouble laboring under the misconceived idea that because it causes her such pain to urinate she must drink very little, if any, of even the most bland fluids; but this only aggravates the symptoms by inducing a too concentrated urine, which in itself becomes irritating, and which, added to her other difficulties, increases her distress. Guided by these symptoms we might fall into error, and confound the case with one of chronic contraction of the bladder, and thus be led to institute a course of treatment, like gradual dilatation of that viscus by injections or by a prolonged retention of the urine, which would be not only non-beneficial but decidedly injurious. Nothing but the

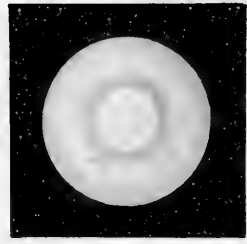
most carefully conducted physical examination will enable us to make sure the diagnosis, by which alone we can hope to treat the case at all satisfactorily.

For the purpose of examination the patient should be first touched bimanually, which will reveal no real sensitiveness except at the seat of the disease; an apparent hyperesthesia, however, may be present, generally distributed over the whole abdomen, and involving all the organs of the pelvis; a little care in the manipulation, at the same time diverting the mind of the patient, will enable us to exclude this sign of disease and to narrow its limits to the neck of the bladder, the true seat of the difficulty. The result obtained by the passage of the probe or sound into the bladder will be very similar to that where fissure exists at the same site; no marked tenderness is found until the instrument touches the seat of the trouble, but then the most excruciating pain is generally created, occasioning a spasm of the part, which usually grasps the instrument so tightly that it becomes impossible to remove it without doing great injury to the mucous membrane and causing greatly increased suffering; by waiting a few moments the spasmodic action subsides, and the instrument may be carefully removed. For this reason I have utterly failed in making a satisfactory exploration with the endoscope, except the patient be fully etherized; but by its use, the anesthetic having been administered, the most perfect inspection can be made and exact diagnosis established. For properly conducting such an examination the patient should be on the table in the lithotomy position and fully etherized; the room should be made absolutely free from all sunlight, and the gas jet or light from the student or ordinary kerosene lamp placed at the side of her hips, or in the same relative position that the oculist places it for observing the retina; a Skene's endoscope is then lubricated and carefully passed through the urethra into the bladder, the rays of light being collected by an aural mirror upon the forehead and directed into the instrument. In this way the hands are left free to manip-

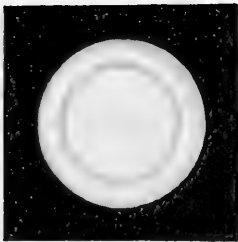




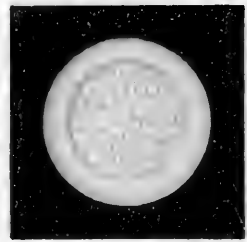
**Fig. 1.**  
HEALTHY VESICO—URETHRAL  
MEMBRANE.



**Fig. 2.**  
HYPEREMIA OF THE VESICO—  
URETHRAL MEMBRANE.



**Fig. 3.**  
HEALTHY BLADDER.  
Membrane seen through the dilated  
Urethra.



**Fig. 4.**  
CHRONIC CYSTITIS.  
Seen through the dilated Urethra.

ulate it, and, an assistant on either side holding away the labia, the most minute exploration of the urethra and neck of the bladder can be made. The endoscope mentioned is by far the best one for this examination; it is so simple in its construction and easily adjusted that any surgeon possessing a reasonable amount of delicacy of manipulation can use it readily. Before I was familiar with this most valuable instrument I made use of the smaller sizes of Simon's urethral plugs for dilating the urethra, and was able to make a very satisfactory exploration by their use; the manipulation differing in that the urethral plug was first passed into the bladder, and, the inner plug being then removed, as the outer part or speculum was gradually withdrawn, the mucous membrane closing in over its end was subjected to the reflected light and thus carefully inspected. This was accompanied by considerable inconvenience, while viewing the vesical neck, by the flow of urine which would occasionally pass through the speculum, a difficulty that is entirely obviated by using Skene's instrument, which possesses the great advantage also of observing each portion of the urethra and neck of the bladder as the endoscope is introduced, thus enabling the surgeon to see each part before it has been disturbed by any other instrumentation, thereby determining its more exact appearance.

After examining in this way a large number of cases where no complaint was made, and comparing them with the cases under consideration as well as with those where other diseases of the urethra and bladder were present, I have made, by the aid of Dr. H. P. Quincy, the following cuts as illustrative of the disease in question, and of the normal appearance of the neck of the bladder; also, by way of comparison, two cuts showing a healthy and diseased state of the bladder itself, as distinguishable from this hyperemia of the vesico-urethral membrane. In illustrations Nos. 1 and 2 the endoscope must be understood to be just opening the neck of the bladder, a small portion of bladder membrane falling against its end, while in Nos. 3 and 4 the instrument is passed nearly into that viscus, thus

showing a much larger field of bladder membrane and but a small rim of urethral membrane.

It must be evident to all that this disease cannot be diagnosed except by the most carefully conducted physical examination.

Before entering upon the subject of the treatment of this affection I would not have it understood that I advise a resort to the proposed operative interference for every case of irritability of the neck of the bladder, even though this state of hyperemia be found present, for I have no doubt that very many cases in an acute form occur and are recovered from, either unaided or by the use of some mild medication. All must recognize the readiness with which hyperemia of one part of the body or another is produced and relieved in the neurasthenic patient. It is in the chronic form of this disease, when the inefficiency of such medication has been proved, and the want of success which has followed the milder methods of local treatment, that I would urge the importance of recognizing the difficulty under consideration, and the institution of the operation to be advised, for fear that so slight a deviation from a normal appearance should be overlooked, and thus the patient be allowed to suffer on indefinitely and unnecessarily.

The treatment consists, *first*, in putting the part absolutely and at once at rest, and thus relieving the great distress of the patient; and, *second*, in using such means as shall hasten the disappearance of the hyperemia. If we try to change the order of these steps we shall prolong and intensify her suffering, for it is utterly impossible for her to begin to improve until she can be relieved of the tremendous nervous strain dependent upon the pain and wearing fatigue accompanying the frequent micturition. Rest, then, becomes a matter of the first consideration, and this is best given by the formation of a vesico-vaginal fistula. If the question arise whether this rest can be accomplished by the use of opium, and thus the second step taken without subjecting the patient to the inconvenience naturally resulting from the operation suggested, I would answer that in most



of these chronic cases this drug has already been resorted to for the relief of the pain, and in all probability in such quantities as to be most decidedly objectionable on account of still farther undermining the nervous strength. And if this habit had not been formed, or even only a moderate amount of the drug taken, I should still object to its use on the grounds of its tending to constipate and to diminish the secretion of the urine, thus concentrating it, and also of the length of time which it would have to be continued and increased before any change for the better could at the most be hoped for. I am well aware of the relief which a patient thus afflicted may realize temporarily from the use of this drug, and of the courage and hope which are thus given to both physician and patient; but I am as well aware of the discouragement and sorrow which are sure to follow when its use is discontinued, or its amount diminished, as I am also aware of the impossibility of relieving this hyperemic state, when thoroughly established, in any other way than by first putting the neck of the bladder at rest. While the urethra is used each few moments for the passage of the urine, and its upper extremity subjected to the straining, spasms, and pain which accompany such use, any attempt to overcome the difficulty by topical applications can only tend to irritate and excite into such spasms all the more, and the disease as well as the suffering is increased thereby. If, on the other hand, we hope to spare the patient operative interference by the adjustment of some form of self-retaining catheter, thus keeping the bladder always empty, we are, I believe, subjecting her to increased dangers; for although the neck of the bladder may, after a time, become tolerant of the presence of the instrument, still it can but tend to increase the hyperemia at the seat of the disease, which is usually the part depended upon for the retention of the catheter; and were this not the case, the bladder in its emptied state tends to fall against that portion of the instrument which projects into it, and by this friction produce a cystitis. But it may be argued that if she remains quietly at rest in bed this irritation is

either entirely absent or at least reduced to the minimum ; to which I would reply that the system is already reduced to a low state by the long invalidism, both physically and mentally, and it is all important that she should be out of doors, walking and riding and surrounded by pleasant scenes and cheerful company, that the appetite may be improved, the proper tone and strength given to the muscles, and all the processes of the body go on more healthfully ; for by these means alone shall we restore the body and mind to their normal state. The draining the bladder into the vagina then becomes at once the most sure and speedy method of putting the diseased part at rest. This is best done after the plan devised and practiced by Dr. T. A. Emmet, which consists in introducing a sound into the bladder, and making the vesico-vaginal septum tense by pressing its point against the membrane just within the neck of the bladder ; the patient being in the left semi-prone position, and the vagina exposed with the Sims' speculum, the point of the sound is then cut down upon with bistoury or scissors until its point comes through into the vagina in the median line ; with a tenaculum the bladder membrane is then seized at the lower angle of the wound and held tightly forwards, while, with a pair of straight scissors, the division is carried upwards for about an inch and a half. Care must be taken that one blade of the scissors enters the bladder, and that both vaginal and bladder membranes are divided, for it otherwise will not infrequently happen that one blade will be inserted between these membranes and thus only the vaginal one be cut. The edges of the vaginal and bladder membranes are then to be united by suture all around the incision ; for this purpose I prefer to use catgut, sewing it over and over, as it does not require to be disturbed subsequently, and as the salts of the urine are less likely to be deposited on it. The patient is to be kept in bed for a few days until the edges have united. Napkins are to be used to take up the urine until she begins to move about, when some one of the various urinals can be adjusted for collecting it. The patient does not always

realize the full relief from this operation until she is able to move about, as it sometimes happens that while lying in bed either the swelling of the tissues around the fistula tends to close it, thus allowing a sufficient amount of urine to collect in the bladder, which, pressing against the hyperemic neck, occasions the same pain as formerly complained of, or that the posterior vaginal wall is pressed so tightly against the fistula as to have the same effect in closing it. If this latter cause be present a slight change of position is sufficient to relieve the pressure and allow the urine to flow freely; this method of relief she soon finds out for herself, and generally makes use of it before there is time for its suggestion. After the edges of the fistula have healed she is to be taught to pass the forefinger through it, which she is instructed to do once each day in order to keep it well open. This method of keeping the fistula patent is far preferable to any of the devices of studs or tubes, which serve for a point of deposit for the salts of the urine, and thus become a source of irritation. The fistula must be carefully watched until its edges are thoroughly healed, and if any phosphatic deposit appears it must be at once scraped away and an application made to the denuded surface of a solution of nitrate of silver.

The first step having been taken, and the diseased part put at rest, let us consider what may be done still farther to facilitate the disappearance of the hyperemia. The proper use of hot water will accomplish the greatest amount of good, and to be most beneficial should be applied directly to the diseased spot for a length of time. This is best done by the patient lying on the bed-pan, with the hips raised a little higher than the shoulders, in order that as much as possible of the water may be retained in the vagina and bladder, as well as to prevent any straining effort, which is least likely in that position. A fountain syringe should be provided, which is less liable to carry air into the bladder, filled with water at a temperature of from  $105^{\circ}$  to  $110^{\circ}$ , and placed at a height that will require twenty minutes for it to empty itself, and fitted with a small straight

nozzle of metal or hard rubber, which should be a quarter of an inch shorter than the urethra and made perfectly smooth on its surface. We thus have a means of applying heat to the neck of the bladder without disturbing the part; for the nozzle, introduced its whole length, is not able to reach the diseased spot, and the force of the water is sufficient to open the remaining quarter of an inch of the urethra, and finds an exit through the bladder and fistula into the vagina; all of this the patient may be taught to accomplish properly. After using the hot water in this way for two or three weeks, we can add to it a very little alum, tannin, or zinc, and thereby gain an additional effect from their astringent action; but if the solution is at all strong it will occasion a return of the pain. This treatment must be persisted in for several months, four or six at least, or until all evidence of the hyperemia has disappeared, as shown by examination with the endoscope; or the tolerance of the neck of the bladder may be tested by discontinuing the opening of the fistula by the passage of the finger, when it will become so small within two or three weeks that a large part of the urine will be passed through the urethra, particularly at night or after lying down. When it is thus proved that the diseased part is restored to its normal state, we may consider the expediency of closing the fistula. The tendency will be to resort to this operation too quickly; for the inconvenience of the patient in being continually wet and of wearing urinals will cause her to urge it, and the surgeon, seeing the greatly improved condition of his patient, will be likely to yield to her entreaties. Before closing the fistula there are two things to be considered: *first*, the permanent establishment of the nervous strength, so that the operation will not prove too great a strain for it, and thus one of the causes of a relapse be instituted; and *secondly*, the full restoration of the physical strength, or, in other words, that the patient should be in a good state of health, in order that the union of the denuded surfaces of the fistula may be insured when the operation is performed. The latter of these considerations will probably be accom-

plished long before the former, for we all know how long a time is required to recover nervous strength, and the still longer time necessary for its permanent establishment. If, after carefully weighing these considerations in our mind, we decide that it is proper to close the fistula, there are but two points that I would urge the importance of in its performance and in the subsequent care, namely, placing the sutures very thick, at least a third more than would ordinarily be used, and doing away with the use of the catheter afterwards. By these means the wound will be better able to bear the strain of the bladder expelling its contents, and there will not be the irritation of the catheter to tend to reproduce the disease.

There are two points, however, that I have failed to speak of which are of great importance in securing comfort to the patient, thereby insuring nervous quietude during the time that the fistula is kept open: these are the collection of the urine and the care of the skin. There is no style of urinal which can be applied to every case: in one Skene's would work admirably; in another the same instrument would press against the tender neck of the bladder and be not only intolerable but harmful. In another case the external soft rubber urinal would be most comfortable and unirritating to the skin of the groins and inner portions of the thighs, usually its greatest objections; while in still another case neither of the above-mentioned can be used, and the ingenuity of the surgeon may be taxed to the utmost in the proper adjustment of some form of urinal to make the condition of his patient more bearable. I am well aware that among the working class suffering from vesico-vaginal fistula there is comparatively little inconvenience from the use of napkins to catch the urine, but the wealthier classes will not be content with this means. In the latter class the nervous system is much more highly developed, and the effect of this is often seen when that system is debilitated by the greatly increased amount of urine which is secreted. In such a case I have repeatedly seen over a hundred large, thickly

folded napkins wet through and through in a single night, thus keeping a laundress busily engaged continuously in providing napkins for the patient. A urinal which I have devised and used with good results in some cases is composed of an ordinary Meigs ring

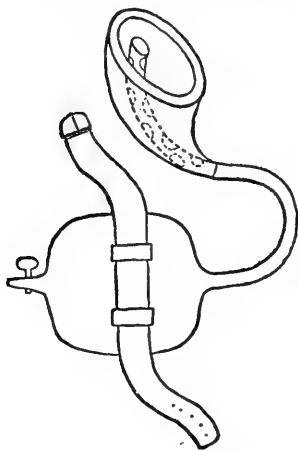


FIG. 5.

should be longer behind than in front, in order to more nearly conform to the vagina. Figure 5 will serve to illustrate this urinal.

By some such device we can often make our patient comparatively comfortable, or at least reduce the necessary inconvenience to the minimum. The condition of the skin will need constant attention, particularly if napkins or the external soft rubber urinal are used. Frequent bathing and applying oxide of zinc ointment or vaseline to the exposed surfaces, with an occasional application of powdered tannin, zinc, and starch, will tend to toughen the skin. If the patient lives at a distance from the surgeon it is very important that she learn just how to take care of herself in regard to these various details, before she is sent home, to wait several months before having the fistula closed.

I wish now to present five cases, which are all of this class that have come under my observation, and although

posed of an ordinary Meigs ring pessary, with a funnel-shaped portion of pure rubber sheeting cemented to it, the upper part of the cone encircling the pessary, while to its lower end or apex is cemented a piece of ordinary rubber tubing; the upper end of this tubing should pass into the cone nearly to the top, and its sides perforated like a drainage tube, thus preventing its being occluded by bending, and the lower end of the tube is to be attached to a rubber receptacle which is strapped to the leg. This cone

the last two are not yet complete, as the fistulæ still exist, they may serve in some measure to illustrate the subject of this paper.

CASE I. — Miss C. P., aged fifty-eight years, entered the Woman's Hospital in the State of New York in 1874, during my house-surgeonship there, in the service of Dr. J. Marion Sims. She had complained for eight years of frequent micturition; immediately preceding such act there occurred a spasm or cramp, beginning in the urethra and extending over the lower part of the abdomen. Until within a year previous to her admission to the hospital voiding the urine would relieve her for a short period, but since that time the pain had continued somewhat after micturition. The physician who referred her to the hospital had considered it a case of malignant disease of the bladder. The uterus was found retroverted, and Dr. Emmet, who saw the case in consultation with Dr. Sims, thought possibly this accounted for the frequent micturition by the traction thus occasioned on the anterior vaginal wall and urethra. Neither confirmed the diagnosis of malignant disease. The uterus being kept in position by a Hodge closed pessary, some relief was obtained; that is, she was obliged to get up less frequently at night, although the pain was unrelieved when she urinated.

*October 4, 1879.* — She entered my service in the Free Hospital for Women, suffering as much as ever from the pain formerly complained of, which had troubled her more or less since her discharge from the hospital in New York.

*October 16.* — She was examined under ether with Skene's endoscope, and the diagnosis made of hyperemia of the vesico-urethral membrane; the other parts of the urethra and bladder were perfectly healthy. She had continued to wear the Hodge pessary, as she found from its use relief to her backache. For the next two months applications of tannin and glycerine, iodoform, impure carbolic acid, and a ten per cent. solution of nitrate of silver were in succession made to the diseased part, either applied on a bit of cotton wound on the applicator, or in urethral suppositories, or by means of a fine spray. These local treatments were given at intervals of a week, but had not the slightest beneficial effect; on the contrary, the patient's suffering seemed to be increased.

Early in December, 1879, I made a vesico-vaginal fistula, after

the manner already described, except, on account of the great laxity of the tissues, there was an unusual amount of oozing of blood, and the thermo-cautery was applied to the edges of the wound. There was a slight discharge of blood from the wound for four days, but the pain was relieved from the first establishment of the fistula. Considerable difficulty was experienced in keeping up a free flow of urine, on account of the firm closure of the ostium vaginæ and the laxity of the vaginal membrane, which often closed the fistula, or retained a large amount of urine in the vagina that caused some discomfort; but it was always quickly relieved by passing the finger into the vagina, and thus allowing the urine to escape. An attempt was made to overcome this difficulty by adjusting a tube in the vagina, the outer end of which projected beyond the labia; but it became rapidly coated with phosphatic deposit, thus irritating the parts to such an extent that its use was discontinued, and the only additional treatment given was the hot-water douche through the urethra.

By May 3, 1880, the endoscope showed the neck of the bladder so nearly well that no attempt was made to keep the fistula open, and the use of the hot water was given up. Within a month the fistula had so nearly closed that it was with difficulty that the point of a Simpson's sound could be passed through it. At night, and after lying down during the day, nearly all of the urine was passed through the urethra without causing the patient discomfort. Examined with the endoscope the vesico-urethral membrane looked perfectly healthy, all appearance of the hyperemia having disappeared.

*June 3, 1880*, the fistula was closed, eleven silver sutures being used for the purpose. A week later, on removing the stitches, the operation was found to have been unsuccessful, and she was discharged *June 22*, to be readmitted in the fall.

*October 22, 1880*, she having entered the hospital a few days previously, another attempt was made to close the fistula by the use of nine silver sutures, which resulted in a perfect union, and the urine being passed perfectly naturally she was discharged, cured, *November 26, 1880*.

CASE II. — Mrs. P. J., thirty-five years of age, had given birth to no children, but had had an abortion at the third month about a year after marriage. She had been under the care of Dr. Sims for anteversion of the uterus at intervals for three years, who had relieved her of the symptoms from which she then suffered by



the use of a modification of an Albert Smith's pessary. After wearing this support for about two years she began to complain of some frequency in passing the urine, she having formerly been able to go all day without urinating. On consulting Dr. Sims she was told "that she had worn the pessary too long a time," and it was therefore removed. But the frequency in the micturition steadily increased, and within a few months there was added to this symptom dysuria, and being obliged to wait some time before she could accomplish the act after the desire to urinate was felt. Dr. Sims then found it necessary to dilate the urethra, which gave the patient complete relief for six weeks, when all the symptoms returned as severe as ever. Within a year previous to my seeing her, the urethra had been dilated three times by a most eminent surgeon of Boston, but without benefit; in fact, she thought herself a greater sufferer after the dilatations.

*March 20, 1879,* I was asked to see her in consultation with Dr. S. G. Webber, of Boston, who had carried out most faithfully and successfully a course of treatment for the building up of her general nervous strength, which was in a most deplorable condition; the frequent and painful micturition still continuing he desired my counsel. She was then obliged to pass the urine each hour through the day, and from sixteen to twenty times at night, being awakened from a sound sleep by the strong desire to urinate. Finding that not only was she relieved of the pain by the use of morphine, but that the interval of voiding the urine was lengthened to two or three hours, she had made use of this drug, and Dr. Webber had had the greatest difficulty in its discontinuance. A physical examination showed no sensitiveness, either bimanually or on the passage of the sound into the bladder, and I was inclined to consider the case one of chronic contraction of the bladder, particularly as careful inquiry revealed the fact that there was never more than a very small quantity of water passed at any one time, irrespective of the interval. I therefore advised gradual dilatation of the bladder, by injections of warm water, and the correction of the anteversion, which still existed, by the adjustment of a support.

*October 7, 1880,* the patient came under my immediate care, and a careful revision of the history of her case showed that for about four months after the use of the warm water in the bladder, as well as for a very short time while having electricity applied to the neck of the bladder, in Paris, she was somewhat relieved

from the pain and other inconveniences, but with the exception of those periods she had steadily grown worse. It also revealed the fact that to her knowledge, with all the various surgeons, both in this country and abroad, under whose care she had been, none had visually examined the neck of the bladder. This was accordingly done by the aid of Skene's endoscope, and a very vascular state of that part found, although all the other portions of the urethra and bladder were healthy. For the next five weeks efforts were made to overcome the hyperemia by local applications given in the form of spray, in order to reduce to the minimum the amount of necessary irritation resulting from the treatment; but all to no purpose, for she grew steadily worse. I then made a fistulous opening into the bladder, through the vagina, which gave relief as soon as the swelling dependent upon the operation had subsided. She was instructed in the use of the hot water through the urethra, but, as the fistula showed no tendency to close, it was thought unnecessary to pass the finger through it. A very troublesome thing in the subsequent treatment of this case was the great irritability of the skin and the vaginal membrane, which made it extremely difficult to adjust any urinal, while most of the remedies which are usually relied upon to protect or toughen the skin only added to the irritation. Great suffering was induced by the urine flowing over the skin, which seemed to her like fire, in spite of every attempt to make it bland by medication, and by the pressure against the neck of the bladder when any attempt was made to stop the flow of urine through the fistula and collect it in the bladder, in order temporarily to shield the skin. I can truly say that I have seldom seen a patient in so pitiable a condition. It was not, then, without strong misgivings of the success of the treatment, that I consented to close the fistula on the 1st of June. This I should have been unwilling to do had I not felt that, as the hot weather approached, the irritability of the skin would be likely to increase. It was utterly impossible to keep the patient quiet after the operation, and on the 9th of June, when the sutures were removed, I was not surprised to find that a small opening still existed, though so small that it barely admitted the finest probe. Within a month, however, this minute fistula had closed, and the patient was passing the urine free from pain, but still with some frequency. Through the summer she gained much in nervous strength and physical health, and quite

recently I have heard that she is in better health and more free from local disturbances than she has been for years.

I cannot but feel that it was a fortunate thing in this case that the operation for closing the fistula did not entirely succeed, for I believe that thereby the strain was much diminished in the force of the urine coming against the neck of the bladder, and a month of time was gained in gradually securing the tolerance of that part, during which the small fistula acted as a safety valve to the bladder.

CASE III. — *March 9, 1880.* — Mrs. D. S. consulted me and gave the following history: She was twenty-five years of age, had been married five months, but had never been pregnant. She had been employed as a teacher, and was accustomed to hold the urine all day without inconvenience. On her wedding journey, a long and very fatiguing one, she had an attack of diarrhea, for which she took medicine. This was followed by an obstinate constipation, lasting five days; during this time she went frequently to the water-closet, and strained a great deal in her attempt to defecate, which finally she accomplished by the aid of some cathartic; then for the first time she complained of pain in passing the urine; this she thought might have been immediately excited by the dyspareunia which she suffered. The dysuria followed the act of micturition, and at first lasted but three or four minutes, but gradually increased, and then the frequency began, and she was obliged to urinate every ten or fifteen minutes. Returning home as speedily as possible, she went through the different stages of an attack of acute cystitis, for which she was treated by different physicians, and which finally yielded, as was evidenced by the condition of the urine, although the pain which she suffered was as severe as at any time, occurring more particularly just before and after the act of micturition; the frequency in passing the urine still, however, annoyed her.

I advised an immediate examination of the urethra and bladder with the endoscope, which was acceded to March 13, and the patient was accordingly etherized, when the condition of hyperemia of the vesico-urethral membrane was found to exist, and the bladder membrane also looked slightly injected. An application of a ten per cent. solution of nitrate of silver was made to the neck of the bladder. For two days after this treatment the patient was comparatively comfortable, but then all the symptoms returned.

*March 21* she was etherized again, and rapid dilatation of the urethra was performed with Simon's plugs, which instead of benefiting her unfortunately made her so much worse that within a few days the act of micturition was accompanied by such severe pain that it became necessary to administer ether whenever the urine was to be passed. I advised the formation of a vesico-vaginal fistula, which operation Dr. J. C. Warren kindly performed for me, as I felt it unwise to operate myself, having the care of a case of septo-pyemia at the time. The relief, although not as immediate as in the other cases, was realized within a few days; but the pain was started up again when the attempt was first made to use the hot water through the urethra. The edges of the fistula healed readily, and there was very little tendency to phosphatic deposit. Having been taught to keep the fistula open and to use the hot douche, she was sent into the country to rest and regain nervous strength until the following fall, a urinal having been adjusted by Dr. Bullard, to whom I was greatly indebted for assistance in the care of the case.

*November 5, 1880*, the patient returned to the city looking fat and exceedingly well. She had repeatedly tested the tolerance of the neck of the bladder by keeping the finger over the fistula until an amount of urine had collected in the bladder, when it was forced through the urethra without causing the slightest pain.

*November 8* the fistula was closed with silver sutures; subsequently there was some indication of an attack of acute cystitis, occasioned by the operation; it was, however, controlled by the free use of benzoate of ammonium. On removing the sutures, on the eighth day, a minute opening was found still to exist at the anterior angle of the wound. Two months later the operation was repeated, resulting in a complete success. Five or six months, however, were required for her to regain the nervous strength which she lost by the two operations and the necessary confinement, but subsequently she made no complaint of her former troubles, and in July, 1882, I was assured by Dr. H. J. Barnes, who had then recently had charge of her in a supposed miscarriage, that there had been no return of the former irritability of the bladder.

CASE IV. — Mrs. S. F. was thirty-seven years of age, and had been married sixteen years. She had one child four years after marriage, and one abortion at the third month two years later.

There was a history of phthisis on her father's side, but the patient had always enjoyed good health up to two years previous to her consulting me, November 8, 1881. Her strength was at that time much taxed by the care of her mother through a serious illness which required her to be lifted a great deal, and it was to this severe exertion that she attributed the beginning of her trouble, for then began pain on passing the urine, at first confined to the act, but gradually extending after micturition, until within six months she suffered almost constantly with severe pain in the bladder. The process of urinating was also very frequent, and the pain was not at all relieved by that act. It was only with the greatest difficulty that she could walk, and she could not take an erect position on account of the greatly increased pain which was thereby occasioned. Her physician had repeatedly examined the urine for pus, so exactly like cystitis were her symptoms, but had as frequently failed to find evidence of that disease. She had resorted to morphine to control the pain, which she was obliged to take in large quantities, for it was only when thoroughly under its influence that she could be made at all comfortable. Under ether, by the aid of Skene's endoscope a diagnosis similar to the other cases reported was made. As the patient could not then remain for treatment, she was advised to return as soon as possible and have the operation for fistula performed, if the milder applications should prove ineffectual.

She entered the Free Hospital for Women April 12, 1882, suffering more, if possible, than when seen in November. On reëxamining the case by the vagina I found great sensitiveness at the neck of the bladder, and by the endoscope a similar condition to that found before. From April until May applications were made once a week with the atomizer, as in other instances, but without the slightest benefit resulting.

*May 1* an artificial vesico-vaginal fistula was made, and the relief was immediate and perfect. She required no more morphine, she was able to sleep, her appetite returned, and she became one of the most cheerful as well as grateful patients that I had ever seen. Eleven days after the operation she began to complain of great irritation and soreness of the passages, and on examination I found that the wound had not been well cared for by my house surgeon, and was thickly coated with phosphatic deposit. On removing some of this, together with considerable thick mucus from the vagina, several small superficial sloughs

were found about the wound, which had undoubtedly occurred from the low state of vitality of the patient, and to the resulting denuded surface were attached quantities of the same deposit from the urine. Much patience and care were required in removing this irritating substance. By a generous amount of cod-liver oil, iron, quinine, and stimulants, as well as food, it was astonishing how rapidly the local condition improved; for within three weeks she was sent home, the wound having entirely healed, and she having learned the necessary care of herself in order to derive the permanent benefit to be realized after the fistula should be closed. I have recently heard that she is steadily gaining, and hopes to come to the city, for the closure of the fistula, during the fall of the present year.

CASE V. — Mrs. H. M. F. consulted me February 11, 1882. She was twenty-five years of age, and had been married two and one half years. She had never been pregnant. Her family history was good, and her own health was excellent up to her twenty-first year, when she fell on the ice, and was ill in bed for three months with "some nervous and spinal trouble." About that time she traveled in Europe for five months, but returned worse than when she left home, her great complaint being constant pain in the lower part of the back, "at times streaming up the spine," both symptoms being increased by exercise. These discomforts were present when she was married, and two weeks after that event, while journeying abroad, having retained the urine one day a very long time, she suffered great distress from so doing, and from that period complained of an almost constant desire to pass the water, which was very much aggravated if any attempt was made to retain it even a moment after this desire was experienced. She was obliged to urinate as often as every ten minutes during the day, and from twenty to thirty times at night. Pain was felt just before and at times during the act of micturition. During the preceding two years there had been two attacks after taking cold, when urinating was "like the passage of fire." A physical examination of the patient showed the usual tenderness over the spine present in a neurasthenic case, while by the vagina pressure of the neck of the bladder gave extreme sensitiveness. A somewhat concentrated urine was corrected by diluents, without affording any relief, and February 24 ether was administered and the urethra and bladder were examined with Skene's endoscope. This revealed a very hyperemic state

of the vesico-urethral membrane, which was otherwise healthy. By means of an atomizer a ten per cent. solution of nitrate of silver was applied to the diseased part. One week later, no relief having been experienced from the treatment, under ether a vesico-vaginal fistula was established. There was entire relief from pain from the time of the operation, and on March 20, the patient having been taught the usual details of the care of her case, and a urinal having been adjusted, she was sent home to carry out the treatment for some months. Some delay in the healing of the edges of the wound was experienced from the great tendency to the formation of phosphatic deposit. July 15, 1882, word was received that the patient was doing very well; that she had increased in flesh and strength, and would consider herself well except from the inconvenience of the constant flow of urine, which she desired to have overcome by the closure of the fistula. She was advised, however, to wait two months longer.

Several details in the preceding cases, being common to all, have been omitted, as it was thought their consideration would be facilitated by a postponement of them until the individual cases were completed; to these, together with facts which have been suggested by the histories and treatment of these five patients, I would now invite your attention.

A careful analysis of the urine was made in each case, and it was found either absolutely normal or simply concentrated, the latter condition being readily overcome by diluents. In all except Case I., where menstruation had ceased, the dysuria was intensified for a few days before the catamenia, and greatly relieved while the activity of the flow continued. Cases I. and II. were the only ones where any uterine disease existed as a complication, and in these the rectification of the misplacement failed to relieve the patient. In all except Case IV. the patients were naturally of a very nervous temperament. The mucous membrane in every case was very thin and delicate. In each case the patient was relieved by the establishment of the fistula. In no case where the fistula was closed was the catheter used after the operation.

As a summary of this paper I would present the following conclusions: —

In every case where a chronic state of irritability of the vesical neck is present, a careful examination with the endoscope should be made.

Before resorting to rapid dilatation of the urethra for the relief of a supposed fissure, make sure of the diagnosis.

In cases of hyperemia of the vesico-urethral membrane that do not yield speedily to mild local treatment, put the part at absolute rest by the formation of a vesico-vaginal fistula.

The fistula once created, do not allow it to close until the hyperemia has entirely disappeared, and the nervous strength of the patient has become thoroughly established.



## A MEMOIR OF PROFESSOR JAMES PLATT WHITE.

BY T. GAILLARD THOMAS, M. D.,  
*New York.*

THE life of every man, be it bad or good, offers an instructive lesson for those who remain after he has departed. If the life which has ended has been à failure, if it has been a blank and uneventful existence, if it has even been a career of misdemeanor or of crime, it is a profitable exercise for those who have watched it to consider the causes which created so unfortunate a result, in order that their influence upon others may be avoided. How much more does the career of a great and good man, of one who has in every condition of life done his duty to the best of his abilities, hold out to those who survive him the prospects of profit and improvement from its study and consideration ! The contemplation of those virtues which made him noble, and which commanded for him the esteem of men, stimulates others to their cultivation ; the efforts which enabled him to conquer difficulties, and overcome obstacles, point out to his successors what they likewise may achieve, and the methods which won for him the glory, enveloped in which, as in a cloud, he has sunk to rest, are eagerly treasured by younger aspirants for fame.

How many a valuable hint has been gleaned for the young and developing physician from the perusal of the lives of Harvey and of Jenner, of Astley Cooper, and of Laennec ! How many a flagging spirit has been upheld, and how many a hopeless heart has been encouraged by reading of the struggles which made Velpeau the greatest surgeon of his day, and raised Paul Dubois to the level of princes !

Well may the American physician pause and consider the life and character of our late fellow and associate, James Platt White ; for in it he will read of the characteristics which we are proud to look upon as typical of our race. The energy, the determination, the vigor of which his biographer must speak ; the boldness, candor, and true manliness of his nature, and his untiring pursuit of success in life, represent, in an eminent degree, the qualities which we fondly believe have stamped themselves upon typical American character.

Born in Austerlitz, Columbia County, New York, on the 14th of March, 1811, he was, at five years of age, removed by his parents to the western boundary of that State, where, by his own perseverance, he obtained a moderately good education, and at the age of twenty-three years he graduated as a physician in the Jefferson Medical College of Philadelphia. During the following year, 1835, he selected the then small town of Buffalo for his place of residence, and here, marrying Miss Penfield, he settled down to what was destined to be a career of exceptional length, usefulness, and success.

That long period of probationary waiting, which for the young physician constitutes a time of trial, and yet which is generally so useful, so necessary for full and mature development, was not allotted to young White. Quite rapidly he secured a large and lucrative practice which he maintained to the end of his life, altering its character very much as he grew older it is true, but still having it always at his disposal.

In 1846 Dr. White developed one of those talents which are so prolific in this country in advancing medical interests ; he showed an aptitude for medical teaching, which, remarkably vigorous in the green tree, never waxed feeble in the dry. In company with his life-long friends, Flint, Hamilton, and others, he assisted in founding a medical college in Buffalo which still exists, and which has steadily increased in efficiency and usefulness.

In this field Dr. White never failed, and never ceased to

shine as a "bright particular star." He was truly an eloquent man, if eloquence means the power to hold and to move the hearer. Vigorous and terse in style, forcible and pronounced in phraseology, cogent and persuasive in argument, his power as a lecturer, and still more as a teacher, soon became unquestionable.

His attention was very early in life given to obstetrics and gynecology, and as soon as the operation of ovariectomy, with all its fascination, on account of its uncertainties and dangers, its brilliancy of result, and the large field which it offered for usefulness, became established, he began its practice, devoted much time and attention to its study, and soon placed himself in the front rank of American operators. The number of his ovariectomies surpasses one hundred, and although those who know nothing of the anxieties and trials of this department of surgery may talk with flippancy of this experience, those who have labored in it know full well what days of effort and intense fatigue, what nights of anxious and wearing thought, what moments of poignant sorrow, disappointment, and distress are told of in it.

We have seen, as far as we have proceeded in the history of this boy of western New York, that he became a noted teacher, and a brilliant and reliable surgeon. His genius did not stop here. Stealing all through life what moments he might from an active career, he wrote excellent articles for the journals and periodicals of our country, which will remain as evidences of his capacity as a writer, and make us regret that he failed to carry out his cherished intention of leaving us a systematic treatise upon midwifery.

Dr. White, by his writings and teachings, unquestionably did a great deal for the department of medicine to which he devoted himself. His contributions are so well known to the Fellows of this Society, that an enumeration of them would seem to be superfluous. Suffice it to say, that the greatest of all, that which will most surely preserve his name for posterity, and most certainly connect it with the triumphs of the department in which he took so much

pride and pleasure, is the treatment of chronic inversion of the uterus by prolonged efforts at replacement.

The demonstration of the fact that the replacement of a uterus which had been inverted for many years was possible, certainly constitutes an important era in the treatment of this most dangerous and distressing condition, and although desultory efforts had before his time yielded success, and an eminent English gynecologist had worked in the same direction, and met with the same results at about the same time, the credit of the great achievement unquestionably belongs to White.

Having gained success as a teacher, physician, surgeon, and medical writer, he might well have rested upon the laurels he had won, but such a course was not in consonance with his nature. He identified himself with public works of all kinds, so that it has been said by one who knew him well, "No good work was done in Buffalo but Dr. White was fully identified with it." His church and its advancement was a cherished thought with him, and he gave to it time, labor, thought, and money. In the erection of churches, hospitals, schools, libraries, and asylums, he was always active; and this hard-worked man found time to serve as President of the State Lunatic Asylum, President of the New York State Medical Society, Vice-President of the American Medical Association, and Vice-President of the Medical Congress in 1876. Surely no one will cavil at the statement that he demonstrated all through life a public spirit and patriotic temper which all of us might imitate with advantage.

Let us pause here and inquire by what methods this success and preëminence were achieved, by what arts this man without influence, or wealth, or powerful friends, came boldly and unhesitatingly forward, assumed and maintained his position as a leader among men? It was with him as it is with most, if not all, men who do this; Nature, not man, had endowed him with certain qualities which impelled him to his place in life, apparently without his connivance, and by an irresistible power. It is not society which selects the

great medical teacher, or the great surgeon, or writer, or practitioner. It is Nature which makes the selection, and before her mandate society bows submissive, and professional opposition shrinks away abashed.

Dr. White possessed the great advantages of a magnificent physique, a grand presence, a courteous address, and, above all, those attributes which most frequently give success in life — a truly charitable nature, and a kind heart. Like Saul he towered above his fellows, and looked the king; but unlike Saul his nature was free from jealousy, and he conciliated by his urbanity. But these qualities alone would never have led to such distinguished success. He was a truly brave man, a man determined and unflinching in maintaining the right, and one who, while claiming all that was his due, was magnanimous and generous in accord- ing the full mead of commendation and of praise to others.

Let me illustrate these statements by reference to a few passages of his life. When a student of medicine, Asiatic cholera broke out virulently at Black Rock, near Buffalo, and young White was requested, in the absence of a graduate, to do the work, to go there and aid the suffering people. To decline was easy; a refusal would have carried with it no discredit. Yet he went, worked hard, exposed his life, gained great credit, and did great good. There are undoubtedly hundreds of medical students who would do the like, but to every one of them would be due the reward of courage and nobility of character.

Later in life Dr. White, then Professor of Obstetrics, decided to teach midwifery by demonstration; that is, by displaying to the students the process of parturition upon living women. A storm was raised against him which might have ruined a weaker man, and seemed destined to annihilate even him. But he stuck doggedly to his idea, fought for it, attacked his opponents, met assault by still more violent assault, brought his friends to his aid, and stood out against opposition and calumny with a vigor like that shown of old by that lion of the church, Martin Luther;

and at last, carrying the case before the courts, came out triumphant and conquering.

The writer of this memoir first met Dr. White about sixteen years ago. He, an eminent ovariologist, came from Buffalo to New York to see a tyro perform ovariectomy. The lesser man expected from the master severe judgment, and perhaps harsh criticism. Judge of his agreeable surprise when the kindest commendation, the most friendly suggestions, the most manly good wishes were heaped upon him in their stead.

These instances serve to illustrate the methods, if methods they can be called, which gave our dead Fellow his success and his renown.

Dr. White died at the good age of seventy-one years. He had accumulated wealth by the practice of his profession, an experience which falls to but few; and he left to follow him, in the brief space of four months, a wife who could not survive him.

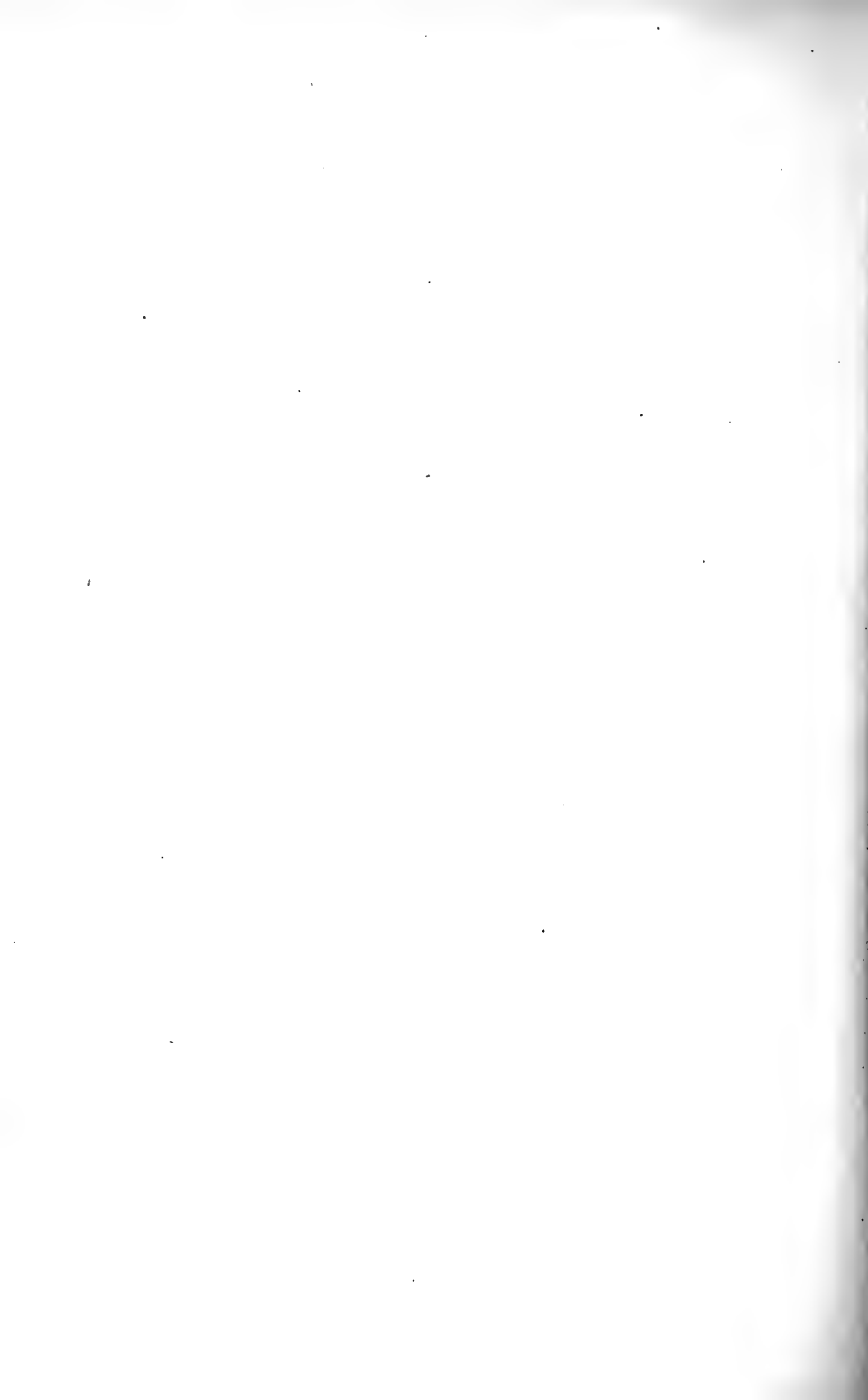
Of his inner home life, of those qualities which bloom in the genial atmosphere of the hearth, the writer knew little. He leaves the pleasant task of depicting these to the pen of those who enjoyed the pleasure of his more intimate friendship.

My task is done. In finishing it let me ask, what is there to mourn for in such a death as this? What more of success in life is possible to man than this, our Fellow, had achieved? If there be any who would have had that manly form and that vigorous spirit shrink into the tottering gait, the trembling voice, and the garrulous talk of age, they have cause for mourning. But for him who would remember James Platt White in all his grandeur of body and of mind, death came none too soon.

"Can that man be dead  
Whose spiritual influence is upon his kind?  
He lives in glory; and his speaking dust  
Has more of life than half its breathing moulds."

The monarch, dying, leaves his monument in pyramid, in obelisk, in statue, and in "storied urn;" the man of

wealth, in the colossal fortune which perpetuates his name ; the author and the poet, in words that burn and songs that live : but to such a man as this, thousands of monuments are reared in the hearts of those whom his skill has saved, and in murmured blessings the poor whom he has succored sing his threnody.





## INDEX.

---

Address of President, 27.

Baker, William H., 5.

hyperemia of the vesico-urethral membrane, 382.

Barker, Fordyce, 5.

leucorrhœa considered in relation to its constitutional causes and treatment, 131.

remarks on treatment of certain lesions of the urethra, 53.

remarks on the use of ergot in obstetrics, 73, 75.

remarks on the influence of high-heeled shoes, 261.

Busey, Samuel C., 5.

the influence of the constant use of high-heeled French shoes upon the health and form of the female, and upon the relation of the pelvic organs, 243.

Business meeting, 19.

Campbell, Henry F., 6.

remarks on extra-uterine pregnancy, 240.

remarks on versions and flexions, 313.

Chadwick, James R., 6.

remarks on care of perineum, 154.

Childbed, measurements of the uterine cavity in, 331.

Collapse, coincident with the ligation of the ovary, 182.

Dilatation of the cervix, and the tube in extra-uterine pregnancy, 213.

Drysdale, Thomas M., 6.

the ovarian cell, its origin and characteristics, 81.

Electricity in extra-uterine pregnancy, 184.

Elytrotomy in extra-uterine pregnancy, 211.

Emmet, Thomas Addis, 6.

a new method of exploration, with the pathology and treatment of certain lesions of the female urethra, 27.

remarks on the use of ergot in obstetrics, 75, 76.

- remarks on leucorrhœa, 144.
  - remarks on the effect of opium, 181.
- Engelmann, George J., 6.
  - remarks on the use of ergot in obstetrics, 79.
  - remarks on the ovarian cell, 115.
  - remarks on hysterectomy and oöphorectomy, 182.
- Ergot, the proper use of, in obstetrics, 58.
- Extra-uterine pregnancy, dilatation of cervix and tube in, 213.
  - electricity in, 184.
  - elytrotomy in, 211.
  - injection of morphia in, 211.
  - laparotomy in, 212.
  - twenty-one cases of, 219.
  
- Fellows, 5.
  - honorary, 4.
- Fibroids, the relative value of hysterectomy, and of the complete removal of the uterine appendages for the cure of uterine, 158.
- Flexions of the uterus, mechanical therapeutics in, 267.
  
- Garrigues, Henry J., 6.
  - electricity in extra-uterine pregnancy, 184.
- Goodell, William, 7.
  - remarks on removal of uterine appendages, 172.
  - remarks on extra-uterine pregnancy, 237.
  
- Hematuria, 182.
- High-heeled shoes, 243.
- Howard, William T., 7.
  - remarks on the use of ergot in obstetrics, 77.
  - remarks on care of perineum, 154.
  - remarks on extra-uterine pregnancy, 241.
- Hyperemia of the vesico-urethral membrane, 382.
- Hysterectomy, 158.
  
- Injection of morphia in extra-uterine pregnancy, 211.
  
- Jackson, A. Reeves, 7.
  - remarks on leucorrhœa, 142.
- Johnson, J. Taber, 7.
  - the proper use of ergot in obstetrics, 58.
  - remarks on leucorrhœa, 143.
  
- Kimball, Gilman, 7.
  - remarks on hysterectomy, 178.

- Leucorrhœa considered in relation to its constitutional causes and treatment, 131.
- Lyman, George H., 8.  
address of welcome, 16.  
remarks on leucorrhœa, 141.  
remarks on opium, 181.  
remarks on extra-uterine pregnancy, 240.  
remarks on versions and flexions, 319.
- Mann, Matthew D., 8.  
surgical operations on the pelvic organs of pregnant women, 340.
- Measurements of the uterine cavity in childbed, 331.
- Memoir of Prof. James Platt White, 405.
- Minutes, 13.
- Morphia in extra-uterine pregnancy, 211.
- Mundé, Paul F., 8.  
remarks on care of perineum, 156.  
remarks on the presence of intestines in the cul-de-sac, 265.  
remarks on versions and flexions, 317.
- Nausea, relation to opium, 181.
- Officers, 3.
- Operations on the pelvic organs of pregnant women, 340.
- Opium in relation to nausea, 181.
- Ovarian cell, its origin and characteristics, 81.
- Ovariectomy, some remarks on, with special reference to the treatment of the pedicle, 119.
- Parvin, Theophilus, 8.  
care of the perineum, 145.
- Perineum, care of, 145.  
a new method of operation for the relief of rupture of the, 322.
- Pessaries, classification of version and flexion, 282.
- Pregnancy, extra-uterine, 184.  
operations in, 340.
- Reynolds, John P., 9.  
remarks on the use of ergot in obstetrics, 72.
- Richardson, William L., 9.  
measurements of the uterine cavity in childbed, 331.
- Rupture of the perineum, operation for the, 322.

Shoes, influence of high-heeled, 243.

Skene, Alexander J. C., 9.

    remarks on treatment of certain lesions of the urethra, 53.

Surgical operations on the pelvic organs of pregnant women, 340.

Sutton, R. Stansbury, 10.

    some remarks on ovariectomy, with special reference to the treatment of the pedicle, 119.

Thomas, T. Gaillard, 10.

    the history of twenty-one cases of extra-uterine pregnancy coming under the personal observation of the writer, 219.

    a memoir of Prof. James Platt White, 405.

    remarks on removal of uterine appendages, 175.

    remarks on the influence of high-heeled shoes, 263.

Thornton, J. Knowsley, 4.

    the relative value of hysterectomy and of the complete removal of the uterine appendages for the cure of uterine fibroids, 158.

    remarks on the ovarian cell, 114.

Trask, James D., 10.

    remarks on the use of ergot in obstetrics, 78.

Uremia, 182.

Urethra, a new method of exploration, with the pathology and treatment of certain lesions of the, 27.

Uterine appendages, removal of the, 158.

Uterine cavity in childbed, measurements of the, 331.

Van de Warker, Ely, 10.

    mechanical therapeutics of versions and flexions of the uterus, 267.

    remarks on the presence of intestines in the cul-de-sac, 265.

Versions and flexions of the uterus, mechanical therapeutics in, 267.

Vesico-urethral membrane, hyperemia of the, 382.

Warren, J. Collins, a new method of operation for the relief of the rupture of the perineum through sphincter and rectum, 322.

White, memoir of Prof. James Platt, 405.

Wilson, Henry P. C., 11.

    remarks on leucorrhœa, 142.

    remarks on opium in relation to nausea, 181.

    remarks on extra-uterine pregnancy, 236.

    remarks on versions and flexions, 315.

# INDEX

OF

GYNECOLOGICAL AND OBSTETRIC LITERATURE  
OF ALL COUNTRIES,

FOR THE YEAR 1881.

## ABBREVIATIONS.



a. alla, auf, aus, aux, etc.	o. och, oder.
d. das, degli, del, der, des, die, etc.	Q. Quarterly.
F. Folge.	r. reale.
f. för, for, für.	S. Surgery, Surgical.
h. het.	s. series.
J. Jornal, Journal.	t. ter, till, tot.
k. königlich, koninklijke.	u. und.
k. k. kaiserlich-königlich.	ü. über.
$\frac{1}{2}$ m. fortnightly.	un. uncertain.
M. Medical, Medicine, Medico, etc.	v. van, von, voor, vor.
m. monthly.	$\frac{1}{2}$ y. half yearly.
n. neue, new, nouveau, nouva, nya, etc.	z. zur.

\*. Graduating thesis.

+. Case.

++. Two or more cases.

pp. pages.

4°, 8°, etc. Quarto, octavo, etc.

Pl. Plates.

Col. Pl. Colored plates.

Roman numerals indicate the volume.

Arabic numerals indicate the page.

## OBSTETRIC AND GYNECOLOGICAL JOURNALS.

---

- American Journal of Obstetrics and Diseases of Women and Children. Editors, Paul F. Mundé, M. D., 20 West Forty-fifth St., New York, U. S. A.; and of the Department of Diseases of Children, G. B. Fowler, M. D., 11 West Forty-fifth St., New York. Vol. XIV., pp. 1044. 8° Q. New York. 1881.
- Anales de Obstetricia, Ginepatía y Pediatría. Director, D. R. Ulecia y Cardona. Tomo I., pp. 392. 8° m. Madrid, Spain.
- Annales de gynécologie (maladies des femmes, accouchements). Rédacteurs, Dr. A. Leblond, 9 rue de Mulhouse, et Dr. A. Pinard, Paris, France. Tome XV., 476 pp. Tome XVI., pp. 476. 8° m. Paris. 1881.
- Annali di Ostetricia, Ginecologia e Pediatría. Editore, Dott. Luigi Mangiagalli, Milano; Paolo Negri, Milano. Anno III. 8° m. pp. 760. Milano, Italia. 1881.
- Annuaire des sages-femmes. Rédacteur, Dr. E. Verrier, 8 rue de Lachaise. 5<sup>me</sup> Année. 12° y. Paris. 1881.
- Archives de tocologie, des maladies des femmes et des enfants nouveau-nés. Rédacteur, Dr. De Soyre, 46 rue Jacob, Paris, France. 8<sup>me</sup> Année. 8° m. pp. 764. Paris. 1881.
- Archiv für Gynækologie. Redacteurs, Credé in Leipzig und Spiegelberg in Breslau. Band XVII., pp. 509. Band XVIII., pp. 501. 8°  $\frac{1}{2}$  y. Berlin. 1881.
- Centralblatt für Gynækologie. Redacteurs, Dr. H. Fehling in Stuttgart, Dr. H. Fritsch in Halle a S. Jahrgang V., pp. 632. 8°  $\frac{1}{2}$  m. Leipzig. 1881.
- Gynækologiske og obstetriciske Meddelelser, udgivne af F. Horwitz, Kjøbenhavn. 3 Binds, Heft 2, pp. 102; 3, pp. 96. 8°  $\frac{1}{2}$  y. Kjøbenhavn. 1881.
- Homœopathic Journal of Obstetrics and Diseases of Women and Children. Editor, Dr. Henry Minton, 165 Joraieimon St., Brooklyn, N. Y., U. S. A. Vol. II. Nos. 3, 4, pp. 251-500. Vol. III., Nos. 1, 2, pp. 248. 8° Q. New York. 1881.
- Journal d'accouchements. Rédacteur, Dr. N. Charles, 34 rue Hors-Château, Liège. 2<sup>me</sup> Année. 4°  $\frac{1}{2}$  m. Liège. Belgique.
- Journal des sages-femmes. 9<sup>me</sup> Année. IV., pp. 193-388. 4° Paris. 1881.
- Obstetric Gazette. Editor, Dr. E. B. Stevens, Cincinnati, Ohio, U. S. A. Vol. II., pp. 289-624. Vol. III., pp. 1-336. 8° m. Cincinnati. 1880.
- Zeitschrift für Geburtshülfe und Gynækologie. Redacteurs, C. Schröder, H. Fasbender, A. Gusserow, L. Mayer, in Berlin. Band VI., pp. 415. 8° un. Stuttgart. 1881.

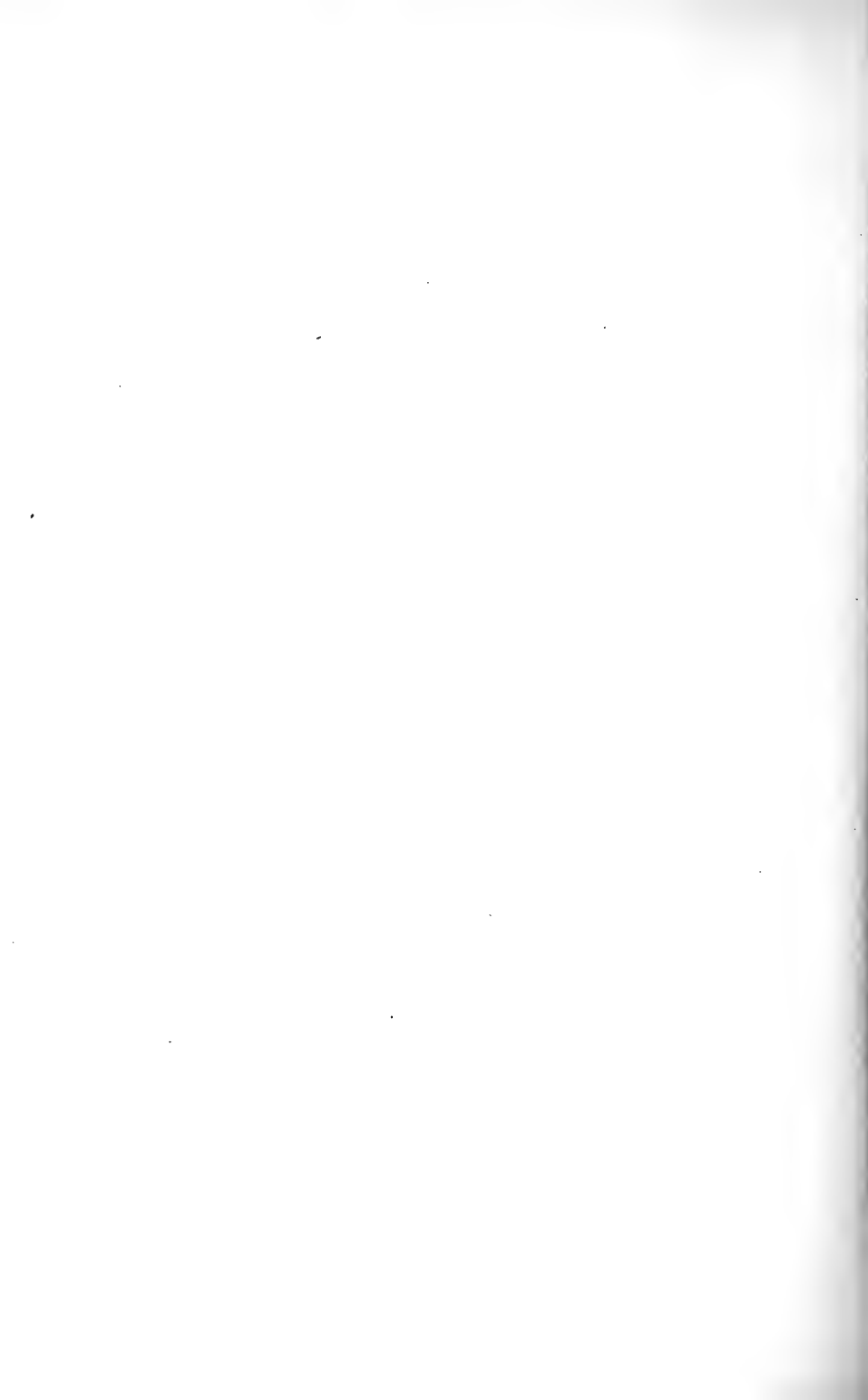
## OBSTETRIC AND GYNECOLOGICAL SOCIETIES.

---

- Allgemeiner Verein St. Petersburger Aerzte. Gynäkologische Section. Verhandlungen. St. Petersb. med. Wchnschr. 5 Jahrg. 1881.
- American Gynecological Society. Transactions of Year 1880. Secretary, James R. Chadwick, M. D., Clarendon St., Boston, U. S. A. Vol. V. 8<sup>o</sup> y. pp. 470. Bibliographical Index of Obstetric and Gynecological Literature of all Countries, for the Year 1879. Also, Abstract of Transactions of Year 1881, in Am. J. Obst., New York. XIV. pp. 950-977.
- American Medical Association. Minutes of the Thirty-second Meeting. Obstetric Section. Secretary, Dr. J. T. Johnson, Washington, D. C. Tr. Am. Med. Ass. XXXII. 1881. pp. 249-290.
- British Medical Association. Obstetric Section. Abstract of Proceedings, Brit. M. J. 1881. II. 393.
- Edinburgh Obstetrical Society. Transactions. Session 1878-79. Secretaries. James Carmichael, M. D., F. R. C. P. E., 42 Northumberland St.; D. B. Hart, M. D., M. R. C. P. E., 65 Frederick St., Edinburgh, Scotland. Vol. VI. pp. 231. 8<sup>o</sup> Edinburgh. 1881.
- Gesellschaft für Geburtshülfe in Leipzig. Mittheilungen. Centralbl. f. Gynäk. Leipzig. V. pp. 346-348, 370, 509, 537.
- Gesellschaft für Geburtshülfe und Gynäkologie in Berlin. See Ztschr. f. Geburtsh. u. Gynäk.
- Gynæcological Society of Boston. Secretary, Dr. H. M. Field, Newton, Mass. Boston M. & S. Jour. CV. pp. 11, 85, 133, 253, 445, 521.
- Gynäkologische Gesellschaft zu Dresden. Mittheilungen. Centralbl. f. Gynäk. Leipzig. V. pp. 244-248, 300-304.
- New York Obstetrical Society. Transactions for the Year 1880-1881. Am. J. Obst. XIV. pp. 113-127, 419-426, 652-678, 873-898.
- Obstetrical Society of Boston. Proceedings. Secretary, C. W. Swan, M. D., 32 Worcester St., Boston, Mass. Boston M. & S. J. CIV. pp. 63, 132, 302, 396. CV. 61, 375, 402, 475, 494, 519.
- Obstetrical Society of Dublin. Proceedings. Dublin J. Med. Sc. LXXI. pp. 69, 245, 353, 420. LXXII. 68, 154, 240.
- Obstetrical Society of London. Transactions for the Year 1880. Hon. Secretaries, Clement Godson, M. D., 8 Upper Brooks St., Grosv. Sq., W., and Alfred L. Galabin, M. D., 14 St. Thomas St., Southwark, S. E., London, England. Vol. XXII. pp. 315. 8<sup>o</sup> y. London. 1881.



- Obstetrical and Gynæcological Society of St. Louis. Secretary, Dr. George J. Engelmann, St. Louis, Mo. *St. Louis Cour. Med.* V. pp. 145, 237, 329, 531. VI. 69, 176, 336, 465, 552.
- Philadelphia Obstetrical Society. Transactions for the Year 1880-1881. Secretary, W. H. H. Githens, M. D., 1106 Pine St., Philadelphia, Penn. *Am. J. Obst.* New York. XIV. pp. 128-139, 678-694, 898-906.
- San Francisco Obstetrical Society. *San Francisco Western Lancet.* X. pp. 66, 300, 396.
- Sociedad Ginecológica española. *Anales.* Año de 1881. See *Anales de Obstetricia, Ginepatía, y Pediatría.*
- Versammlung deutscher Naturforscher und Aerzte in Salzburg. Gynäkologische Section. Verhandlungen. *Arch. f. Gynæk.* Berl. XVIII. pp. 463-497.



## GYNECOLOGICAL INDEX.

### ABDOMEN, Tumors of the.

WELLS, S. Note Book for Cases of Ovarian and other Abdominal Tumors. 6th ed. London. 8° 1 s.

### ABDOMINAL SECTION. See Laparotomy.

### ABORTION. See, also, Jurisprudence, and Labor, Premature.

MARCHAL ET A. THEVENOT. De la grossesse cervicale; et rapport sur ce mémoire. *Paris*. 8° [Repr. from: *Union méd.*]

PHELIPPEAUX. Considération sur certains avortements; valeur étiologique du choc-moral, faits à l'appui; accouchement prématuré à six mois; bassin oblique ovulaire reconnu sur le vivant. *Paris*. 8° [Repr. from: *Ann. de gynec.*]

SIMPSON, A. R. On the Complete Evacuation of the Uterus after Abortion. 8° *Edinburgh*. 1876.

LANGÉ, ARTHUR. Die künstliche Retroposition des Uterus zum Zwecke der Entfernung von Eiresten nach Abortus. *Marburg*. R. Friedrich. 16 pp. 8°

D'Auriol. Un cas d'avortement; quelques courtes considérations. *Rev. méd. de Toulouse*. 1880. XIV. 106-115.

Bailey, W. Abortion; retained placenta. *Med. Herald, Louisville*. 1880-81. II. 115-117.

Brinton, W. Abortion with retained placenta. *Independ. Pract. N. Y.* II. 731-742.

Caldwell, W. S. The management of the afterbirth in abortion. *St. Louis M. & S. J.* XLI. 294-296.

Cazzani, L. L'assa fetida nella profilassi del parto abortivo e prematuro. *Ann. di ostet. Milano*. III. 577-593.

Charlier, Elisa. Avortement au 6<sup>e</sup> mois de la grossesse; éclampsie, mort. *J. d. sages-femmes. Par.* IX. 235.

Christian, E. P. The parturient history of some aborters. *Detroit Lancet*. 1881-82. N. s. V. 142-145.

Ciccone, V. Dell' aborto infettivo; studio clinico. *Gior. internaz. d. sc. med. Napoli*. N. s. III. 1297-1301.

Culver, D. M. Miscarriage at six months induced by malarial

dysentery and fever. *Obst. Gaz. Cincin.* IV. 288.

Depaul. Avortement provoqué, comment peut-on, dans une certaine mesure, prévenir cette opération. *J. d. sages-femmes. Par.* IX. 361.

Foster, F. P. Lingering abortion. *N. York M. J.* 1881. XXXIII. 702.

Granniss, J. H. Treatment of the third stage of abortion. *Proc. Connect. M. Soc. Hartford*. N. s. II. No. 2, pp. 159-163.

Harrison, G. T. The treatment of abortion. *Virginia M. Month. Richmond*. 1881-82. VIII. 421-433.

Von Holst, L. Heisse Douche bei Abort. *St. Petersb. med. Wehnschr.* VI. 360.

Lewandowski, G. O uczyciu zatykadla pochowego przy poronieniach. [On the use of the tampon in miscarriage.] *Medycyna. Warszawa*. IX. 497-500.

Lyman, W. S. Absence of radial pulsation for more than three hours; restoration of pulse and complete recovery; hypodermic injections of whiskey. *Tr. Minnesota M. Soc. St. Paul*. 105.

Lyman. Abortion: pelvic abscess; intra-uterine injections. *Boston M. & S. J. CIV.* 129.

Lyman. Abortion: retained placenta; intra-uterine injections. *Boston M. & S. J. CIV.* 130.

McClain, J. F. An anomaly in obstetrical practice. *St. Louis Clin. Rec.* 1880-81. III. 433-435.

Marchal. De la grossesse cervicale. *Union méd. Par.* 3 s. XXXII. 529, 541.

Petershausen, H. P. V. Some views on abortion. *Detroit Lancet*. 1881-82. V. 426-428.

Phelippeaux. Considérations sur certains avortements; valeur étiologique du choc moral; faits à l'appui; accouchement prématuré à 6 mois; bassin oblique ovulaire reconnu sur le vivant. *Ann. de gynec. Par.* XVI. 161-193.

Prince, D. M. Use of hot-water vaginal injections in habitual abortion. *North Car. M. J. Wilmington*. VII. 93.

Reichert, E. T. A case of premature labor induced by the ingestion of a drachm of croton oil; recovery of the patient. *Phila. M. Times*. 1880-81. XI. 370.

Rosenstirn, J. Kolossale Haematocele retro-uterina in Folge der Applikation eines starken galvanischen Stromes am schwangeren Uterus zum Zwecke der Abortion; schneller Schwund des ausgedehnten verhärteten Extravasats durch Massage. *Centralbl. f. Gynäk. Leipz.* V. 305-308.

ABORTION, CRIMINAL.

Bradley, J. A contribution to the jurisprudence of abortion. *Detroit Lancet*.

- 1880-81. N. s. IV. 489. — **Hardison, W. H.** Self-abortion. Louisville M. News. XII. 279. — **Squillante, S.** Della morte del feto per cagioni procurate; quali di queste possono confondersi con le cagioni naturali, e come si differenziano? Movimento. *Napoli*. 2 s. III. 153-164. — **Tarnier, S.**, et **Brouardel.** Inculpation d'avortement; et relation médico-légale de l'affaire C.... et D.... Ann. d'hyg. *Par.* 3 s. V. 304-325. — **Wherry, G. E.** Criminal abortion; a fetus of three months cut up while in the uterus; peritonitis; recovery. *Brit. M. J. Lond.* I. 881.
- ABSCESS, Mammary.** See **Breast, Diseases of the.**
- ABSCESS OF THE VULVA.** See **Vulva.**
- ABSCESS, Pelvic.** See **Inflammation, Pelvic, and Pelvis, Abscess of the.**
- ALBUMINURIA.** See, also, **Pregnancy, Diseases of.**  
**Hill, W. S.** Benzoic acid in the albuminuria of pregnancy and scarlatina. *Am. J. M. Sc. Phila.* N. s. LXXXII. 169. — **Ingerslev, E.** Beitrag zur Albuminurie während der Schwangerschaft, der Geburt und der Ekklampsie. *Ztschr. f. Geburtsh. u. Gynäk. Stuttg.* VI. 171-212.
- ALLANTOIS.**  
**Krause, W.** Ueber die Allantois des Menschen. *Centralbl. f. Gynäk. Leipz.* V. 1.
- AMENORRHEA.** See, also, **Apiol.**  
**Jugand, L.** Cas d'aménorrhée complète chez une femme de 35 ans; traitement par l'albuminate de fer; grossesse. *Progrès méd. Par.* IX. 222.
- AMNION.** See, also, **Liquor Amnii.**  
**Lyon, G. W. A.** Derivation of the word "amnion." *Obst. Gaz. Cincin.* 1881-82. IV. 231-233.
- AMNION, Dropsy of the.**  
**BAR, PAUL.** \*Recherches pour servir à l'histoire de l'hydramnios (pathogénie). *Paris.* 192 pp. 5 pl. 4° No. 283.  
**DELASSUS, AGILE.** \*Étude sur l'hydropisie de l'amnios. [Paris.] *Lille.* 86 pp. 4°  
**Ciccione, V.** Idrope uterina delle gestanti; idrocefalo fetale; puntura dell'addome. *Gazz. med. ital. Prov. venete. Padova.* XXIV. 385-389. — **Lamb, D.** Ein seltener Fall von Hydramnios. *Centralbl. f. Gynäk. Leipz.* V. 329, 353.
- AMPUTATION, Intra-uterine.**  
**Anderson, R. J.** Notes of a case of intra-uterine amputation. *Brit. M. J. Lond.* II. 78. — **Lyman.** Spontaneous amputation in utero. *Boston M. & S. J. CIV.* 396.
- ANEMIA.** See, also, **Chlorosis.**  
**GRAEFE, M.** \*Ueber den Zusammenhang der progressiven perniciosen Anaemie mit der Gravidität. *Halle.* 8° 1880.
- ANESTHESIA IN LABOR.**  
**CHARLIER, J. B.** \*Del empleo de los anestésicos durante el parto. Traducida por Manuel Martinez Fspinoso. [Brussels.] *Madrid, G. Juste.* 67 pp. 8°  
**Aupal, F.** De la anestesia en los partos. *Union méd. d. Aragon. Zaragoza.* 1880-81. 2 ép. II. 215, 226, 239, 247, 257. — **Boutequoy.** De l'anesthésie obstétricale dans un cas de dystocie par rigidité du col. *J. de thérap. Par.* VIII. 161-164. — **Croom, H.** On the systematic use of antiseptics in midwifery practice. *Tr. Edinb. Obst. Soc.* VI. 3-16. — **Klikowitsch, S.** Ueber das Stickstoffoxydul als Anästheticum bei Geburten. *Arch. f. Gynaek. Berl.* XVIII. 81-108. — **Leavitt, S.** Anesthetics in midwifery. *Homœop. J. Obst. N. Y.* 1881-82. III. 68-78. — **Lebert.** Des accouchements sans douleur ou de l'anodynie obstétricale, par le chloroforme et spécialement par le bromure d'éthyl. *Concours méd. Par.* III. 218-220. — **Marsden, J. H.** Anesthesia in labor. *Homœop. J. Obst. N. Y.* 1880-81. II. 434-455. — **Owen, J. L.** Why chloroform is not contra-indicated in labor with co-existing cardiac disease. *N. Orl. M. & S. J.* 1881-82. IX. 831-835.
- ANTISEPTICS.** See, also, **Jurispudence.**  
**BÖTJER, W.** \*Die Antiseptis in der Geburtshülfe. 8° *Kiel.* 1880.  
**CHIARA, D.** Un' ultima parola sulla profilassi listeriana nella clinica ostetrica milanese. *Milano.* 8° [Repr. from: *Ann. di Ostet.*]  
**LABESQUE, ADRIEN.** \*Essai sur l'emploi des moyens antiseptiques pendant la grossesse, l'accouchement et ses suites. *Paris.* 118 pp. 1 tab. 4° No. 244 bis.  
**Calderini, G.** Le precauzioni antiseptiche nella pratica ostetrica. *Osservatore. Torino.* XVII. 99, 113. — **Fritsch, H.** Eine Flasche zur schnellen Anfertigung von Karbolsäurelösung. *Centralbl. f. Gynäk. Leipz.* V. 623. — **Lott, G.** Zur Technik der Antiseptis bei Operationen an den weiblichen Genitalien. *Wien, med. Bl.* IV. 1163-1166. — **Reid, W. L.** On the use of antiseptics in obstetrics and gynecology. *Glasgow M. J.* XV. 438-445. — **Spiegelberg.** Antiseptis in der Geburtshülfe. *Tr. Internat. M. Cong.* 7 sess. *Lond.* IV. 386-392.
- ANUS.** See **Levator-ani Muscle.**
- APIOL.**  
**LAMOUROUX, A.** Étude sur l'apiol des docteurs Joret et Homolle. *Paris.* 8°

**Cinramelli, G.** L'apiolo come emmenagogo. Riv. ital. di terap. ed ig. *Piacenza*, 237-239.

**ASAFETIDA.**

**CAZZANI, L.** L'assafetida nella proflassi del parto abortivo e prematuro. *Milano*, 8°

**ASPHYXIA OF INFANTS.**

**Champneys, F. H.** Second communication on artificial respiration in still-born children; the expansibility of various parts of the lungs; an experimental inquiry. [Abstr.] Proc. Roy. M. & Chir. Soc. *Lond.* IX. No. 2. 69-71. — **Erichsen, H.** Apnea infantum. *Obst. Gaz. Cincin.* 1881-82. IV. 113-117. — **Goyard.** Asphyxie des nouveau-nés. France méd. *Par.* 1881. XXVIII. 100-102. *Also*, Compt. rend. Acad. d. sc. *Par.* XCII. 99. — **Langhorne, J. M.** Asphyxia neonatorum. Tr. M. Ass. Alabama. *Montgomery*. XXXIV. 326-331. — **Le Bon, G.** Recherches expérimentales sur le traitement de l'asphyxie des nouveau-nés et de l'asphyxie par submersion. J. de thérap. *Par.* VIII. 201-217. — **Mekertschiantz.** Die Schüller'sche Methode zur Wiederbelebung asphyktischer Neugeborener. Centrabl. f. Gynäk. *Leipz.* V. 36. — **Plant, W. T.** Apnea infantum. *Obst. Gaz. Cincin.* IV. 1-4. — **Shackleton, E.** Resuscitation after still-birth. *Brit. M. J. Lond.* I. 1002. — **Tommasi, T.** Risposta ad una nota del Sigr. Goyard sopra un mezzo semplice di ricondurre alla vita i neonati in stato di morte apparente. *Imparziale. Firenze.* XXI. 231-234.

**AUSCULTATION.**

**Budin, P.** Note sur un procédé qui permet de mieux constater les caractères de la région dorsale du fœtus lorsqu'on pratique la palpation abdominale et de mieux entendre les bruits du cœur fœtal lorsqu'on pratique l'auscultation à la fin de la grossesse. Progrès méd. *Par.* IX. 397. — **McMurrich, M.** Report of a case with funic souffle. *Glasgow M. J.* XVI. 416-418. — **Parvin, T.** Placental or uterine souffle? *Am. Pract. Louisville.* XXIII. 198-202.

**BATTEY'S OPERATION. See Oöphorectomy.****BIOGRAPHY, Medical.**

**WELLINGTON, W. W.** Biographical Sketches of Deceased Members of the Obstetrical Society of Boston; with an Outline of the Earlier Obstetrical History of Boston and Vicinity. In: Cotting, B. E., Historical Sketch of the Obst. Soc. Bost., pp. 39-73. 8° *Boston*.

**BLADDER.**

**Hart, D. B.** On the shape of the empty female bladder. *Edinb. M. J.* 1880-81. XXVI. 794-797. 4 pl.

**BLADDER, Diseases of the.**

**Carpenter, S. F.** Cysto-urethritis; caused by internal hemorrhoids and pinworms (*oxyuris vermicularis*). *Kansas M.*

*Index. Fort Scott.* II. 176-178. — **Chapman, M.** On a method of treatment for certain kinds of incontinence of urine. Tr. *Edinb. Obst. Soc.* VI. 84-86. — **Constantine and Aikman.** Wormlike body passed from the bladder of a woman. *Brit. M. J. Lond.* I. 235. — **Cushing, C.** Diseases of the female bladder and urethra; a clinical lecture. *Pacific M. & S. J. San Fran.* 1881-82. XXIV. 449-456. — **Delthil.** Observation de cystocèle vaginale. France méd. *Par.* II. 433-437. — **Eldridge, S.** Echinococci in the female bladder; cystitis; excessive dilatation of urethra; cure. *Am. J. Obst. N. Y.* XIV. 106-108. — **Etheridge, J. H.** Treatment of the irritable bladder in women. *Chicago M. J. & Exam.* XLIII. 463-469. — **Hoegh, K.** Antiseptic treatment of cystitis in the female. Tr. M. Soc. Wisconsin. *Milwaukee.* XV. 120-123. — **Hudson, A. T.** Rupture of the bladder, with recovery. *Med. & Surg. Reporter. Phila.* XLV. 446. — **Mazzotti, L.** Un caso di ulcera semplice perforante della vesica urinaria in una donna. Riv. clin. di Bologna. 3 s. I. 599-603. — **Schucking A.** Zur Behandlung des Blasenkatarrhs. *Centrabl. f. Gynäk. Leipz.* V. 290. — **Skinner, S. W.** Case of urethro-vesical disease. *Ohio M. J. Columbus.* 1881-82. I. 346. — **Vance, R. A.** Inversion of the human bladder. *Ohio M. J. Columbus.* 1881-82. I. 476-484. — **Warren, J. C.** Two cases of cystitis in the female. *Boston M. & S. J.* CV. 128.

**BLADDER, Foreign Body in the.**

**Bell, J.** Cases of foreign bodies in the female bladder. *N. Eng. M. Month. Newtown (Conn.).* 1881-82. I. 145. — **Bilsted, E., and T. Schou.** Et Tilfælde af corpus alienum vesicæ muliebris. *Hosp.-Tid. Kjøbenh.* 2 R. VIII. 481-487. — **Maraacci, G.** Di un grosso spillo inghiottito ed estratto dalla vesica dopo quindici mesi; in donna. *Sperimentale. Firenze.* XLVII. 257-261, 386-390. — **Rosser, W.** Hair pin in female bladder with large calculus attached; removal; recovery. *Lancet. Lond.* II. 948. — **Von Dittel.** Entfernung eines Fremdkörpers aus der Blase. *Wien. med. Presse.* XXII. 1607.

**BLADDER, Stone in the. See Calculus, Vesical.****BRACHIOTOMY. See Jurisprudence.****BRAIN, Hernia of the.**

**Cleveland, W. F.** Large hydropcephalocoele. Tr. *Obst. Soc. Lond.* 1880. XXII. 157. — **Godson, C.** Encephalocoele. Tr. *Obst. Soc. Lond.* 1880. XXII. 131-133.

**BREAST, Diseases of the.**

**VERGEADE, N. J. B.** \*De la lymphangite mammaire pendant la puerpéralité. *Paris.* 52 pp. 4° No. 149.

**Bhattacharjee, H. M.** A case of enlargement of the female breast. *Indian M. Gaz. Calcutta.* XVI. 198. — **Cori-**

**veaud, A.** Observation de névralgie rebelle de la mamelle guérie rapidement par la compression. *J. de méd. de Bordeaux*. 1881-82. XI. 18-20. — **Corson, H.** The treatment of mammary abscess. *Am. J. Obst. N. Y.* XIV. 48-53. Also, *Tr. Phila. Obst. Soc.* 1880. 43-51. — **Oppenheimer, L. S.** The prevention and treatment of puerperal mammary inflammations. *Indiana M. Reporter. Evansville*. II. 257-263. — **Peyrot.** Lymphangite mammaire consécutive à une érosion du mamelon; propagation par les réseaux lymphatiques superficiels à la mamelle et aux ganglions du côté opposé. *France méd. Par.* II. 878-882. — **Pollaillon.** Opération d'un cancer du sein chez une femme enceinte de trois mois; guérison. *Bull. et mém. Soc. de chir. de Par.* N. s. VII. 417-420. — **Smith, J. D.** The treatment of mammitis. *South. Pract. Nashville*. III. 201-204.

### BROAD LIGAMENT, Anatomy and Pathology of the.

**LALLEMENT, HENRI.** \*Étude sur l'anatomie et la pathologie des ligaments larges. *Paris*. 67 pp. 4<sup>o</sup> No. 451.

**Burke, M.** Large abdominal abscess cured by two aspirations (abscess of broad ligament?). *Med. Rec. N. Y.* XIX. 135. — **Douvre.** Kyste dermato-pileux du ligament large trouvé à l'autopsie; observation. *Union méd. de la Seine-Inf. Rouen*. XX. 52-57. — **Le Bec.** Contribution à l'étude des ligaments larges au point de vue de l'anatomie et de la pathologie. *Gaz. hebdom. de méd. Par.* 2 s. XVIII. 233-236. — **Wythe, J. H.** Large rotating cyst of the broad ligament; removed by ovariectomy. *Pacific M. & S. J. San Fran.* 1881-82. XXIV. 491.

### CALCULUS, Vesical. See, also, Bladder, Foreign Bodies in the.

**GRETSCHER DE WANDELBURG, A.** Affection calculeuse méconnue depuis vingt ans. *In his: Mém. de méd. et chir.* 8<sup>o</sup> *Paris*. 81.

**Blake.** Vesical calculus in a woman; dilatation of the urethra and removal of the stone by forceps. *Boston M. & S. J. CV.* 129. — **Cowell.** Calculus in the female bladder; removal by a combination of dilatation and incision. *Brit. M. J. Lond.* I. 512. — **Dunlap, A.** A remarkable case of extraction of a large stone from the female bladder through the urethra. *Am. J. Obst. N. Y.* XIV. 853-856. — **Emmet, T. A.** Stone removed from the bladder of a female. *Am. J. Obst. N. Y.* 1881. XIV. 121-123. — **Macdonald, A.** Calculus in the female bladder. *Tr. Edinb. Obst. Soc.* VI. 136-146. Also, *Med. Press & Circ. Lond.* N. s. XXXII. 93, 115. — **Nielson, P.** Om Bortfjernelse af Blærsten ved Simons Metode til Dilatation af den kvindelige Uretra. [Removal of calculi by dilatation of urethra.] *Gynaek. og obst. Medd. Kjøbenhavn*. III. 3 Hft. 38-41. — **Parker.** Two cases of calculus vesicæ in girls, removed by rapid dilata-

tion of urethra. *Med. Press & Circ. Lond.* N. s. XXXII. 470. — **Parker, R. W.** Calculus vesicæ in a female child; rapid dilatation of urethra; extraction. *Med. Times & Gaz. Lond.* I. 540. — **Patterson, A.** Stone in the female bladder. *Glasgow M. J.* XV. 1. 1 pl. — **Spencer, H. O.** Stone in the bladder of a female removed by lithotomy. *Med. & Surg. Reporter. Phila.* XLIV. 288. — **Suender, D. E.** Cálculo vesical voluminoso extraído por dilatación rápida de la uretra en la mujer mediante la anestesia. *Encicl. méd.-farm. Barcel.* V. 431-435. Also, *Andalucía méd. Córdoba*. VI. 201, 225, 260. — **Suender, E.** Dos casos de cálculo vesical voluminoso extraído por dilatación rápida de la uretra en la mujer mediante la anestesia. *Rev. esp. de oñal, síf., etc. Madrid.* Año IV. Vol. II. 221-237. — **Vasileff, V. V.** Lithiasis u jenshine. [Lithiasis in women.] *Med. Vestnik. St. Petersburg*. XXI. 9-11.

### CATHETER, Urethral.

**Bathey, R.** A new catheter. *North Car. M. J. Wilmington*. VIII. 14-16. — **Eustache, G.** Du cathétérisme de l'urèthre chez la femme; erreurs singulières aux quelles il expose quand on ne le pratique pas à découvert. *Rev. méd.-chir. d. mal. d. femmes. Par.* III. 241-248.

### CELLULITIS, Pelvic. See Inflammation, Pelvic.

### CEPHALOTRIPSY. See, also, Embryotomy.

**Castelain, F.** De la céphalotripsie, tête dernière, et de ses avantages dans les rétrécissements moyens du bassin. *Arch. de tocol. Par.* VIII. 449-452. Also, Reprint. — **Charles, N.** Primipare à terme; bassin rétréci, mesurant 7½ centimètres dans son diamètre sacro-pubien; présentation du sommet en O. I. G. A. avec proéminence du cordon; sciage du crâne et extraction au moyen du céphalotribe; suites de couches marquées par une métrite légère. [From: *J. d'accouch. de Liège.*] *J. d. sages-femmes. Par.* IX. 219. — **Fournier, A.** Accouchement chez une multipare dans un cas de rétrécissement du bassin; céphalotripsie après applications infructueuses de forceps; endométrite gangréneuse avec élimination d'escharre utérine; accidents septicémiques; lavages intra-utérins antiseptiques; guérison.—*J. d. sc. méd. de Lille*. III. 531-540. — **Raposo, P. A. de Bettencourt.** Caso de cephalotripsia. *Correio med. de Lisb.* X. 13. — **Whittaker.** A case of dystocia; use of the cranioclast. *Cincin. Lancet & Clinic*. N. s. VII. 32.

### CERVIX UTERI.

**Fischel, W.** Beiträge zur Morphologie der Portio vaginalis uteri. *Arch. f. Gynaek. Berl.* XVIII. 433-444.

### CERVIX UTERI, Amputation of the.

**Janvrin.** Occlusion of the cervix uteri after amputation; death after dilatation and the use of a stem pessary. *Obst. Gaz. Cincin.* 1880-81. III. 633.—

**Paquet, A.** Note sur une modification apportée au procédé ordinaire d'amputation du col utérin par l'écraseur linéaire ou l'anse galvano-caustique. *Bull. méd. du nord. Lille.* XX. 30-33.

### CERVIX UTERI, Atresia of the.

**Medina, A.** Atresia cicatricial del orificio uterino; dilatacion forzada. *Rev. méd. de Chile. Sant. de Chile.* 1878-79. VII. 106.

### CERVIX UTERI, Cancer of the.

**Blake, J. G.** Cancer of the cervix uteri. *Boston M. & S. J. CIV.* 339-342. — **Crowley, D. D.** Cancer of the uterus; extirpation and death. *Calif. M. J. Oakland.* II. 398-401. — **Fauquez, R.** Epithélioma du col de l'utérus. *Rev. méd.-chir. d. mal. d. femmes. Par.* III. 373-375. — **Lyman.** Epithelioma of cervix uteri. [2 cases.] *Boston M. & S. J. CIV.* 176. — **Mundé, P. F.** Gangrene of an unusually large epithelioma of the cervix uteri. *Am. J. Obst. N. Y.* XIV. 657-659. — **Polk.** Chian turpentine in epithelioma of the cervix uteri. *N. York M. J.* XXXIII. 456. *Also, Am. J. Obst. N. Y.* XIV. 876. — **Potter, W. W.** The surgical treatment of epithelioma of the cervix uteri. *Tr. M. Soc. N. Y. Syracuse.* 218-228. — **Roper, G.** Malignant disease of the cervix uteri. *Tr. Obst. Soc. Lond.* 1880. XXII. 85. — **Snively, I. N.** Cauliflower excrescence; ligature; recovery. *Med. & Surg. Reporter. Phila.* XLV. 529. — **Trelat.** Epithélioma du col utérin; ablation de la parte malade à l'aide de l'anse galvano-caustique. *Concours méd. Par.* III. 171.

### CERVIX UTERI, Dilatation of the.

**Fraenkel, E.** Ueber Cervixdilatation. *Breslau. aerztl. Ztsch.* III. 61, 75. — **James.** Dilator of the cervix uteri. *Brit. M. J. Lond.* II. 15. — **Kocks, J.** Zur aseptischen Dilatation des uterus mittels Quellkegel in Gummischläuchen. *Centralbl. f. Gynäk. Leipz.* V. 235. — **Marcy, H. O.** Another uterine dilator. *Tr. Internat. M. Cong. 7 sess. Lond.* IV. 374-376. — **Wilson, H. P. C.** Uterine dilatation with a new instrument. *Am. J. Obst. N. Y.* XIV. 645-651.

### CERVIX UTERI, Diseases of the.

**Fischel, W.** Ueber den Bau und die pathologische Bedeutung der Erosionen der Portio vaginalis uteri. *Ztschr. f. Heilk. Prag.* 1881. II. 261-300. 2 pl. *Also, transl. Ann. de gynec. Par.* XVI. 241-264. — **Galabin, A. L.** Pathological anatomy of erosions of the cervix uteri. *Tr. Obst. Soc. Lond.* 1880. XXII. 156. — **Glück, L.** Zur Statistik der vaginal- und Portio-Schanker. *Wien. med. Presse.* XXII. 1003-1006. — **Herman, G. E.** Follicular hypertrophy of the cervix. *Tr. Obst. Soc. Lond.* 1880. XXII. 270. — **Herman, G. E.** Hypertrophy of the vaginal portion of the cervix uteri occurring in two sisters. *Med. Times & Gaz. Lond.* I. 401. — **Martin, A.** The diagnosis of hypertrophy of the supravaginal cervix of the uterus. [Transl. from: *Ztschr. f. Geburtsh. u. Gynäk. Stuttg.* By

J. James.] *Specialist. Lond.* 1881-82. II. 55-57. — **De Molènes.** Contribution à l'étude du chancre non infectant du col de l'utérus (variété diphthéroïde). *Ann. de dermat. et syph. Par.* 2 s. II. 295-307.

### CERVIX UTERI during Pregnancy.

**KOBERLIN, HERMANN.** \*Anatomischer Beitrag zum Verhalten des Cervix uteri während der Schwangerschaft. [Erlangen.] *München.* 1880. Wild. 36 pp. 1 pl. 8°

**Jakins, W. V.** Non-obliteration of the cervix uteri during pregnancy. *Austral. M. J. Melbourne.* N. s. III. 257.

### CERVIX UTERI, Hypertrophy of the.

**OLIVIER.** Note sur un cas d'allongement hypertrophique de la portion sus-vaginale du col de l'utérus. *Paris.* 8° [Repr. from: *Ann. de gynéc.*]

**Martin, A.** Zur Kenntniss der Hypertrophia colli uteri supravaginalis. *Ztschr. f. Geburtsh. u. Gynäk. Stuttg.* VI. 101-109. — **Morgan, W.** Longitudinal hypertrophy of the cervix uteri. *Med. Ann. Albany.* II. [Tr. M. Soc. County Albany, 168.]

### CERVIX UTERI, Incision of the.

**Johnston.** Incising the cervix uteri. *St. Louis M. & S. J.* XLI. 51-62. — **Reushaw, C. J.** Convulsions; incision of os uteri; recovery. *Brit. M. J. Lond.* II. 12.

### CERVIX UTERI, Inflammation of the.

**Herrick, O. E.** Chronic cervical metritis. *Obst. Gaz. Cincin.* IV. 4-7. — **McAfee, J. W.** Supposed ovarian neuralgia, arising from inflammation of the cervix uteri. *Pacific M. & S. J. San Fran.* 1881-82. XXIV. 397.

### CERVIX UTERI, Laceration of the. See, also, Labor, Sequelæ of.

**FAGE, MARC.** \*Étude sur l'opération d'Emmet. *Paris.* 106 pp. 1 pl. 4° No. 4.

**MUZBERGER, LEOPOLD.** \*Ueber das pathologisch-anatomische Substrat der Erosionen an der Portio vaginalis uteri. *Halle.* E. Karras. 35 pp. 8°

**Arning, E.** Beitrag zur Emmet'schen Operation der Cervixrisse; nach Erfahrungen an 22 Fällen aus der Praxis von Dr. A. Martin zusammengestellt. *Wien. med. Wechschr.* XXXI. 909, 940. — **Balleray, G. H.** Laceration of the cervix uteri. *Tr. M. Soc. N. Jersey. Newark.* CXV. 103-120. — **Balls-Headley.** Three cases of Emmet's operation for laceration of the cervix uteri. *Austral. M. J. Melbourne.* N. s. III. 264-267. — **Bennet, J. H.** Notes on laceration of the cervix uteri; its causes and treatment. *Brit. M. J. Lond.* 1881.

II. 847-849. — **Bennet, J. H.** On laceration of the cervix uteri; its causes and treatment. *Tr. Internat. M. Cong.* 7 sess. *Lond.* IV. 337-342. — **Bixby, G. H.** A case of bilateral laceration of the uterine cervix, of five years' duration, complicated with proclitidia; operation; recovery. *Boston M. & S. J. CV.* 132. — **Brouse, J. E.** Laceration of the cervix. *Canada Lancet. Toronto.* 1881-82. XIV. 169. — **Cortiguera, J.** Rasgadura del cuello uterino, hipertrofia areolar; amputacion. *An. de obst., ginepat. y pediat. Madrid.* 2 ép. I. 201-205. — **Cushing, C.** Laceration of the cervix uteri. *Tr. M. Soc. Calif. Sacramento.* 1880. X. 137-142. — **Emmet, T. A.** Laceration of the cervix uteri. *N. York M. J.* XXXIV. 177. — **Faye, M.** Étude sur l'opération d'Emmet. *J. d. conn. méd. prat. Par.* 3 s. III. 211. — **Fundenberg, G. B.** Puerperal laceration of the cervix uteri. *Pittsburgh M. J.* 1880-81. I. 71-79. — **Garrigues, H. J.** Laceration of the cervix uteri. *Arch. Med. N. Y.* VI. 115-119. *Also*, Reprint. — **Goodell, W.** Laceration of the cervix uteri; a clinical lecture. *Med. & Surg. Reporter. Phila.* XLV. 393-396. — **Hardon, V. O.** Laceration of the cervix as compared with complete internal division of the cervix. *Am. J. Obst. N. Y.* XIV. 553-564. — **Hawkins, T. H.** Lacerated cervix; report of three cases; operation; recovery. *Rocky Mountain M. Rev. Denver.* 1880-81. I. 279-282. — **Herrick, O. E.** Lacerated cervix uteri treated by rubber bands. *Virginia M. Month. Richmond.* 1881-82. VIII. 10-13. — **Holland, E.** Lacerations of the cervix uteri. *Brit. M. J. Lond.* I. 917. — **Hunter, J. B.** Operation for lacerated cervix; a fatal case. *Am. J. Obst. N. Y.* XIV. 895. — **Jackson, A. R.** Carbolized catgut sutures for lacerations of the cervix uteri. *Med. Rec. N. Y.* XX. 675. — **Jarvis, G. C.** Lacerations of the cervix uteri. *Proc. Connect. M. Soc. Hartford.* N. s. II. No. 2. P. 76. — **Keith, S.** Treatment of lacerations of the cervix uteri. *Edinb. M. J.* 1881-82. XXVII. 799-802. — **Lee, C. C.** The proper limitations of Emmet's operation for lacerations of the cervix uteri. *N. York M. J.* XXXIV. 225-232. Discussion. 288-296. *Also*, *Med. Rec. N. Y.* XX. 78-80. — **Mann, M. D.** Clinical observations on the treatment of laceration of the cervix uteri by operation. *Proc. Connect. M. Soc. Hartford.* N. s. II. No. 2. Pp. 164-179. — **Pallen, M. A.** On the etiology and treatment of lacerations of the cervix uteri. *Brit. Med. J. Lond.* I. 764, 801. — **Rohé, G. H.** A probable cause of tardy painful labor, not hitherto recognized. *N. York M. J.* XXXIV. 153-155. — **Schenck, P. V.** Emmet's operation; one hundred and ten cases. *St. Louis Cour. Med.* V. 175-187. — **Sutton, R. L.** A case of cataleptic convulsion cured by trachelorrhaphy. *Tr. Am. Gynec. Soc.* 1880. *Bost.* V. 97-99. — **Terrillon et Lermoyez.** Considérations sur Pectropion du col de l'utérus et l'opération d'Emmet. *Bull. gén. de thérap., etc. Par.* CI. 106-121. *Also*, Reprint. — **Thomas, T. G.** De

la laceration du col de l'utérus et de l'opération d'Emmet. [Transl. from his: *Treatise on the diseases of women.* 5 ed. *Phila.* 1880. By A. Lutaud.] *Ann. de gynéc. Par.* XV. 408-422. — **Thomas, T. G.** Operation for laceration of the cervix in a case of proclitidia uteri. *Boston M. & S. J. CV.* 415. — **Van de Warker, E.** Occlusion of the canal after operation for the repair of laceration of the cervix uteri. *Obst. Gaz. Cincin.* 1880-81. III. 617-619. — **Walton.** De l'hystéro-trachelorrhaphie ou opération d'Emmet. *Mém. couron. Acad. roy. de méd. de Belg. Brux.* VI. 3 fasc. 3-61. — **Will, O. B.** Trachelorrhaphy in private practice. *Peoria M. Month.* 1881-82. II. 352-360. — **Wylie, W. G.** The etiology, pathology, and prevention of laceration of the cervix uteri. *Med. Rec. N. Y.* XX. 497-499. — **Yarnall, M.** Laceration of the cervix uteri. *St. Louis Cour. Med.* V. 392-395.

#### CERVIX UTERI, Medication and Manipulation of the.

**Mundé, P. F.** Poisoning by chromic acid to cervix uteri. *Am. J. Obst. N. Y.* XIV. 121. — **Walton.** Note sur une nouvelle pince tenaculum double divergente pour les pansements du col utérin. *Ann. Soc. de méd. de Gand.* LIX. 123.

#### CERVIX UTERI, Stenosis of the.

**Ahlfeld, F.** Eine neue Behandlungsmethode der durch Cervicalstenose bedingten Menstruationserscheinungen und der auf gleicher Ursache beruhenden Sterilität. *Arch. f. Gynaek. Berl.* XVIII. 341-345. — **Bergesio, L.** Considerazioni sulla cura chirurgica della stenosi, ipertrofia e cancro del collo uterino. *Indipendente. Torino.* XXXII. 605, 631, 674, 726, 749. — **Fehling, H.** Zur Behandlung der Cervicalstenose. *Arch. f. Gynaek. Berl.* XVIII. 406-411. — **Herrick, O. E.** Stenosis of the cervix and os uteri. *Obst. Gaz. Cincin.* IV. 57-61.

#### CERVIX UTERI, Tumor of the.

**Atthill, L.** Case of myxomatous tumor springing from lip of os uteri in a patient at full term of pregnancy; amputation of lip of os uteri four days before labor set in; subsequent inflammation of knee-joint; recovery. *Med. Press and Circ. Lond.* N. s. XXXI. 249. — **Emmet, T. A.** Fibrous tumor of the cervix uteri. *Am. J. Obst. N. Y.* XIV. 670-672. — **Jerzykowski, S.** Przyczynok do nauki o polipach włóknistych szyjki macicznej. [On fibrous polypus in neck of uterus.] *Gaz. lek. Warszawa.* 2 s. I. 238-242. — **Pirovano, I.** Fibroma del cuello del útero; abortos producidos al través de una abertura accidental. *Rev. méd.-quir. Buenos Aires.* 1881-82. XVIII. 82. — **Roustan.** Enorme fibrome développé dans la lèvre postérieure du col utérin; ligature élastique au moyen des tubes de Gooch; guérison. *Montpel. méd.* XLVI. 115-126.

#### CERVIX UTERI, Ulceration of the.

**FISCHEL, G.** Sur la structure et



la signification pathologique des ulcérations du col utérin. *Paris*. 8° [Repr. from: *Ann. de gynec.*]

**De Fourcauld, V.** Considérations sur le traitement des ulcères diathésiques du col de l'utérus. *Ann. de gynec. Par.* XV. 114-129. Also, Reprint. — **Morey Bargit.** Herpetismo; ulcera crónica del cuello de la matriz. *Rev. de cien. méd. Barcel.* VII. 473-476. — **Scovazzo, D. M.** Sulla cura delle ulcerazioni alla bocca dell' utero. *Gazz. med. ital. lomb. Milano*. 8 s. III. 41.

### CESAREAN SECTION.

**NEWMAN, W.** Cæsarean Section. *In his: Surg. Cases*. 8° *London*. 89-96.

**Baker, M.** A case of Cæsarean section made necessary by two large fibroid tumors of the uterus; successfully performed for both mother and child. *Am. J. Obst. N. Y.* XIV. 596-601. — **Balatrese, U.** Storia di un' operazione cesarea per eclampsia. *Indipendente. Torino*. XXXII. 625-631. — **Blatner, J. H.** Cæsarean section. *Med. Ann. Albany*. II. (Tr. M. Soc. County Albany. 177.) — **Caternault.** Opération césarienne pratiquée avec succès. [From: *Concours méd.*] *Arch. de tocol. Par.* VIII. 177-179. — **Cohnstein.** Zur Sectio cesarea. *Centralbl. f. Gynäk. Leipz.* V. 289. — **Eustache, G.** Opération césarienne (2 cases). *Arch. de tocol. Par.* VIII. 653-655. — **Fenerly, P.** Opération césarienne; succès complet pour la mère et l'enfant. *Gaz. méd. d'Orient. Constantinople*. XXIV. 7-10. — **Frank.** Beitrag zur Lehre von der Sectio cesarea. *Centralbl. f. Gynäk. Leipz.* V. 593-608. — **Galton, J. H.** Case of Cæsarean section. *Lancet. Lond.* I. 909. — **Halbertsma, H.** Die Diagnos des Sitzes der Placenta durch Probepunktionen. *Centralbl. f. Gynäk. Leipz.* V. 97-99. — **Harris, R. P.** Who is the most successful Cæsarean operator? *Am. J. Obst. N. Y.* XIV. 111. — **Harris, R. P.** Special statistics of the Cæsarean operation in the United States, showing the successes and failures in each State; one hundred and twenty operations with fifty recoveries; their results compared with those of craniotomy, oöphoro-hysterectomy, and laparo-elytrotomy. *Am. J. Obst. N. Y.* XIV. 341-361. — **Harris, R. P.** Does the removal of a fetus by abdominal section, after a rupture of the uterus, constitute a "Cæsarean operation;" and is it proper to classify this form of delivery with gastro-hysterotomy, which has a different degree of fatality, both as regards the mother and fetus? *Am. J. Obst. N. Y.* XIV. 856-865. — **Herz, G.** Die Ausführung des Kaiserschnitts bei einer Kuh. *Wchnschr. f. Thierh. u. Viehzucht. Augsburg.* XXV. 349. — **Kennedy, J. A.** Cæsarean operation. *Med. Bull. Phila.* III. 56. — **Kotelmann, L.** Kritische Bemerkungen zu dem Aufsatz des Dr. med. M. Rawitzki "Ueber die Lehre vom Kaiserschnitt im Talmud." *Arch. f. path. Anat., etc. Berl.* LXXXIV. 164-176. — **Kramer, G.** Sectio cesarea; gun-

stig afgeploopen, waarneming. *Nederl. Tijdschr. v. Geneesk. Amst.* XVII. 375-377. — **Lungron, S. S.** A case of Cæsarean section twice successfully performed on the same patient, with remarks on the time, indications, and details of the operation. *Am. J. Obst. N. Y.* XIV. 78-94. Also, Translation in *Arch. de tocol. Par.* VIII. 137-154. — **Mars, A.** O cieciu cesarskiem i jego metodach. [Cæsarean section and its methods.] *Przegł. lek. Kraków.* XX. 224, 238, 255, 269, 285, 302, 319. — **Perigal, A.** Cæsarean section. *Brit. M. J. Lond.* II. 79. — **Porro** oder Kaiserschnitt? (Ein Beitrag zur Moral in der Medizin.) *Wien med. Bl.* IV. 369, 404. — **Rawitzki, M.** Erwiderung auf die "Kritischen Bemerkungen" des Herrn Dr. med. et phil. Kotelmann (dieses Archiv, Bd. 84, Heft 1) zu dem Aufsatz, "Ueber die Lehre vom Kaiserschnitt im Talmud" (dieses Archiv, Bd. 80, Heft 3). *Arch. f. path. Anat., etc. Berl.* LXXXVI. 240-263. — **Reina, G. E.** Kesarskoe siechenie ili viriezivanie beremnoi matki? [Cæsarean section or removal of pregnant uterus?] *Ejened. klin. gaz. St. Petersburg.* I. 261, 276, 290, 309, 320. — **Sänger.** Ein glücklicher Fall von Sectio cesarea nach alter Methode mit Demonstration der Operirten. *Deutsche med. Wchnschr. Berl.* VII. 306. — **Schlemmer.** Heroismus eines Weibes. Freiwillig begehrter Kaiserschnitt bei 9,0 cm. conjugata zur Erlangung eines lebenden Kindes. *Centralbl. f. Gynäk. Leipz.* V. 131. — **Sommerbrodt, M.** Weitere Bemerkungen zur Sectio cesarea legalis. *Berl. klin. Wchnschr.* XVIII. 430-432. — **Stringari, F.** Contributo alla storia dell' operazione cesarea. *Indipendente. Torino*. XXXII. 411-420. — **Stützle.** Ein Fall von Sectio cesarea bei Osteomalacie. *Med. Cor.-Bl. d. württemb. ärztl. Ver. Stuttg.* LI. 57-62. — **Trier, M.** Et Tilfælde af sectio cesarea post mortem med levende Barn. [Living child.] *Gynæk. og obst. Medd. Kjöbenhavn.* III. Pt. 2. 54-56.

### CESAREAN SECTION with Removal of the Uterus.

**REIN, G.** Sur la méthode opératoire de l'extirpation de l'utérus gravide. *Paris*. 8° [Repr. from: *Ann. de gynec.*]

**SCHLEMMER.** Die Porro-Operation oder die neue Kaiserschnitt-Methode nach Porro und ihre moralischen Grenzen. *Stuttg.* F. Enke. 30 pp. 1 pl. 8°

**TIBONE, D.** Di una ovaro-isterectomia cesarea per distocia pelvica da osteomalacia e l'Istituto clinico-ostetrico di Torino. *Milano*. 8°

**Bayer.** Ein Kaiserschnitt nach Porro mit Erfolg für Mutter und Kind bei einem osteomalacischen Becken; nebst Beschreibung drei weiterer osteomalacischer Becken und mit einer Besprechung der Fortschritte in den Methoden des Kaiserschnittes. *Arch. f. Gynaek. Berl.* XVIII. 412-

426. — **Bompiani, A.** Due ooforoisterectomie cesaree eseguite dal Prof. E. Pasquali e proposta di modificazione al processo del Porro. Ann. di ostet. *Milano*. III. 594-614. 2 pl. — **Breisky, A.** Ein neuer Fall von Sectio caesarea nach Porro's Methode mit günstigem Ausgang für Mutter und Kind. Centralbl. f. Gynäk. *Leipzig*. V. 228-234. — **Breus.** Sectio caesarea mit Exstirpation des Uterus. Anz. d. k. k. Gesellsch. d. Aerzte in Wien. 1880-81. 113-115. — **Ferrari, D.** Distacco uterovaginale in sovrapparto; operazione Porro. Spallanzani. *Modena*. 2 s. X. 337-342. — **Guillemet.** L'opération de Porro. Rev. méd. de la Suisse Rom. *Genève*. I. 250, 309. — **Harris, R. P.** Cases of caesarean ovaro-hysterectomy where the pedicle has been dropped in. Tr. Phila. Obst. Soc. 1880. 33. — **Herrgott.** Ovariectomie et opération de Porro (opération césarienne suivie d'extirpation de la matrice). Rev. méd. de l'est. *Nancy*. XIII. 609, 648. *Also*, Arch. de tocol. *Par.* VIII. 727-742. — **Lenoel.** De l'opération de Porro. Soc. méd. d'Amiens. Bull. (1878-79). 1880. XVII. et XIX. 90-97. — **Levis.** Beitrag zur Statistik des Kaiserschnitts mit Excision des Gebärmutterkörpers. Centralbl. f. Gynäk. *Leipzig*. V. 193-196. — **Lvoñ, I.** Ke kazuistické Porrovschich operatsii. Vrach. *St. Petersburg*. II. 577-580. — **Marchioli, G.** Sulla laparoistero-ovariotomia col metodo del Prof. Porro. Gazz. med. ital. lomb. *Milano*. 8 s. III. 81-83. — **Mosquera, B.** La histerotomia cesárea ó sea la extirpacion del útero grávido. Gac. cient. de Venezuela. *Caracas*. 1881-82. IV. 40, 56. — **Negri, P.** Due nuovi casi di taglio cesareo susseguito dalla amputazione utero-ovarica con esito felice per le madri e per i bambini, 33° e 35° in Italia. Ann. di ostet. *Milano*. III. 657-684. — **Nicolini, G. B.** Di un' amputazione utero-ovarica cesarea (metodo Porro) con esito felice per la madre e per il bambino. Ann. univ. di med. e chir. *Milano*. CCLVII. 97-133. — **Oppenheimer.** Ueber einen Kaiserschnitt mit Exstirpation der Gebärmutter. Verhandl. d. phys.-med. Gesellschaft in Würzb. N. F. XV. p. xlv. — **Parona, F.** Operazione cesarea per distocia eseguita col metodo Porro. Indipendente. *Torino*. XXXII. 529-534. — **Rein, G.** Sur la méthode opératoire de l'extirpation de l'utérus gravidé. Ann. de gynéc. *Par.* XV. 130-133. — **Richardson, Elliott.** Caesarean section with removal of uterus and ovaries after the Porro-Müller method. *Phila.* 11 pp. 8° [Repr. from: Am. J. M. Sc. *Phila.*] — **Salin, M.** Kejsarsnitt efter en modifierad Porro's metod vid vidderitet i ena halfvan af en dubbel uterus. [Caesarean section accord. to a modified Porro method in pregnancy and double uterus.] *Hygica. Stockholm*. XLIII. 153-160. — **Simpson, A. R.** Case of Caesarean hysterophorectomy, or Porro's operation. [Abstr.] Tr. Edinb. Obst. Soc. VI. 83. — **Simpson, A. R.** Clinical lecture on a case of Caesarean hysterophorectomy, or Porro's operation; with remarks. Brit. M. J. *Lond.* I. 910, 956. — **Spaeth, J.** Clinical lecture on Caesarean section by Porro's method. *Phila.* M. Times. 1881-82. XII. 513. — **Tibone, D.** Di una ovario-isterectomia cesarea per distocia pelvica da osteomalacia. Ann. di ostet. *Milano*. III. 65-101. — **Wells, S.** Porro's operation in England. Brit. M. J. *Lond.* II. 714. — **Wells, T. S.** Case of excision of a gravid uterus with epithelioma of the cervix; with remarks on the operations of Blundell, Freund, and Porro. Brit. M. J. *Lond.* 1881. II. 856. *Also*, *Lancet*. *Lond.* II. 910-912. — **Werth.** Eine Porro'sche Operation, ausgeführt vor Anfang der Geburt an einer schon zwei Mal durch Sectio caesarea Entbundenen, mit glücklichem Ausgange für Mutter und Kind; nebst Vorschlägen zur extraperitonealen Versorgung des Uterusstumpfes. Arch. f. Gynæk. *Berl.* XVIII. 293-306. — **Zweifel, P.** Zur Discussion über Porro's Methode des Kaiserschnittes. Arch. f. Gynæk. *Berl.* XVII. 355-377.
- CHLOASMA, Uterine.**  
**Pepper, W.** Uterine chloasma, in contrast with Addison's disease. *Med. Rec. N. Y.* XX. 535-537.
- CHLORAL.**  
**Brown, M. L.** The gynecic and obstetric uses of chloral hydrate. Boston M. & S. J. CV. 11-14. — **Kane, H. H.** Chloral hydrate; its uses in obstetric practice: in labor, for after-pains, in abortion, eclampsia, for nausea and vomiting. *Am. J. Obst. N. Y.* XIV. 261-296.
- CHLOROSIS. See, also, Anemia.**  
**Trastour, E.** De l'utilité de la solution iodée-iodurée dans la chlorose et, en particulier, dans la chlorose méorrhagique. Bull. gén. de thérap., etc. *Par.* CI. 408. — **Willecocks, F.** Some comparative observations on the blood in chlorosis and pregnancy. *Lancet*. *Lond.* II. 944.
- CHOREA.**  
**Bastian, C.** Chorea during pregnancy; semimanicial attacks; melancholia; recovery under the use of opium. Brit. M. J. *Lond.* I. 683. — **Wade, W. F.** A case of chorea in pregnancy successfully treated by dilatation of the os uteri. Tr. Obst. Soc. *Lond.* 1880. XXII. 244-250.
- CLITORIS, Pathology of the.**  
**Abtragung** eines hypertrof. Praeput. clitoridis. Aertzl. Ber. d. k. k. allg. Krankenh. zu Prag (1878). 1880. 254. — **Burtseff, I. I.** Rogovidnaja sosochkovaja opuchole pochotnika (papilloma keratoides clitoridis). Vrach. *St. Petersburg*. II. 289-290. — **Gosselin.** Elephantiasis végétant et verruqueux du clitoris. *Paris méd.* 257-260. — **Rokitansky.** Elephantiasis des Praeputium der Clitoris. *Allg. Wien. med. Ztg.* XXVI. 477.
- COCCYGODYNIA.**  
**Laub, H.** Kasuistiske Bidrag til Kundskab om Koccygodynii. Gynaek. og obst. Medd. *Kjøbenhavn*. III. 3 Hft. 29-37.
- COITON.**  
**Doane, L. G.** Excessive coitus as a cause of uterine disease. *Arkansas Doct. Harrisburg*. I. No. 3. — **Martineau, L.** Leçons sur la sodomie. *Union méd.*

*Par.* 1881. 3 s. XXXI. 616, 625, 697, 721. *Also*, *Presse méd. Par.* 1880-81. I. 87-89.

### CONCEPTION.

**Francis, C. R.** Conception with imperforate hymen. *Med. Times & Gaz. Lond.* II. 517.—**Goodell, W.** The dangers and the duty of the hour: the faculty system of female education, the decay of home life and the unwillingness of our women to become mothers. *Tr. M. & Chir. Fac. Maryland. Balt.* LXXXIII. 71-87. *Also*, Reprint.—**Kinkead, R. J.** Du passage de l'œuf de l'ovaire dans les trompes de Fallope. *France méd. Par.* II. 493-495.—**Kinkead, R. J.** On the passage of the ovum from the ovary into the Fallopian tubes. *Med. Press & Circ. Lond.* N. s. XXXII. 226.—**Sippel, A.** Conception ohne Immissio penis. *Centralbl. f. Gynäk. Leipz.* V. 203.

### CORPUS LUTEUM.

**De Sinéty.** Du corps jaune de l'ovaire pendant la grossesse. *Assoc. franç. pour l'avance. d. sc. Compt. rend. 1877. Par.* 1878. VI. 927-931.

### CORSETS.

**Cowl, W. Y.** On tight lacing as a cause of disease. *Homœop. J. Obst. N. Y.* 1881-82. III. 35-42.

### CRANIOTOMY.

**Bruers, E.** Craniotomia ed estrazione col cranioclaste. *Bull. d. sc. med. di Bologna.* 6 s. VII. 393-401.—**Dagenais, A.** La craniotomie. *Union méd. du Canada. Montréal.* X. 1, 49.—**Jackson, A. R.** Is craniotomy ever justifiable? *Chicago M. J. & Exam.* XLIII. 337-343.—**Simpson, A. R.** Case of basilysis. *Edinb. M. J.* 1881-82. XXVII. 781-787.—**Yost, G. P.** Craniotomy and its alternatives. *Quart. Tr. Lancaster City & Co. M. Soc.* 1881-82. II. 2-10.

**CYSTITIS.** *See* Bladder, Diseases of the.

**CYSTOCELE.** *See* Bladder, Diseases of the.

**CYSTO-URETHRITIS.** *See* Bladder, Diseases of the.

### CYSTS, Dermoid.

**Queirel.** Sur des Kystes dermogènes, fœtaux ou hétéroptiques de Lebert. *Marseille méd.* XVIII. 618-621.

### DECAPITATION.

**Berger, M.** Studien über Detruncation mittelst Schlinge. *Wien. med. Bl.* IV. 863-866.—**Calderini, G.** Decollazione colla fune. *Ann. di ostet. Milano.* III. 212-215.—**Casseday, F. F.** A case of decapitation. *Homœop. J. Obst. N. Y.* 1881-82. III. 270-275.

### DELIVERY, Post-mortem.

**Duer, E. L.** Post-mortem delivery. 8° *New York.* 1879. [Repr. from: *Am. J. Obst. N. Y.* 1879. XII.]

**Comner, J. J.** How long may the fœtus survive the mother? *Med. & Surg.*

*Reporter. Phila.* XLV. 666.—**Lacalle, G.** Duracion de la vida del niño en el útero despues de la muerte de la madre. *Andalucía méd. Córdoba.* VI. 214.—**Venn, C.** Beitrag zur Behandlung der Geburt nach dem Tode der Mutter. *Centralbl. f. Gynäk. Leipz.* V. 100.

### DIABETES.

**Loeb, M.** Ueber den Zusammenhang von Diabetes mellitus mit Erkrankungen der weiblichen Genitalorgane. *Berl. klin. Wehnschr.* XVIII. 601.

### DIAPHRAGM, Cancer of the.

**Smith, W. G.** Carcinoma of diaphragm and peritoneum, and myoma of the uterus. *Brit. M. J. Lond.* I. 17.

### DYSMENORRHEA.

**PAGGI, ADOLFO.** Contributo allo studio della dismenorrea membranosa. *Firenze.* 1880. *Moder.* 23 pp. 1 pl. 8° [*Also, transl.:* *Ann. de gynec. Paris.* XV. 355-375.]

**SMITH, HEYWOOD.** Dysmenorrhœa; its Pathology and Treatment. *London.* 8° 4s. 6d.

**Atthill, L.** On the relation of ante-flexion of the uterus to dysmenorrhœa. *Brit. M. J. Lond.* II. 1010.—**Blackwood, W. R. D.** Note on nitrate of silver in dysmenorrhœa. *Phila. M. Times.* 1881-82. — XII. 517-519. — **Chalot.** Dysménorrhée et stérilité traitées avec succès par la dissection bilatérale et de la dilatation consécutive du col utérin. *Gaz. hebdom. d. sc. méd. de Montpel.* III. 217-219.—**Clarke, O. H. E.** The surgical treatment of dysmenorrhœa. *Med. Ann. Albany.* II. [Tr. M. Soc. County Albany. 234-237.]—**Cohnstein.** Ueber Vaginitis exfoliative und Dysmenorrhœa membranacea. *Arch. f. Gynaek. Berl.* XVII. 69-86.—**Evans, J.** Membranous dysmenorrhœa. *Tr. South Car. M. Ass. Charleston.* XXXI. 91.—**Herman, G. E.** On congestive dysmenorrhœa. *Lancet. Lond.* I. 327-329, 411-413.—**Ingersoll, Ellen A.** Dysmenorrhœa; its etiology and treatment. *St. Louis M. & S. J.* XLI. 209-211.—**Loebl, J. M.** Beitrag zur Therapie der Dysmenorrhœe. *Wien. med. Presse.* XXII. 893.—**Masini, A.** Della dismenorrea in generale ed in particolare della dismenorrea membranosa. *Salute. Genova.* 2 s. XV. 9, 17.—**Moss, G. W.** Dysmenorrhœa. *St. Louis Cour. Med.* V. 474-480.—**Oliver, F. W.** Codeia in dysmenorrhœa. *Coll. & Clin. Rec. Phila.* II. 5.—**Ormsby, II.** Five cases of membranous dysmenorrhœa cured by mercury. *Med. Rec. N. Y.* XX. 597.—**Owens, Mrs. B. A.** Membranous dysmenorrhœa or false mole. *Microscope. Detroit.* 1881-82. I. 7-11.—**Ranking, J. E.** Some account of a very severe case of membranous dysmenorrhœa treated by rest, Chapman's spinal hot-bag, and Donovan's solution. *Edinb. M. J.* 1880-81. XXVI. 898-900.—**Schlesinger, W.** Ueber Dysmenor-

- rhoe. Wien. med. Bl. IV. 577, 606, 636, 669, 701. — **Schultze, B. S.** Ueber Dysmenorrhoe in Verbindung mit Lageveränderungen des Uterus. Wien. med. Bl. IV. 1451-1484. — **Stout, S. H.** Dysmenorrhoea. Tr. M. Ass. Georgia. *Augusta*. XXXII. 166-172.
- ELECTRICITY.** See Galactagogues, and Labor.
- EMBRYOLOGY.**  
**Kucher, J.** Description of an ovum of the second week of pregnancy, with remarks on the decidua reflexa. Am. J. Obst. N. Y. XIV. 408-414. 1 pl.
- EMBRYOTOMY.**  
**CHIARA, D.** Le indicazioni dell' embriotomia. *Milano*. 8°  
**GRENIER, EUGENE.** \*Étude sur une modification apportée au manuel opératoire de la céphalotripsie et de l'embryotomie. *Paris*. 46 pp. 1 pl. 4° No. 57.  
**Davis, M. L.** Case of embryotomy. Quart. Tr. Lancaster City & Co. M. Soc. 1880-81. I. 79-81. — **Eustache, G.** Parallèle de l'embryotomie et de l'opération césarienne. Tr. Internat. M. Cong. 7 sess. *Lond.* IV. 397-399. — **Wilmart, L.** Dystocie par angustie pelvienne; embryotomie. Presse méd. belge. *Bruux*. XXXIII. 289.
- EMMET'S OPERATION.** See Cervix Uteri, Laceration of the.
- EMPHYSEMA during Labor.**  
**Hubbard, T. W.** Emphysema in parturition. *Brit. M. J. Lond.* II. 897.
- ENCEPHALOCELE.** See Brain, Hernia of the.
- EPILEPSY.**  
**Terrillon.** Note sur un cas d'épilepsie d'origine utérine. Ann. de gynéc. *Par.* XV. 401-408.
- ERGOT.**  
**MASSOT, ACHILLE.** \*Des accidents causés par l'ergot de seigle dans la pratique des accouchements. *Paris*. 64 pp. 4° No. 335.  
**Pipino, W. C.** Injudicious use of ergot in labor. *St. Louis M. & S. J.* XL. 393-396.
- ERYSIPELAS.**  
**Rowe, F. H.** Erysipelas and puerperal fever. *Obst. Gaz. Cincin.* 1881-82. IV. 117.
- ESTHONIANS.**  
**VON SCHRENCK, AUGUST.** \*Studien über Schwangerschaft, Geburt und Wochenbett bei der Estin, nebst Untersuchungen über das Becken derselben. *Dorpat*. 1880. C. Matthesen. 375 pp. 8°

**EVOLUTION, Spontaneous.**

**BONCINELLI, F.** Del parto per la spalla e del modo di favorirlo e praticarlo. *Firenze*. 8° [Repr. from: *Imparziale*. XXI.]

**FALLOPIAN TUBE.**

**Barton, J. K.** Rupture of Fallopian tube. *Tr. Obst. Soc. Lond.* 1880. XXII. 2. — **Bruni, G.** Sulla metro-salpingite. *Riv. clin. di Bologna*. 3 s. I. 470-481.  
**Burnier, H.** Ueber einen Fall von Pyosalpinx mit Durchbruch in die Bauchhöhle. *Ztschr. f. Geburtsh. u. Gynäk. Stuttg.* VI. 252-260. — **De Coninck.** Kystes développées dans les trompes de Fallope. *Ann. Soc. d'anat. path. de Brux.* 1879. XXVIII. 62. — **Doran, A.** Papilloma of the Fallopian tube, associated with ascites and pleuritic effusion. *Tr. Path. Soc. Lond.* 1879-80. XXXI. 174-179. 1 pl. — **Duncan, J. M.** On open Fallopian tube. *Brit. M. J. Lond.* I. 383. — **Mermann, A.** Tödliche Perforation einer Tube bei Salpingitis nach Herunterziehen des Uterus. *Centralbl. f. Gynäk. Leipz.* V. 513. — **Skene, A. J. C.** Dropsy of the Fallopian tube. *Am. J. Obst. N. Y.* XIV. 877. — **Tait, L.** A case of removal of the uterine appendages. *Brit. M. J. Lond.* I. 766. — **Thomas.** Fibro-cyst of the Fallopian tube. *N. York M. J.* XXXIV. 67. — **Thomas, C. H.** Patulous Fallopian tubes. *Phila. M. Times*. 1881-82. XII. 469.

**FETUS.**

**HEYDER, HERMANN.** \*Untersuchungen über den Wechsel der Lage und Stellung des Kindes in den letzten Wochen der Schwangerschaft. [Halle.] *Arnstadt.* E. Frottscher. 56 pp. 8°  
**MARCHIONNESCHI, O.** Fetometria; studi ed osservazioni. 8° *Milano*. 1880. [Repr. from: *Ann. di ostet. Milano*. 1880. II.]  
**Budin, P., et A. Ribemont.** Recherches sur les dimensions de la tête du fœtus. *Compt. rend. Soc. de biol.* 1879. *Par.* 1880. 7 s. I. 240-242. — **Budin, P.** Du diagnostic, pendant la grossesse; de la présentation définitive de l'extrémité pelvienne. *Union méd. Par.* 3 s. XXXII. 613, 625. — **Hicks, J. B.** On recording the foetal movements by means of a gastrograph. *Tr. Obst. Soc. Lond.* 1880. XXII. 131-141. — **Kubasoif, P.** K voprosu o vlijanii lekarstve chreze mate na plode. [Influence of medication during pregnancy on fetus.] *Voyenno-med. J. St. Petersburg.* CXL. Pt. 4. 1, 65, 77. — **Marchionneschi, O.** Nouvelles recherches fœtométriques en réponse à une revue critique de M. P. Budin. *Arch. de tocol. Par.* VIII. 604-607. — **Phillipeaux.** Expérience montrant que si l'on fait prendre du sous-acétate de cuivre à une lapine pendant toute la durée de la gestation on trouve du cuivre chez les petits au moment de leur naissance. *Compt. rend. Soc. de biol.* 1879. *Par.* 1880. 7 s. I.

227.—**Scervini, P.** Istero-cranimetri. Morgagni. *Napoli*. XXIII. 584-588.  
—**Vincent, Henri-Maurice.** Influence de la température de la mère sur la vie du fœtus. *Par.* 1881. 64 pp. 4° No. 452.\*—**Wolter.** Versuche über den Uebergang fremdartiger Stoffe durch den Placentarkreislauf auf den Fœtus. Deutsche Ztschr. f. Thiermed. *Leipz.* 1881. VII. 193-210.

#### FETUS, Circulation of the.

**Budin et Chaignot.** Recherches sur les battements du cœur du fœtus; leur nombre envisagé au point de vue du sexe et du poids de l'enfant peut-il conduire à un résultat pratique? *Compt. rend. Soc. de biol.* 1879. *Par.* 1880. 7 s. I. 88-90.

#### FETUS, Death of the.

**FRESSEL, JUL.** \*Intrauterine Retention der abgestorbenen Frucht. *Göttingen.* W. F. Kästner. 22 pp. 8°

**Burman, W. M.** "Missed labour." *Lancet.* *London.* I. 678.—**Daude, J.** Du sort des enfants mort dans la matrice. *Montpel. méd.* XLVI. 25-46, 148-157.  
**Depaul.** Enfant mort et macéré; mère syphilitique. *J. d. sages-femmes.* *Par.* IX. 321.—**Depaul.** Moutée du lait pendant la grossesse, comme signe de la mort de l'enfant dans l'utérus. *J. d. sages-femmes.* *Par.* IX. 289.—**Hickinbotham, J.** Missed labour. *Birmingham.* M. Rev. N. s. IV. 135-142.—**Holm, D.** Retentio fetus mortui in utero. *Norsk Mag. f. Laegevidensk.* *Kristiania.* XI. 443-450.—**Lvoft, I.** Perekručivanie pupovini amnijalnim šnurkom, kake pričina utrobnoj smerti ploda i vikidisha. [Constriction of umbilical cord by amnion causing death of fetus and abortion.] *Vrach. St. Petersb.* II. 467.—**Maurice, E. F.** Étranglement du cordon ombilical par une bride fibreuse; mort du fœtus et avortement. *Ann. Soc. de méd. de St. Etienne et de la Loire* (1877-80). VII. 20-24.—**Reimann.** Geburt eines vollkommen zersetzten Fötus. *Centralbl. f. Gynäk.* *Leipz.* V. 380-384.—**Skene, A. J. C.** Retained ovum. *Am. J. Obst. N. Y.* XIV. 873.—**Watts.** Retained fetus. *Am. J. Obst. N. Y.* XIV. 881.

#### FETUS, Diseases of the.

**LEIST IGNAZ.** \*Ein Beitrag zur Lehre vom Fœtus sanguinolentus. *Erlangen.* 1880. Junge & Sohn. 24 pp. 8°

**Bakewell, R. H.** Abscess of the brain in a fetus. *Lancet.* *London.* I. 142.—**Berthaut.** Hydrocéphalie diagnostiquée pendant la grossesse. *Ann. de gynéc.* *Par.* XV. 375-380.—**Lidell.** Case of pericarditis in a fetus. *Bull. N. York Path. Soc.* 2 s. I. 8.—**De los Rios, J. M.** Accion del clorato de potasa en las enfermedades del feto y de la placenta. *Union méd. Carcás.* I. 121.

#### FETUS IN FETU.

**Macnamara, C.** Congenital tumour

containing foetal structure, removed from the sacrum of a child. *Tr. Path. Soc. Lond.* XXXII. 199.—**Marchand, F.** Ueber eine grosse teratoide Mischgeschwulst des Ovarium, und einen Fall von Inklusio foetalis abdominalis von einem 33 jährigen Manne. *Breslau. aerztl. Ztschr.* III. 249-253.

#### FETUS, Injuries to the.

**REMBOLD, S.** Ueber Verletzungen des Kopfes und der Glieder der Kinder durch den Geburtsakt selbst und durch Einwirkungen äusserer Gewalt auf den Unterleib der Mutter während der Schwangerschaft und deren gerichtsarztliche Bedeutung. *Stuttg.* 8° 2 M.  
**Depaul.** Troubles dans les battements du cœur de l'enfant pendant le travail; indications de l'application du forceps dans des cas semblables. *J. d. sages-femmes.* *Par.* IX. 297.—**Ghetti, L. L.** Due casi di frattura della testa del feto nel sopraparto. *Gazz. med. di Roma.* VII. 105-109.—**Mercier, C.** Hemiplegia from injury to the cranium by forceps during delivery. *Brit. M. J. Lond.* I. 847.

#### FETUS, Maternal Impressions on the.

**Bolton, J. B.** Maternal impressions. *St. Louis M. & S. J.* XLI. 437.—**Burchmore, J. H.** A well-marked case of maternal impression. *Med. & Surg. Reporter.* *Phila.* XLV. 138.—**Dewey, G. M.** Mother-marks; can mental emotions of the mother affect the fetus? *St. Louis M. & S. J.* XLI. 587-591.—**Dickinson.** Maternal impressions. *St. Louis M. & S. J.* XLI. 160-176.—**Dixon, A.** Arrest of evolution versus maternal impressions. *Indiana M. Reporter.* *Evansville.* II. 4-21. *Also,* *St. Louis M. & S. J.* XL. 69-72.—**Doty, L. L.** Maternal impression. *Med. & Surg. Reporter.* *Phila.* XLV. 26.—**McDade, G. W.** Maternal impressions. *Louisville M. News.* XI. 293.—**Miller, C. D.** Maternal impressions and their influences on the fetus, with cases. *Obst. Gaz. Cincin.* IV. 65-68.—**Miller, C. H.** Maternal longings and their influence on the fetus in utero. *Med. & Surg. Reporter.* *Phila.* XLV. 80.—**Prentiss, D. W.** Influence of maternal impressions on the fetus. *Phila. M. Times.* 1881-82. XII. 385.—**Rawlins, J. S.** Maternal impressions. *Med. & Surg. Reporter.* *Phila.* XLIV. 671.—**Shivers, C. H.** More about maternal impressions. *Med. & Surg. Reporter.* *Phila.* XLV. 137.—**Stockard, C. C.** Maternal impressions. *St. Louis M. & S. J.* XLI. 101.—**Stockslager, S. O.** Maternal impressions. *Chicago M. J. & Exam.* XLIII. 313.—**Taylor, W. T.** A case of maternal impressions. *Phila. M. Times.* 1881-82. XII. 307.

#### FETUS, Viability of the.

**Reynoldson, T. R.** Note on a case of early viability. *Tr. Edinb. Obst. Soc.*

- VI. 46. *Also*, Edinb. M. J. 1880-81. XXVI. 1033-1035.
- FEVER.**
- Lusk, W. T.** Dry cold as an antipyretic. *Am. J. Obst. N. Y.* XIV. 660.
- FEVER, Malarial.**
- Barker, F.** Remittent fever of puerperal woman. *Virginia M. Month. Richmond.* 1881-82. VIII. 588-594. — **Goth, E.** Ueber den Einfluss der Malarialinfection auf Schwangerschaft, Geburt und Wochenbett. *Ztschr. f. Geburtsh. u. Gynäk. Stuttg.* VI. 17-34
- FEVER, Typhus.**
- Gusserow.** Ueber Typhus bei Schwangeren, Gebärenden und Wöchnerinnen. *Verhandl. d. Berl. med. Gesellsch.* (1879-80). XI. Pt. 2. 127-138.
- FISTULA, Anal.**
- Skene, A. J. C.** Anal fistula in women; notes on their surgical treatment. *Chicago M. Rev.* IV. 567-569.
- FISTULA, Recto-vaginal.**
- Greene, J. M.** Case of urethro-vaginal and recto-vaginal fistule following difficult labor. *Tr. Mississippi M. Ass. Jackson.* XIV. 130-133. — **Langhorne, D. A.** Sudden rupture of recto-vaginal septum; escape of hard balls of feces into the vagina; spontaneous recovery. *Cincin. Lancet & Clinic.* N. s. VI. 237. — **Mäurer, A.** Rectovaginalfistel, geheilt durch Transplantation aus dem Rectum. *Deutsche med. Wchnschr. Berl.* VII. 360.
- FISTULA, Recto-vesical.**
- Bratton, J. R.** Recto-vesical fistula in the female. *Tr. South Car. M. Ass. Charleston.* XXXI. 81-83.
- FISTULA, Recto-vulvar.**
- Recto-vulvar fistula** caused by abscess of Bartholin's gland. *Maryland M. J. Balt.* 1881-82. VIII. 399.
- FISTULA, Uretero-uterine.**
- Crédé, B.** Nephrectomie wegen Ureter-Uterusfistel. *Arch. f. Gynaek. Berl.* XVII. 312-316.
- FISTULA, Uretero-vaginal.**
- Schede, M.** Die operative Behandlung der Harnleiter-Scheidenfisteln. *Centralbl. f. Gynäk. Leipz.* V. 547-553.
- FISTULA, Urinary.**
- HEYNE, JULIUS.** \*Zwei spontan geheilte Fälle von Urinfisteln des Weibes nebst therapeutischen Vorschlägen zur Behandlung frischer Harnfisteln. *Halle.* E. Karras. 41 pp. 8°
- Castillo de Piñero, E.** Cuatro casos de fistulas vesicales. *An. de obst., ginep. y pediat. Madrid.* 2 ép. I. 265-271. — **Lomer, R.** Ueber Urinfisteln des Weibes; Mittheilungen aus der chirurg. Klinik des Prof. Czerny. *Arch. f. klin. Chir. Berl.* 1881-82. XXVII. 697-720.
- FISTULA, Vaginal.**
- Wathen, W. H.** Vaginal fistula. *Med. & Surg. Reporter. Phila.* XLIV. 169-173.
- FISTULA, Vesico-utero-vaginal.**
- Braun, G.** Beitrag zur Heilung frischer Blasen-Gebärmutter-Scheidenfistel im Verlaufe des Puerperiums. *Wien. med. Wchnschr.* XXXI. 1473-1476.
- FISTULA, Vesico-vaginal.**
- Bandl.** Zur Operation der Blasen-Scheidenfistel (gegen die Kolpopleisis). *Wien. med. Presse.* XXII. 1213, 1249. *Also*, *Arch. f. Gynaek. Berl.* XVIII. 484-491. — **Bassett, H. W.** A case of vesico-vaginal fistula. *Tr. M. Ass. Alabama. Montgomery.* XXXIV. 548. — **Carter, C. H.** A case of large foreign body in the vagina for two years, perforating the posterior wall of the bladder; its removal and closure of the fistulous opening. *Tr. Obst. Soc. Lond.* (1880). XXII. 38-41. — **Cazin.** Contribution à la thérapeutique chirurgicale des fistules vesico-vaginales. *Arch. gén. de méd. Par.* CXLVII. 275, 436. *Also*, Reprint. — **Ciccione, V.** Contributo alle operazioni di fistole vesico-vaginale. *Resoc. Acad. med.-chir. di Napoli.* XXXV. 39-43. — **Von Dittel.** Ein neuer Heilversuch gegen unheilbare Blasescheidenfistel. *Med. Jahrb. Wien.* 563-574. — **Emmet, T. A.** Vesico-vaginal fistula. *N. York M. J.* XXXIV. 175. — **Enriquez, A.** Fistula vesico-vaginal consecutiva al parto; operacion triple; curacion. *An. de obst. ginep. y pediat. Madrid.* 2 ép. I. 117-120. — **Fistula vesicovaginalis.** *Aerztl. Ber. d. k. k. allg. Krankenh. zu Prag* (1878). 1880. 254-264. — **Fistula vesico-vaginalis;** Anfrischung und Silbernaht; Heilung. *Jahresb. ü. d. chir. Abth. d. Spit. zu Basel* (1880). 77. — **Folet, H.** Note sur une opération de fistule vesico-vaginale. *Bull. méd. du nord. Lille.* XX. 174-184. — **Lyman.** Vesico-vaginal fistula. *Boston M. & S. J. CIV.* 175. — **Mackey, H. M.** Operation for vesico-vaginal fistula. *Tr. M. Soc. W. Virg. Wheeling.* 1880. 629. — **Maclaren, R.** Case of vesico-vaginal fistula and loss of uterus. *Edinb. M. J.* 1880-81. XXVI. 819-822. — **Neugebauer, L.** Ueber die Blasescheidenfistel-operation und über Elytrorrhaphia mediana. *Cong. périod. internat. d. sc. méd. Compt. rend. 1879. Amst.* 1880. VI. 507-511. — **Palfrey, J.** A case of vesico-vaginal fistula which was spontaneously cured. *Med. Press & Circ. Lond.* N. s. XXXI. 175. — **Pirovano, I.** Tres operaciones de fistula vesico-vaginales terminadas por la curacion radical. *Rev. méd.-quir. Buenos Aires.* 1881-82. XVIII. 102-104. — **Poncet, A.** Fistule vesico-vaginale; emploi du crin de Florence ou d'Espagne. *Gaz. d. hôp. Par.* LIV. 868. — **Reamy, T. A.** Vesico-vaginal fistula; a clinical lecture. *Cincin. Lancet & Clinic.* N. s. VI. 395-398. — **Slansky, J.** Zur Casuistik der Blasen-Scheidenfistel. *Prag. med. Wchnschr.* VI. 442, 461. — **Smith, W. E.** Difficult labor followed by vesico-vaginal fistula. *Physician & Surg. Ann. Arbor, Mich.* III. 439. — **Thompson,**

**J. W.** Vesico-vaginal fistula. Nashville J. M. & S. N. s. XXVIII. 161-163. — **Trélat.** De quelques points de pratique dans la fistule vésico-vaginale. Gaz. d. hôp. Par. LIV. 779. — **Walton.** D'un procédé peu connu d'épisiosténosis ou occlusion de la vulve dans les cas de fistules vésico-vaginales réputées incurables. J. de méd., chir. et pharmacol. Brux. LXXII. 425-435, 525-529. Discussion, 498.

**FORCEPS, Obstetrical.** See, also, Labor, Instrumental.

**LAHS.** Die Achsenzug-Zangen mit besonderer Berücksichtigung Tarnier'schen Zangen. Stuttgart. 8° 2 M. 80.

**Belluzzi, C.** Forcipe e cefalotribo riuniti in un solo strumento. Bull. d. sc. med. di Bologna. 6 s. VII. 269-274. Also, Reprint. — **Fasola, E.** Il forcipe Tarnier, suo esito in tre casi difficili puerperii interessanti per diverse questioni. Ann. di ostet. Milano. III. 491-505. Also, Reprint. — **Lazarewitsch, F.** On the obstetrical forceps. Tr. Internat. M. Cong. 7 sess. Lond. IV. 243-271.

— **Lowndes, H.** Suggestions as to the mode of using the forceps. Brit. M. J. Lond. II. 46. — **Lyon, J. G.** Removable axis-traction rods for midwifery forceps. Brit. M. J. Lond. I. 425. — **Pouillet.** Forceps souple à tractions indépendantes. Gaz. d. hôp. Par. LIV. 1084. — **Quinan, J. R.** A historical study of the invention and publication of the English midwifery forceps. Maryland M. J. Balt. 1881-82. VIII. 292-297.

— **Ramos, R. A.** Apuntamientos sobre el forcipe obstetrical; su historia, su importancia y utilidad, su acción; principios cardinales en que está basado su uso, indicaciones y condiciones indispensables para su aplicación, su práctica, su estado en Venezuela. Union méd. Caracas. I. 20-25. — **Reith, A.** The axis-traction forceps. Edinb. M. J. 1880-81. XXVI. 700-706. — **Sänger, M.** Ueber Zangen mit Zugapparaten und axengemässe Zangenextraktion. Die Zangen von Tarnier, ihre Vorläufer und Modificationen; Anpassung der deutschen Zangen an deren Principien. Arch. f. Gynaek. Berl. XVII. 382-423. — **Squire, T. H.** The forceps. Tr. M. Soc. N. Y. Syracuse. 201-204.

— **Stephenson, W.** On rotary action in using the forceps. Tr. Obst. Soc. Lond. (1880). XXII. 217-235. — **Sullivan, J. F.** The obstetrical pocket-forceps. Tr. M. Soc. Calif. Sacramento. 1880. X. 134-136. — **Tarnier.** Perfectionnement dans la construction et dans l'application du forceps. Tr. Internat. M. Cong. 7 sess. Lond. IV. 230-243. — **Wasseige, A.** Essais pratiques du dernier modèle du forceps Tarnier. Ann. de gynéc. Par. XVI. 1-22. — **Webb, V. G.** Axis-traction forceps. Lancet. Lond. II. 869.

**FORCEPS, Uterine.**

**Jakesch, W.** Intrauterinzange. Illust. Vrtljschr. d. ärztl. Polytech. Bern & Leipz. III. 156.

**FRACTURES during Pregnancy.**

**Gauchas.** Fracture de l'humérus chez une femme enceinte de 7 mois; accouchement prématuré (60 heures après l'accident); perte utérine abondante; accidents généraux graves; mort; à l'autopsie, cancer viscéral généralisé. France méd. Par. XXVIII. 337-340.

**FUNIS UMBILICALIS.**

**CALDERINI, G.** Decollazione colla fune. Milano. 8° [Repr. from: Ann. di Ostet.]

**Depaul.** Cordon ombilical mesurant 1 mètre 20 centimètres. J. d. sages-femmes. Par. IX. 297. — **King, A. F. A.** Ante-natal diagnosis and treatment of short or coiled funis. Am. J. Obst. N. Y. XIV. 322-328. — **Levis, D.** Dressing of the umbilical cord. Tr. M. Soc. N. Y. Syracuse. 210. — **Runge, M.** Ueber Nabelkrankung und Nabelverband. Ztschr. f. Geburtsh. u. Gynäk. Stuttg. VI. 64-86. — **Sänger, M.** Zur Frage vom "antiseptischen Nabelverband." Centralbl. f. Gynäk. Leipz. V. 125-131.

**FUNIS UMBILICALIS, Abnormalities of the.**

**GUESDE, D. E.** \*Nœuds du cordon ombilical. Paris. 38 pp. 4° No. 344.

**Nœuds du cordon ombilical.** [Discussion.] Bull. Acad. de méd. Paris. 2 s. X. 27-37.

**Dieterlen.** Mort du fœtus par double circulaire du cordon autour du cou. France méd. Par. II. 375-377. — **Pooley, J. H.** Knots in the umbilical cord. Gailard's M. J. N. Y. XXXI. 289-295. Also, Am. M. Bi-Weekly. N. Y. XII. 169-174. — **Schauta, F.** Zur Lehre von der Torsion der Nabelschnur. Arch. f. Gynaek. Berl. XVII. 19-23. 2 pl.

**FUNIS UMBILICALIS, Hemorrhage from the.**

**Belky, J.** Ein Fall von Verblutung durch die Nabelschnur. [From: Orvosi hetil. 1881.] Pest. med.-chir. Presse. Budapest. XVII. 545, 565.

**FUNIS UMBILICALIS, Ligation of the.** See, also, Jurisprudence.

**STEINMANN, F.** \*Ueber den Zeitpunkt der Abnabelung Neugeborener. Dorpat. 4° 2 M. 50.

**FUNIS UMBILICALIS, Prolapse of the.**

**KOLLEGORSKY, A.** \*Ueber Vorfall der Nabelschnur. 8° Wurzburg. 1880.

**SCHLÜTER, O.** \*Zur Therapie des Prolapsus funiculi umbilicalis. 8° Halle. 1880.

**Charles, N.** Secondipare à terme; présentation déviée du sommet compliquée de proci-dence du cordon; position occipito-postérieure droite avec inclinaison sur le bregma; influence des manœuvres externes

et du décubitus raisonné; application du forceps au détroit supérieur; rotation en avant au détroit inférieur; suites de couches heureuses. J. d'accouch. *Liège*. II. 165. — **Kinnear, A. H.** Prolapsed funis. *Country Pract. Beverly, N. Y.* 1880-81. II. 391. — **Leeper, W. W.** A "funis replacer." *Med. Press & Circ. Lond.* N. s. XXXI. 520. — **O'Connell, P.** New umbilical cord repositior. *Chicago M. J. & Exam.* XLIII. 469-471.

#### FUNIS UMBILICALIS, Velamentous Insertion of the.

**THEVENOT.** Double insertion vélamenteuse du cordon dans un cas de grossesse gémellaire; causes de l'insertion vélamenteuse. *Paris*. 8° [Repr. from: *Ann. de gynéc.*]

#### GALACTAGOGUES.

**Anderson, I. W.** Notes on a Jamaica galactagogue. *Tr. Obst. Soc. Lond.* (1880.) XXII. 31-34. — **Blackwood, W. R. D.** Static electricity as a galactagogue. *Phila. M. Times.* 1881-82. XII. 103-105.

#### GASTRO-ELYTROTOMY. See Laparo-elytrotomy.

#### GENERATION, Physiology of. See, also, Impregnation.

**Cadiat, L. O.** De la formation chez l'embryon et chez l'adulte des vésicules de deGraaf. J. de l'anat. et physiol., etc. *Par.* XVII. 45-59. 3 pl. — **Von Griesheim, A. [et al.]** Beiträge zur Physiologie der Zeugung. *Arch. f. d. ges. Physiol. Bonn.* 1881-82. XXVI. 237-258. — **Paladino, G.** Della caducità del parenchima ovarico e del rinnovamento totale dello stesso mercè ripetizione del processo di primordiale produzione. *Gior. internaz. d. sc. med. Napoli.* N. s. 785. III. 897. 2 pl. 1017.

#### GENITALS, FEMALE, Diseases of the.

**AHRT, E.** \*Ueber zwei Fälle von Tuberkulose der weiblichen Genitalien. *Göttingen.* 1880. W. F. Kaestner. 16 pp. 8°

**LAMEC-SAAD, J.** \*Die Catarrhe der weiblichen Sexualorgane und ihre Behandlung. [Würzburg.] 8° *Cloppenburg.* 1880.

**LE BAILLY, ALBERT.** \*Étude clinique sur la névralgie iléo-lombaire symptomatique des affections des organes génitaux chez la femme. *Paris.* 59 pp. 4°

**Cayla.** Esthiomène de la vulve, forme (tuberculo-ulcéreuse). *Bull. Soc. Anat. de Par.* LVI. 152. — **Fuqua, W. M.** Labial hematocele. *Louisville M. News.* XI. 293. — **Gos-olin.** Enorme végétation verruqueuse éléphantiasique des petits lèvres et du clitoris. *Siècle méd. Par.* II. 43. — **Göth, E.** Pigmentsarkom der äusseren Genitalien. *Centrabl. f. Gynäk. Leipz.* V. 473-476. — **Guibout, E.**

*Dermatologia de la zona genital en la mujer.* [Transl. by F. Toledo.] *An. de obst., ginec. y pediat. Madrid.* 2 ép. II. 5-9. — **Herrick, O. E.** Leucorrhœa; abscess of the labia and thrombus. *Obst. Gaz. Cincin.* 1881-82. IV. 169-173. — **Kormann.** Ueber Ruptur eines grossen Haematoms der rechten grossen Schamlippe während der Eröffnungsperiode bei einer zwölft Gebärenden. *Memorabilien. Heilbr.* N. F. I. 334-340. — **Müller, C. J.** Zur Casuistik der Neubildungen an den äusseren weiblichen Genitalien. *Berl. klin. Wchnschr.* XVIII. 446-450. — **Senebier, P.** Éléphantiasis de la grande lèvre droite; ablation; guérison. *Lyon méd.* XXXVIII. 300-305. *Also,* *Arch. de tocol. Par.* 1882. IV. 44-48. — **Veh, F.** Zwei Fälle von Elephantiasis vulvæ. *Centrabl. f. Gynäk. Leipz.* V. 173-179. — **Weintechnner.** Zwei durch Operation entfernte Geschwülste des weiblichen Genitalapparates. *Anz. d. k. k. Gesellsch. d. Aerzte in Wien.* 27.

#### GENITALS, FEMALE, Injuries of the.

**Bauer.** Verletzungen der weiblichen Genitalien ausserhalb des Puerperiums. *Deutsche med. Wchnschr. Berl.* VII. 157. — **Lapin, I.** K voprosu o travmaticheskiy povrejdenijach narujnich polovich organov jenshin i sektantov. [Wounds of external female genitals.] *Vrach. Vaidom. St. Petersb.* VI. 2165, 2181. — **Lapin.** Zur Casuistik der Verletzungen der äusseren Geschlechtsorgane des Weibes bei Skoptzen. *Arch. f. Gynaek. Berl.* XVII. 143-149. 1 pl.

#### GENITALS, FEMALE, Malformations of the.

**Cunningham, J. L.** A case of absence of uterus and appendages; verified by autopsy. *Texas M. & S. Rec. Galveston.* I. 24. — **Dovan, A.** [Two specimens of pelvic viscera, showing congenital communication between the rectum and the genito-urinary tract.] *Tr. Obst. Soc. Lond.* (1880.) XXII. 79-82. — **Ellis, R. H. P.** A case in which vagina and uterus are absent. *Maryland M. J. Bull.* 1881-82. VIII. 411-413. — **Genty.** Observation de vice congénital de conformation des parties sexuelles chez une femme mariée. *Soc. méd. d'Amiens. Bull.* (1878-79). 1880. XVIII. et XIX. 243-248. — **Prochownick.** Virginaler Totalprolapsus, entstanden durch Zusammenreffen von angeborenem Fehlen des Dammes und Doppelbildung der Genitalien. *Arch. f. Gynaek. Berl.* XVII. 326-330. — **Swasey, E.** An interesting case of malformation of the female sexual organs, representing either a rare variety of hermaphroditism, or of double congenital ovarian hernia with absence of uterus. *Am. J. Obst. N. Y.* XIV. 94-105. — **Thulié.** Instructions anthropologiques aux voyageurs; sur les Bochimans. *Bull. Soc. d'anthrop. de Par.* 3 s. IV. 353; 384.

#### GYNECOLOGY.

**BELOUINO, P.** La femme; physiologie, histoire, morale. 6e éd.,



revue et considérablement augmentée par l'auteur. *Paris*. 8°

BYFORD, W. H. The Practice of Medicine and Surgery applied to the Diseases and Accidents Incident to Women. 3d ed., rev. and rewritten. *Philadelphia*. 8°

CALDERINI, G. Sulla questione dell' insegnamento pratico della ginecologia e della pediatria in Italia. *Milano*. 8° [Repr. from: *Ann. di ostet.* III.]

CONRAD, R. Skizzen zum Einzeichnen geburtshülftlicher und gynäkologischer Befunde. 2 Aufl. *Bern*. 8°

COURTY, A. Traité pratique des maladies de l'utérus, des ovaires et des trompes, considérées principalement au point de vue du diagnostic et du traitement, contenant un appendice sur les maladies du vagin et de la vulve. 3e éd. Deuxième partie. *Paris*. 8°

DE CRISTOFORIS, M. Le malattia della donna; trattato clinico. *Milano*. 8°

DUNCAN, J. MATTHEWS. Clinical Lectures on the Diseases of Women, delivered in Saint Bartholomew's Hospital. *New York*. Birmingham & Co. 67 pp. 8° [Libr. Med. Classics. No. 2.]

DUNCAN, J. M. Lezioni cliniche sulle malattie delle donne. 1a versione ital. del dott. A. Camusso. *Milano*. 8°

EDIS, ARTHUR W. Diseases of Women, including their Pathology, Causation, Symptoms, Diagnosis and Treatment. A Manual for Students and Practitioners. *London*. Smith, Elder & Co. 555 pp. 8° Also, Reprint. *Philadelphia*. 1882. H. C. Lea's Son & Co. 576 pp. 8°

EMMET, THOMAS ADDIS. Principien und Praxis der Gynaekologie. Nach der zweiten Auflage des Originals, deutsch hrsg. von C. G. Rothe. *Leipz.* A. Abel. 592 pp. 8°

EUSTACHE, G. Manuel pratique des maladies des femmes; médecine et chirurgie. *Paris*. J. B. Baillière et fils. 756 pp. 8°

DE FOURCAULD, V. De l'hérédité dans les diverses affections de l'appareil utéro-ovarien. *Paris*. 8°

DE FOURCAULD. Recherches

sur la sensibilité cutanée dans les diverses affections de l'appareil utéro-ovarien. *Paris*. 8°

FRITSCH, H. Die Krankheiten der Frauen; Aerzten und Studierenden geschildert. *Brunschwg.* 8°

GOODELL, W. Lessons in Gynaecology. 2d ed. *Philadelphia*. 8°

HANDBUCH der deutschen Frauenvereine unter dem rothen Kreuz. *Berlin*. 8°

HANDBUCH der speciellen Pathologie und Therapie, bearb. von Bäumlcr, Bartels [et al.]. Hrsg. von H. von Ziemssen. 10. Bd. Inhalt: Handbuch der Krankheiten der weiblichen Geschlechtsorgane von Carl Schroeder. 5 Aufl. *Leipz.* 8°

HEGAR, A., und R. KALTENBACH. Die operative Gynäkologie, mit Einschluss der gynäkologischen Untersuchungslehre. 2 Aufl. *Stuttgart*. 8°

LUDLAM, R. Lectures, Clinical and Didactic, on the Diseases of Women. 5th ed. *Chicago*. 8°

MENIÈRE, P. 10. Études critiques d'étiologie et de pathogénie utérine; De la médication intra-utérine et particulièrement de l'emploi du graphidomètre; 20. Présentation d'un nouvel hystéromètre. Communications faites à la 7e session du Congrès international de Londres (séances des 6-8 août, 1881). *Paris*. 8°

MITCHELL, S. WEIR. Lectures on the Diseases of the Nervous System, especially in Women. *Philadelphia*. H. C. Lea's Son & Co. 250 pp. 5 pl. 12°

DE LOS RIOS, JOSÉ MANUEL. Conferencias ginecológicas. *Cardacas*. G. Corser. 106 pp. 8°

STEVENSON, SARAH H. Physiology of Women, embracing Girlhood, Maternity and Mature Age. *Chicago*. 12°

THOMAS, T. G. A Practical Treatise on the Diseases of Women. 5th ed., enlarged and thoroughly revised. *London*. 8°

WINCKEL, F. Die Pathologie der Weiblichen Sexual-Organen in Lichtdruck-Abbildungen nach der Natur in Original-Grösse, durch anatomische und klinische Erfahrungen erläutert. 13 und 14 Lfg. *Leipz.* 4°

**Bigelow, H. R.** Nerve pain in gynecology and the rest treatment. *Am. J. Obst. N. Y.* XIV. 610-626. — **Bigelow, H. R.** The hygiene and dietetic regimen of uterine therapeutics. *Am. J. Obst. N. Y.* 1882. XV. 131-137. — **Bigelow, H. R.** The rest treatment in gynecology. Maryland M. J. *Balt.* 1881-82. VIII. 1-5. — **Buckingham, R. G.** A plea for specialists, with gynecological cases. *Tr. Colorado M. Soc.* 1880-81. *Denver.* 1881. 71-75. — **Buckler, Thomas H.** Strangulated veins of the uterus, and other papers, gynecological and surgical. *Cambridge.* Riverside Press. 72 pp. 12° [Repr. from: Boston M. & S. J.] — **Bussey, S. C.** Acute hyperesthesia of the peritoneum, either circumscribed or diffused, following minor gynecological operations and manipulations. *Am. Pract. Louisville.* XXIV. 275-280. — **Calderini, G.** Sulla questione dello insegnamento pratico della ginecologia e della pediatria in Italia. *Ann. di ostet. Milano.* III. 216-222. — **Campbell, H. F.** The prophylactic and therapeutic value of quinine in gynecic and obstetric practice. *Tr. Am. Gynec. Soc.* 1880. *Bost. V.* 293-350. *Also,* Reprint. — **Castillo de Piñeyro, E.** Breves palabras acerca de las enfermedades propias de la mujer. *An. de obst., ginepat. y pediat. Madrid.* 2 ép. I. 81-88. — **Chadwick, James H.** Obstetric and gynecological literature. 1876-1880. *Cambridge.* 17 pp. 8° [Repr. from: Boston M. & S. J.] — **Chrobak, R.** Beiträge zur gynäkologischen Therapie. *Wien. med. Presse.* XXII. 5, 37, 325. — **Chrobak, R.** Beiträge zur gynäkologischen Therapie. *Wien. med. Presse.* XXII. 5, 37. — **Foster, F. P.** Diseases of the female sexual organs. *Cycl. Pract. M. (Ziemssen).* N. Y. (Suppl. 477-508.) — **De Fourcauld, V.** Des rapports qui existent entre le corps thyroïde, le foie et la rate, dans l'amenorrhée, la dysménorrhée et la grossesse. *France méd. Par.* II. 882-885. — **Franck,** Die geburts-hilflichen und gynäkologischen Untersuchungen. *Prakt. Arzt. Wetzlar.* XXII. 241, 271. — **Gallard, T.** Clinique des maladies des femmes; leçon d'ouverture. *Ann. de gynec. Par.* XVI. 425-440. — **Grünevald, O.** Rückblicke auf die Entwicklung der operativen Gynäkologie. *St. Petersb. med. Wehnschr.* VI. 107, 116, 126. — **Kisch, E. H.** Ueber gynäkologische Erkrankungen, entstanden durch Badecuren. *Prag. med. Wehnschr.* VI. 41. — **Leonard, C. H.** Ancient gynecology. [Extr. from a lecture given at the Michigan College of Medicine.] *Obst. Gaz. Cincin.* 1880-81. III. 505-512. — **Löhlein, H.** Bericht über die Verhandlungen der Gesellschaft für Geburtshilfe und Gynäkologie zu Berlin. *Ztschr. f. Geburtsh. u. Gynäk. Stuttg.* VI. 408-415. — **Meyer, L.** Die Kost in der städtischen Frauen-Siechenanstalt (Berlin). *Arch. f. path. Anat., etc. Berl.* LXXXIV. 155-163. — **Miller, C. H.** A case in search of a diagnosis. *Kansas M. Index. Fort Scott.* II. 170-176. — **Mooren.** Gesichtsstörungen und Uterinleiden. *Arch. f. Augenh. Wiesb.* 1880-

81. X. 510-577. — **Netzel, W.** Från den kliniskt gynekologiska afdelningen på Sabbatsbergs sjukhus. [Clinic of Sabbatsberg Hospital.] *Hygiea. Stockholm.* XLIII. 481-516. — **Nunn, R. J.** Female diseases; the result of errors in habit and hygiene during childhood and puberty; with remarks on the treatment of rachialgia with ignipuncture (Paquelin's cautery). *Augusta, Ga. J. Loveday.* 45 pp. 8° [Repr. from: Tr. M. Ass. Georgia. XXXII.] — **Petithan.** Position que doit prendre la gynécologie dans les questions social et qui ont rapport à la procréation. *Médecin prat. Par. II.* 385-397. — **Pippingsköld, J.** Yttrande öfver Majoren Th. Brandts Genitalgymnastik i allmänhet och särskildt. *Gynæck. og obst. Medd. Kjöbenhavn.* III. 3 Hft. 1-20. — **Ponte, M. M.** Contribuciones al estudio de la gineologia; notas cronológicas. *Gac. cient. de Venezuela. Caracas.* 1881-82. IV. 36, 52, 72, 107, 118, 137. — **Powell, T. S.** Conversations upon the physical and mental hygiene of girlhood. *South. M. Rec. Atlanta.* XI. 1, 41. — **Reid, W. L.** On the use of antiseptics in obstetrics and gynecology. *Glasgow M. J.* XV. 438-445. Discussion. XVI. 65-72. — **Rendu, J.** Notes sur quelques voyages à l'étranger au point de vue de l'obstétrique et de la gynécologie (1879-80). *Lyon méd.* XXXVI. 189, 239, 341. *Also,* *Ann. de gynec. Par.* XV. 81-113. — **Reynas.** Vingerwijzingen in de gynæcologische literatuur van den dag. *Nederl. Tijdschr., v. Geneesk. Amst.* VII. 801-806. — **Sims, J. M.** Annual address of the President. *Tr. Am. Gynec. Soc.* 1880. *Bost. V.* 25-37. — **Skene, A. J. C.** The treatment of wounds in gynecology. *Proc. M. Soc. County Kings. Brooklyn.* 1881-82. VI. 262-267. — **Stout, S. H.** Report of the section on gynecology for the seventh congressional district. *Tr. M. Ass. Georgia. Augusta.* XXXII. 151-190. — **Wing, C. E.** Unnecessary surgical operations in the treatment of the diseases of women. *Boston M. & S. J. CIV.* 389, 409.

#### HEART, Diseases of the.

VALLIN, FERDINAND. \*Influence des lésions valvulaires du cœur sur la menstruation. *Paris.* 62 pp. 4°

#### HEGAR'S OPERATION. See Oophorectomy.

#### HEMATOCELE, Pelvic.

MARTA, G. B. Studj clinici sull'ematocele periterino. *Venezia.* 16° [Repr. from: Atti dell' Ateneo Veneto.]

**Brown, I. E.** Retro-uterine, or intra-peritoneal hematocoele. *Tr. M. Soc. Mich. Lansing.* VIII. No. 1. 84-92. **Cerné, A.** Sur un cas d'hématocèle rétro-utérine dans le cours d'une pélo-péritonite subaiguë. *Arch. de tocol. Par.* VIII. 385-395. — **Hennig, C.** Hæmatocele retrouterina; Punction. *Memorabilien. Heilbr. N. F. I.* 265-269. —

**Konrad, M.** A Méhköriüli vérsérvröl. [On peri-uterine hæmorrhage.] Orvosi hetil. *Budapest.* XXV. 393, 420, 469, 507, 530, 770, 790, 814, 832, 854. Also translation in *Pest. med.-chir. Presse.* *Budapest.* XVII. 585, 605, 629, 646, 705, 725, 758, 769, 788, 806, 826, 845, 864. — [Large coagulum involving ovaries, uterus and broad ligament; cysts in the latter.] *Clucago M. J. & Exam.* XLIII. 641-643. — **Marple, W. B.** A case of perimetritic hæmatocele. *Ohio M. J. Columbus.* 1881-82. I. 340-342. — **Martin, A.** Ueber extraperitoneales Hæmatom. *Arch. f. Gynaek. Berl.* XVIII. 463-465. — **Somerville, R.** Two cases of puerperal hæmatocele. *Edinb. M. J.* 1881-82. XXVII. 37-38. — **Warren, J. H.** Pelvic cellulitis; pelvic peritonitis; pelvic hæmatocele. *Virginia M. Month. Richmond.* 1880-81. VII. 821-833.

**HEMATOKOLPOS.** See Hymen.

**HEMATOMETRA.** See, also, **Menses, Retained, and Vagina, Atresia of the.**

**Schou, T.** Atresia vaginalis som Aarsag til Blodansamling i Genitalkanalen. *Gynaek. og obst. Medd. Kjøbenhavn.* III. 3 Hft. 42-69.

**HEMOGLOBINURIA.**

**Werth.** Ein Fall von Hæmoglobinurie, unter der Geburt beobachtet. *Arch. f. Gynaek. Berl.* XVII. 122-127.

**HEMOPTYSIS.**

**Nutte, Gustave.** \*Des hémoptyses gravidiques. *Paris.* 37 pp. 4° No. 188.

**Comby, J.** Hémoptyses survenues au cinquième mois de la grossesse; guérison après l'accouchement. *France méd. Par.* XXVIII. 97-100. — **Depaul.** Hémoptyses pendant la grossesse. *Gaz. d. hôp. Par.* LIV. 689. — **Nutte.** Hémoptyses pendant la grossesse. *Gaz. d. hôp. Par.* LIV. 665-667. — **Saundby, R.** Hémoptysis removed by menstruation. *Brit. M. J. Lond.* I. 881. — **Taber, C. R.** Can uterine disease excite hæmoptysis? *Tr. South Car. M. Ass. Charleston.* XXXI. 75-79.

**HEMORRHAGE, Funic.**

**Croomb, J. H.** Funic hæmorrhage during labour. *Edinb. M. J.* 1881-82. XXVII. 707-720. 2 pl.

**HEMORRHAGE, Genital.**

**Franck, S.** Die genitalen Blutungen und ihre Behandlung. *Prakt. Arzt. Wetslar.* XXII. 1, 25.

**HEMORRHAGE, Uterine.**

**Le Page, J. F.** The Causes, Prophylaxis, and Treatment of Post-partum Hæmorrhages. *Newcastle-upon-Tyne.* 13 pp. 1 pl. 8°

**Tanguy, Jean-Marie.** \*De l'hémorrhagie post-puerpérale, de ses divers modes de traitement et en particulier de la faradisation. *Paris.* 83 pp. 4°

**Barnes, R.** Memoir on the treatment of puerperal hæmorrhage. *Tr. Internat. M. Cong. 7 sess. Lond.* IV. 342-353. — **Barnes.** Sur le traitement de l'hémorrhagie après l'accouchement. *Ann. de gynéc. Par.* XVI. 401-424. — **Barnes, E. G.** On concealed accidental hæmorrhage with cases. *Lancet. Lond.* II. 1038-1040. — **Bassett, J.** Treatment of post-partum hæmorrhage. *Brit. M. J. Lond.* II. 853. — **Belfield, C. W.** Treatment of post partum hæmorrhage. *Brit. M. J. Lond.* II. 666. — **Brechin, W. P.** A case of death from exhaustion following excessive hæmorrhage during labor. *Boston M. & S. J.* CV. 614. — **Burke, M.** Secondary post-partum hæmorrhage, controlled by a bandage of adhesive plaster. *Med. Rec. N. Y.* XIX. 134. — **Chantreuil, G.** Hémorrhagies utérines et placentaires liées à l'albuninurie. [From: France méd.] *In his: Clin. d'accouch. 8° Par.* 1881. 56-61. — **Clarke, A. S.** Hémorrhage during labor. *Proc. M. Soc. County Kings. Brooklyn.* 1881-82. VI. 133-135. — **Clarke, J. E.** Post-partum hæmorrhage. *Proc. M. Soc. County Kings. Brooklyn.* 1881-82. VI. 137. — **Discussion** on puerperal hæmorrhage, arranged by the committee on obstetrics of the Medical Society of the County of Kings. *Proc. M. Soc. County Kings. Brooklyn.* 1881-82. VI. 126-148. — **Dubruell, A.** De l'emploi des courants continus dans les hémorrhagies utérines. *Gaz. hebdom. d. sc. méd. de Montpel.* III. 541. — **Engelmann, G. J.** Le traitement de l'hémorrhagie post-partum. [Trad. de l'angl. par le Dr. R. Fauquez.] *Rev. méd.-chir. d. mal. d. femmes. Par.* III. 27, 61, 121. — **Finnell.** Concealed uterine hæmorrhage. *Bull. N. York Path. Soc.* 2 s. I. 66. — **Garipuy.** Deux cas d'hémorrhagie utérine traitée et guérie par le crayon de nitrate d'argent fondu. *Rev. méd. de Toulouse.* 1880. XIV. 97-106. — **Gene, P.** Réflexions sur les hémorrhagies utérines à forme névralgique. *Concours méd. Par.* III. 638-640. — **Gillilan, W.** Ante- and post-partum hæmorrhage. *Proc. M. Soc. County Kings. Brooklyn.* 1881-82. VI. 110-114. — **Hamon, L.** Étude sur l'hémorrhagie utéro-placentaire. *Rev. méd.-chir. d. mal. d. femmes. Par.* III. 130-146. — **Hamon, L.** De l'hémorrhagie post-partum. *Courrier méd. Par.* XXXI. 186, 105, 207. — **Hémorrhagie** puerpérale abondante chez une femme albuninurique. *Gaz. d. hôp. Par.* LIV. 777. — **Hime, T. W.** Transfusion in profuse menorrhagia. *Brit. M. J. Lond.* II. 153. — **Jakins, W. V.** Uterine hæmorrhage cured by incision. *Austral. M. J. Melbourne.* N. s. III. 438-440. — **King, C. P.** An interesting case of post-partum hæmorrhage. *Cincin. Lancet & Clinic.* N. s. VI. 171. — **Lamadrid, J. J.** Treatment of post-partum hæmorrhage. *Proc. M. Soc. County Kings. Brooklyn.* 1881-82. VI. 127-133. — **Lydston, G. F.** Case of spontaneous ante-partum hæmorrhage; slight symptoms proportionate to amount of blood lost. *Chicago M. J. & Exam.* 1881. XLII. 357. — **Mad-**

**den, T. M.** On the prevention and treatment of post-partum hæmorrhage. *Tr. Internat. M. Cong.* 7 sess. *Lond.* IV. 353-362.—**Madden, T. M.** On the prevention and treatment of post-partum hæmorrhage. [Abstr.] *Med. Press & Circ. Lond.* N. s. XXXII. 273.—**Morse, W. H.** A contribution to the study of the etiology of puerperal hemorrhage. *Med. & Surg. Reporter. Phila.* XLX. 508-512.—**Mundé, P. F.** Intrauterine ante-partum hemorrhage. *Am. J. Obst. N. Y.* XIV. 652-654.—**Partridge, E. L.** Accidental ante-partum hæmorrhage. *N. York M. J.* XXXIV. 561-571.—**Parvin, T.** Secondary puerperal metrorrhagia. *Tr. Am. Gynec. Soc.* 1880. *Bost.* V. 119-144.—**Rae, M. J.** Blood-casts within the cavity of the uterus as a cause of uterine hæmorrhage. *Lancet. Lond.* I. 498.—**Rubio, P.** Conferencia práctica sobre el tratamiento de las hemorragias producidas por el epiteloma de la matriz. Siglo méd. *Madrid.* XXVIII. 389-392.—**Skene, A. J. C.** Causes of puerperal hemorrhage. *Proc. M. Soc. County Kings. Brooklyn.* 1881-82. VI. 124-127.—**Steel, W. D.** Treatment of post partum hæmorrhage. *Brit. M. J. Lond.* II. 896.—**Stuart, F. H.** Puerperal hemorrhage. *Proc. M. Soc. County Kings. Brooklyn.* 1881-82. VI. 106-109.—**Sulfate (Le)** de quinine contre la fluxion hémorrhagique de l'utérus. *Gaz. d. hôp. Par.* LIV. 555.—**Thomas, T. G.** Treatment of puerperal hemorrhage. *Proc. M. Soc. County Kings. Brooklyn.* 1881-82. VI. 139-148.—**Vanderveer, J. R.** Post-partum hemorrhage. *Proc. M. Soc. County Kings. Brooklyn.* 1881-82. VI. 115-118.—**Van Gieson.** Concealed uterine hemorrhage. *Bull. N. York Path. Soc.* 2 s. I. 65.

#### HERMAPHRODITISM.

**SWASEY, EDWARD.** An Interesting Case of Malformation of the Female Sexual Organs: representing either a Rare Variety of Hermaphroditism, or of Double Congenital Ovarian Hernia with Absence of Uterus. *New York.* Wm. Wood & Co. 13 pp. 8° [Repr. from: *Am. J. Obst. N. Y.* XIV.]

#### HERNIA.

**Hourigan, W. P.** Strangulated hernia during menstrual period; operation; recovery. *Brit. M. J. Lond.* II. 854.—**Pennel, P.** Hernie vaginale d'origine traumatique; anus contre nature; guérison spontanée. *France méd. Par.* 1881. II. 649-652. *Also,* *Union méd. Par.* 1881. 3 s. XXXII. 872-874. *Also,* *Arch. de tocol. Par.* 1882. IX. 103-105.

#### HIP, Dislocation of, Congenital.

**Poole, S. W.** Case of so-called congenital dislocation of both hips. *Tr. Obst. Soc. Lond.* (1880). XXII. 214-216.

#### HOSPITALS.

**DUBRISAY, J.** De la réorganisa-

tion des services d'accouchements dans les hôpitaux et chez les sages-femmes agréées. *Paris.* A. Cocoz. 28 pp. 8°

**FREE HOSPITAL for Women,** Boston. Annual Report for the Year 1880-81 (6). *Boston.* 27 pp. 8°

**REPORT (Annual) of the Boston Lying-in Hospital, for the Year 1880.** *Boston.* J. Wilson & Son. 14 pp. 12°

**REPORT (Annual) of the Woman's Hospital, of the State of Illinois, for the Year 1880 (10).** *Chicago.* Donnelly, Gassette et Loyd. 16 pp. 8°

**Bruers, E.** Maternità di Bologna, diretta dal Dr. Cesare Belluzzi; rendiconto sanitario del quadriennio 1875-78. *Bull. d. sc. med. di Bologna.* 6 s. VII. 233, 348, 393.—**Cantó, F.** Memoria de la Enfermeria de cirugía de mujeres del hospital provincial de Valencia durante el año económico 1879-80. *Crón. méd. Valencia.* 1880-81. IV. 397, 391, 455, 486, 515, 551.—**Croomb, J. H.** Quarterly report [ending Oct. 31, 1880] of the Royal Maternity and Simpson Memorial Hospital. *Tr. Edinb. Obst. Soc.* VI. 26-30. *Also,* *Edinb. M. J.* 1880-81. XXVI. 975-979.—**Keiller.** Report of the Royal Maternity and Simpson Memorial Hospital for the quarter ending 31st July, 1881. *Edinb. M. J.* 1881-82. XXVII. 705-707.—**Lucas - Championnière, J.** Réformes projetées dans les services d'accouchements des hôpitaux de Paris. *J. de méd. et chir. prat. Par.* LII. 97-101.—**Maddonald, A.** Quarterly report [ending April 30, 1881] of the Royal Maternity and Simpson Memorial Hospital. *Tr. Edinb. Obst. Soc.* VI. 162-169. 1 pl.—**Polailton.** Statistique de la maternité de Cochinchine. *France méd. Par.* XXXVIII. 497, 510, 826, 837, 849.—**Simpson, A. R.** Quarterly report [ending Jan. 31, 1881] of the Royal Maternity and Simpson Memorial Hospital. *Tr. Edinb. Obst. Soc.* VI. 70-77.

**HYDRAMNIOS.** See Amnion, Dropsy of the.

**HYDROCEPHALOCELE.** See Brain, Hernia of the.

#### HYDROCELE.

**Wile, W. C.** Hydrocele in the female. *N. Eng. M. Month. Newtown (Conn.).* 1881-82. I. 252.

**HYDROCEPHALUS.** See Fetus, Diseases of the.

#### HYDRORRHEA GRAVIDARUM.

**Gayraud, E.** Un cas d'hydrorrhée pendant la grossesse. *Gaz. hebdom. d. sc. méd. de Montpel.* III. 495-499.

#### HYMEN.

**Atlee, L. W.** Retention of the menses caused by imperforate hymen; re-

port of two cases with some remarks. *Am. J. M. Sc. Phila.* N. s. LXXXII. 136-140.—**Budin**. Sur l'hymen et l'orifice vaginal. *Compt. rend. Soc. de biol.* 1879. *Par.* 1880. 7 s. I. 265-270.—**Castro, S. J.** Imperforate of the hymen; observacion. *Rev. méd. de Chile. Sant. de Chile.* 1880-81. IX. 301.—**Fabre, P.** Persistence of the hymen au moment de l'accouchement. *Gaz. méd. de Par.* 6 s. III. 649.—**Hickinbotham, J.** Two cases of labour at term in which the hymen was unruptured. *Brit. M. J. Lond.* I. 1001.—**Hurd, H. S.** Imperforate hymen. *Peoria M. Month.* 1881-82. II. 131.—**Lewis, E. S.** Case of retention of menstruation with regurgitation in left Fallopian tube. *N. Orf. M. & S. J.* 1880-81. N. s. VIII. 1123-1126.—**Little, J.** A case of imperforate hymen. *Peoria M. Month.* 1881-82. II. 48.—**Meola, F.** Ematometra da imene imperforata. *Gior. internaz. d. sc. med. Napoli.* N. s. III. 711-727.—**Moore, W. G.** Case of imperforate hymen. *St. Louis Clin. Rec.* 1881-82. VIII. 352.—**Mosman, B. E.** A case of congenital atresia of the vagina, operated upon by making free incision through the hymen, evacuating retained menstrual fluid, and washing out vagina and uterus. *Am. J. Obst. N. Y.* XIV. 564-570.—**Mulvaney, E.** Imperforate hymen with retention of menses. *Indian M. Gaz. Calcutta.* XVI. 141.—**Speranski, K.** Sluchai atresie hymenalis. *Ejened. klin. gaz. St. Petersb. P.* 158.—**Wallace, J. R.** Retained menses from imperforate hymen; free incision; recovery. *Indian M. Gaz. Calcutta.* XVI. 197.

**HYSTERECTOMY.** See Uterus, Excision of the.

**HYSTERECTOMY, Cesarean.** See Cesarean Section with Removal of the Uterus.

### HYSTERIA.

**KAUFFMANN, J.** \*Ueber Ovarialhyperästhesie bei Hysterie. 8° *Würzburg.* 1880.

**Charcot.** De l'électricité statique, particulièrement dans ses applications au traitement de l'hystérie. *Progrès méd. Par.* IX. 315, 333-335.—**Fazio, E.** Un caso di ovario-isterismo; contribuzione alla patologia del gran simpatico. *Movimento. Napoli.* 2 s. III. 617-640.—**Hewitt, G.** The exciting cause of attacks of hysteria and hystero-epilepsy. *Tr. Internat. M. Cong.* 7 sess. *Lond.* IV. 298-303.—**Holst.** Ueber das Verhältniss der Hysterie und einzelner nervöser Symptome zu der Gynäcolozie. *Arch. f. Psychiat. Berl.* 1880-81. XI. 678-692.—**Lagardele.** Hystérie et nymphomanie, à propos du scandale de Bordeaux. *Gaz. hebdom. d. sc. méd. de Bordeaux.* 1880-81. I. 491-493.

### HYSTERO-EPILEPSY.

**Sansom.** Hystero-epilepsy; phases like those described by Charcot; obstructive dysmenorrhœa; treatment by dilatation of cervix uteri. *Lancet. Lond.* I. 369.—

**Steffermann.** Hystéro-épilepsie chez une primipare au début de la grossesse; guérison par un traitement hydrothérapique. *Gaz. méd. de Strasb.* 3 s. X. 18.

### IMPETIGO.

**Funk.** Kilka słów o "impetigo herpetiformis gravidarum." *Gaz. lek. Warszawa.* 2 s. I. 665-667.

### IMPREGNATION.

**Piersons, A. M.** A mistake in diagnosis leading to an inquiry into the genesis of pregnancy. *Homœop. J. Obst. N. Y.* III. 322-333.

### INFANTS.

**Abege, H.** Zur Verhütung der Augenentzündung Neugeborener. *Arch. f. Gynaek. Berl.* XVII. 502.—**Champey, F. H.** On artificial respiration in stillborn children; the amount of ventilation secured by different methods; an experimental inquiry. [Abstr.] *Proc. Roy. M. & Chir. Soc. Lond.* IX. 12.—**Galezowski.** Des moyens de conjurer les dangers d'ophtalmie des nouveau-nés. *Ann. de gynéc. Par.* XV. 174-180.—**Haussmann.** Zur prophylaktischen Behandlung der während der Geburt eintretenden Infektion der Augen des Kindes. *Centralbl. f. Gynäk. Leipz.* V. 76-78.—**Olshausen, R.** Zur Prophylaxe der Conjunctival-Blennorrhœe Neugeborener. *Centralbl. f. Gynäk. Leipz.* V. 33-35.—**Prout, J. S.** The care of the eyes of new-born infants. *Proc. M. Soc. County Kings. Brooklyn.* 1881-82. VI. 77-82.—**Reed, W. C.** Gangrene of the lower extremity in a newly born infant. *Brit. M. J. Lond.* I. 639.—**Vidal Solares.** Del peso de los recién-nacidos. *Gac. méd. catal. Barcel.* I. 129-133, 165-167.

### INFLAMMATION, Pelvic. See, also, Parametritis, Puerperal Peritonitis, and Puerperal Metro-peritonitis.

**Caulet.** De l'emploi des injections vaginales et des douches intestinales dans le traitement des phlegmasies péri-utérines chroniques. [Extr.] *Thérap. contemp. Par.* I. 337-343.—**Caulet.** Du traitement thermal des phlegmasies péri-utérines. *Ann. Soc. d'hydrol. méd. de Par.* 1880-81. XXVI. 431-443.—**Courty, A.** De l'adénite péri-utérine. *J. d'accouch. Liège.* II. 143-145. *Also, Ann. de gynéc. Par.* XIV. 241-267.—**Fauquez, R.** Phlegmon péri-utérin. *Rev. méd.-chir. d. mal. d. femmes. Par.* III. 491-496.—**Janvrin, J. E.** Pelvic cellulitis, abscesses, death following dilatation by a tupelo tent and a stem-pessary. *Am. J. Obst. N. Y.* XIV. 667-669.—**Klein, C.** Bemerkungen über den Nutzen der Moorbäder beim chronischen peritonen Exsudaten. *Wien. med. Presse.* XXII. 952-954.—**Walton, A.** De la cellulite pelvienne en dehors de l'état puerpéral. *Ann. Soc. méd. de Gand.* LIX. 68-97.

### INSANITY.

**Pitkin, L. F.** Uterine disease one of the principal causes of insanity in females. *Med. Rec. N. Y.* XIX. 358.

## INSTRUMENTS.

**Chiara, D.** Un vecchio instrumento della pratica ostetrica. *Gior. internaz. d. sc. med. Napoli.* N. s. III. 478-490.—**Hubert, E.** Sur les forceps porteligueure comparé avec le nodifère-sécateur du Dr. Senny. *Ann. Soc. méd.-chir. de Liège.* XX. 31-35.—**Leeper, W. W.** A funis replacer. *Med. Times & Gaz. Lond.* I. 686.—**Mensinga.** Practische Vereinfachungen des gynäkologischen Instrumentariums. *Mith. f. d. Ver. Schlesw. Holst. Aerzte. Kiel.* 1879-80. I. 63-65. 1 pl.—**Ryerson, T.** A new vectis. *Med. Gaz. N. Y.* VIII. 93.—**Schatz, F.** Ein neues Instrument zur erzielbaren Eröffnung des Uterus; Metraonikter. *Arch. f. Gynaek. Berl.* XVIII. 445-462.—**Senny, T.** Nodifère-sécateur et forceps porteligueure. *J. d. sc. méd. de Louvain.* VI. 124-132.

## IODOFORM.

**Kisch, E. H.** Erfahrungen über den Nutzen des Jodoforms bei gynäkologischen Leiden. *Wien. med. Presse.* XXII. 266-268.

## JAUNDICE.

**Parish, W. H.** Jaundice in pregnancy. *Am. J. Obst. N. Y.* XIV. 683-691.

## JURISPRUDENCE.

**Belky, J.** A köldökzsinóron át léte-jött elvérzés esete. [Hemorrhage from neglect of ligature of fun. umbilicalis; infanticide.] *Közeg. és Törvény Orvos. Budapest.* 37-41.—**Garrison, J. B.** Cruel and criminal malpractice in Arkansas. *West. M. Reporter. Chicago.* III. 55.—**Medic.** nasterie; operatiunea brachiotomie; moartea capilului; responsabilitatea medicului. [Brachiotomy in arm-presentation; operation condemned by the courts.] *Progresul med. roman. Bucuresci.* III. 109.—**Rheinstaedler.** Vorschläge zur Einführung der obligatorischen Antisepsis für die Hebammen. *Vrtljchr. f. gerichtl. Med. Berl.* N. F. XXXV. 323-334.—**Valenta, A.** Soll den Hebammen eine operative Hülfeleistung bei frischen Mittelfleischrisen gesetzlich gestattet sein? Offene Frage. *Arch. f. Gynaek. Berl.* XVII. 45-49.

**KEITH, Thomas.** See Ovariectomy.

## KIDNEY, Floating.

**LANDAU, LEOPOLD.** Die Wanderniere der Frauen. *Berlin.* A. Hirschwald. 104 pp. 8°

## LABOR.

**LABAT, JEAN-BAPTISTE-MARIE-CHARLES-EMANUEL.** \*Recherches cliniques et expérimentales sur la tête du fœtus au point de vue obstétrical. *Paris.* 103 pp. 4°

**Apostoli, G.** Nouvelle application de l'électricité aux accouchements. *J. de thérap. Par.* VIII. 445.—**Apostoli, G.** Sur une nouvelle application de l'électricité aux accouchements. *Ann. de gynéc. Par.* XV. 327-337.—**Ashby, T. A.** Observations on the management of the

perineum during labor. *Maryland M. J. Balt.* 1881-82. VIII. 49-55.—**Barns-father, J.** What is the cause of labor, and what are the physiological changes or progress (if any) which superinduce it? *Cincin. M. News.* N. s. X. 76-80.—**Bribach, B.** Chloral in the first stage of labor. *St. Louis Cour. Med.* V. 402-405.—**Brown, S. H.** The advantage of hypodermic injections of morphia in labor. *Mississippi Valley M. Month. Memphis.* I. 162-165.—**Chiara, D.** Una ultima parola sulla proflassi Listeriani nella clinica ostetrica milanese. *Ann. di ostet. Milano.* III. 144-153.—**Cohnstem.** Ueber temporäre Erweiterung des Scheidengewölbes. *Arch. f. Gynaek. Berl.* XVII. 504-509.—**Croom, J. H.** The systematic use of antiseptics in midwifery. *Edinb. M. J.* 1880-81, XXVI. 712-721.—**Davis, J. W.** Several cases in midwifery illustrating the absence of pain in labor. *Nashville J. M. & S. N. s.* XXVII. 252.—**Forster, E. J.** The necessity of the long nozzle in making intra-uterine injections after confinement. *Boston M. & S. J.* CIV. 436-438.—**Frémont.** Arrêt subit du travail dans un accouchement qui s'annonçait comme extrêmement facile et rapide. *Courrier méd. Par.* XXXI. 231.—**Garnett, A. H.** Fatal termination of a case of labor; was it from the sudden evacuation of the uterus; or from the too liberal use of fluid extract ergot (Squibb's)? *Cincin. Lancet & Clinic.* N. s. VII. 302.—**Geyl.** Ueber die Ursache des Geburtseintrittes. *Nederl. Tijdschr. v. Geneesk. Amst.* XVII. 286-288.—**Geyl, A.** Ueber die Ursache des Geburtseintrittes. *Arch. f. Gynaek. Berl.* XVII. 1-18.—**Hart, D. B.** On some of the phenomena of parturition in their practical aspects. *Tr. Edinb. Obst. Soc.* VI. 128-132.—**Hasse, C.** Die Ursachen des rechtzeitigen Eintritts der Geburtsthätigkeit beim Menschen. *Ztsch. f. Geburtsh. u. Gynäk. Stuttg.* VI. 1-9. 1 pl.—**Hofmeier, M.** Ueber Contractionsverhältnisse des kreisenden Uterus und ihre eventuelle Behandlung. *Ztschr. f. Geburtsh. u. Gynäk. Stuttg.* VI. 138-170.—**Hubbard, S.** Does the child at full term in the uterus have any influence, by its instincts, in producing labor? *Peoria M. Month.* 1881-82. II. 450-452.—**Hurt, G.** Position in relation to injuries of the perineum during labor. *St. Louis M. & S. J.* XLI. 183-194.—**Kilner, W. J.** The effects of the induced current upon parturition. *Lancet. Lond.* I. 11.—**Korsch.** Ueber die Beweglichkeit der Gelenkverbindungen des Beckens. *Ztschr. f. Geburtsh. u. Gynäk. Stuttg.* VI. 10-16. 1 pl.—**Leboff, I.** K ucheniu o bistrich rodach. (On accelerated births.) *Med. Vestnik. St. Petersburg.* XXI. 57-60.—**Mangiagalli, L.** Il parto nelle primipare attempate. *Ann. di ostet. Milano.* III. 265-274.—**Morris, J.** Management of the shoulders in labor. *Maryland M. J. Balt.* 1881-82. VIII. 316-318.—**Neville, W. C.** Physical examination of the abdomen in labour patients; being portion of a thesis on "The modes of examining labour patients," in the Univ. of Dublin. *Dublin J. M. Sc.*

3 s. LXXII. 313-320. — **Pajot**. Étude sur la descente dans les bassins normaux. [Rev. de la thèse du Dr. Sabatier.] Ann. de gynec. *Par.* XV. 206-213. — **Primipare** âgée; insertion marginale du placenta; présentation de l'épaule gauche en 1<sup>re</sup> position; version céphalique par manœuvres externes; accouchement à terme d'un enfant vivant, sans hémorragie; suites heureuses. *J. d'accouch. Liège*. II. 133. — **Smyly, W. J.** To what extent are utero-vaginal injections advisable in childbed? Dublin *J. M. Sc.* 3 s. LXXI. 245-260. — **Solovieff**. A quelle époque convient-il de faire lever les femmes après l'accouchement. [Extr. d'un compt. rend. sur la maternité de Kazan.] *Arch. de tocol. Par.* VIII. 93-102. — **Spöndly**. Ueber die Wirksamkeit des Chloralhydrats bei Krampfwegen. *Ztschr. f. Geburtsh. u. Gynäk. Stuttg.* VI. 35-48. — **Stone, E. R.** The management of the perineum in labor. *Med. & Surg. Reporter. Phila.* XLV. 617-621. Discussion. 627. — **Vindevozel**. De la saignée dans l'accouchement. *J. d'accouch. Liège*. II. 94. — **Watson, E.** Rupture of membranes in labor. *Michigan M. News. Detroit*. IV. 269. — **Weill**. Observation d'une femme qui a accouché pour ainsi dire en dormant. *Gaz. méd. de Strasb.* 3 s. X. 103. — **Wenzel, H. P.** Is the obstetric binder necessary? *Tr. M. Soc. Wisconsin. Milwaukee*. XV. 124-127. — **Yelvington, C. H.** Belladonna ointment in obstetrical practice. *N. York M. Eclect.* VIII. 263-265.

### LABOR, Complicated.

**WILLINGE, JAN.** Een geval van wegscheuring der baarmoeder. *Groningen*. J. B. Huber. 48 pp. 8°

**Bianchi, R.** Parto distocico y muerte del feto por impericia de una intrusa. *Union de l. cien. méd. Cartagena*. I. 57. — **Gattai, R.** Entero-epi-epiocele vaginale durante il sopraparto. *Sperimentale. Firenze*. XLVIII. 176-178. — **Geoghegan, E. G.** [Died after childbirth (the stomach was found, post-mortem, protruding through the diaphragm and lying under the left clavicle).] *J. Ment. Sc. Lond.* XXVII. 52. — **Gunning, A. T.** Case of complicated labour. *Austral. M. J. Melbourne*. N. s. III. 529. — **Hughey, W. F.** A case of hydropericardium ending fatally in the second stage of labor. *Ohio M. Recorder. Columbus*. 1880-81. V. 559. — **Lenoel**. Observation d'une fracture de l'os iliaque dans un bassin rétréci produite pendant l'application du forceps. *Soc. méd. d'Amiens. Bull.* (1878-79). 1880. XVIII. et XIX. 85. — **Löhlein, H.** Eine während der Geburt spontan abgetrennte Vaginallortion. *Ztschr. f. Geburtsh. u. Gynäk. Stuttg.* VI. 414. — **Schwing, K.** Ein Fall von Schwangerschaft und Geburt, complicirt mit einem enorm grossen primären Leberkarzinom. *Centralbl. f. Gynäk. Leipz.* V. 308-311. — **Smith, A. H.** Paralysis of the sphincter ani from extreme distention during labor. *Tr. Phila. Obst. Soc.* (1880). 52. — **Smith, A. H.** Paralysis of the sphincter ani from extreme distention during labor. *Am. J. Obst. N.*

*Y.* XIV. 680. — **Stites, J. H.** A classification of the causes, dangers, symptoms, treatment and sequels of complicated labors. *Peoria M. Month.* 1881-82. II. 360-363.

### LABOR, Difficult.

**Margarit, F.** Observaciones sobre cuatro casos distocicos. *Independ. méd. Barcel.* 1880-81. XVI. 396. 2. XVII. 52. — **Parys, E.** Accouchement laborieux; métrite gangréneuse; péritonisme, pyohémie; mort. *Presse méd. belge. Brux.* XXXIII. 225-227. — **Roth, T.** Ungewöhnliche, seltene Geburtshindernisse. *Memorbilien. Heilbr.* N. F. I. 293-297. — **Tonis, C. J.** Obstáculos que pueden dificultar o impedir el parto natural. *Gac. méd. Lima*. 1876. II. 306, 317, 323. — **Yarnall**. Forceps vs. podalic version. *St. Louis Cour. Med. V.* 247-250.

### LABOR, Instrumental. See, also, Forceps, Obstetrical.

**Allen, J. E.** The treatment of delay in the first stage of natural labor, with special reference to the early use of the forceps. *Atlanta M. Reg.* 1881-82. I. 449-457. — **Ashby, T. A.** Observations on the part the obstetrical forceps play in the induction and prevention of perineal laceration. *Maryland M. J. Balt.* 1881-82. VIII. 464-469. — **Capron, G.** General remarks on the use of obstetrical forceps. *Tr. Rhode Island M. Soc.* 1880. *Providence*. II. 300-312. — **Faye, F. C.** Nogle Bemærkninger om Brug og Nytte af Forføsningsstangen over for Anvendelse af en relativ hyppigere Perforation paa levende Bøfn. [On use of forceps especially to avoid embryotomy.] *Norsk Mag. f. Lægevidensk. Christiania*. XI. 875-888. — **Griswold, R. M.** A plea for the more frequent use of the obstetric forceps. *Independ. Pract. N. Y.* II. 454-460. — **Jakesch, W.** Die Zange bei Scheitellagen und am nachfolgenden Kopfe. *Prag. med. Wehnschr.* VI. 495-497. — **Jakesch**. Ueber die Anwendung der Zange bei Scheitellagen. *Wien. med. Presse*. XXII. 1581-1584. — **More, J.** Use of the catheter before forceps-delivery. *Tr. Edinb. Obst. Soc.* VI. 100-111. *Also*, *Edinb. M. J.* 1881-82. XXVII. 244-254. — **Ponte**. El uso del forceps. *Gac. cient. de Venezuela. Caracas*. IV. 2-5. — **Quinn, T. C.** Incisions for the use of the forceps. *Am. Pract. Louisville*. XXIII. 257-277. — **Itamella, A.** Aplicacion del forceps; desgarradura incompleta del periné; infección consecutiva; erisipela gangrenosa y errática como manifestacion de aquella; empleo de la resorcina; curacion. *Union méd. Caracas*. I. 107. — **Roper, G.** A fragment of experience in the frequent and unfrequent use of the forceps. *Brit. M. J. Lond.* I. 638. — **De Rossett, J. M.** A rare result in an attempt to deliver with the forceps. *Am. Pract. Louisville*. XXIV. 16-18. — **Thomas, J. D.** Paralysis of the lower extremities following the use of the obstetrical forceps. *Pittsburgh M. J.* 1880-81. I. 41-44. — **Vogt, H.** Instrumentalhjälp i Jordemoderpraxis. [Use of forceps by midwives.] *Norsk Mag. f.*

Lagevidensk. *Christiania*. XI. 257-271.

### LABOR, Lingering.

**Apostoli, G.** Les accouchements par l'électricité. Tr. Internat. M. Cong. 7. sess. *Lond.* IV. 376-382. — **Antigüedad Diez, F.** Parto laborioso por inercia de la matriz, extracción de la placenta, fiebre puerperal y flegrmasia alba dolens. An. de obst., ginec. y pediat. *Madrid*. 2 ép. I. 297-307. — **Blackwood, W. R. D.** The induction current in parturient uterine atony. *Am. J. Obst. N. Y.* XIV. 296-303. — **Hamilton, G.** On the management of tedious labours. *Edinb. M. J.* 1881-82. XXVII. 433-435. — **Helot, P.** Recherches sur les contractions utérines provoquées par l'électricité. *Ann. de gynéc. Par.* XVI. 321-331. — **Lizé.** Note sur la rétrocession du travail de l'accouchement. *Ann. de gynéc. Par.* XVI. 279.

### LABOR, Premature.

**HORWITZ, M.** Zur Lehre von der künstlichen Unterbrechung der Schwangerschaft. *Gießen*. 8°

**KELLER, G.** \*Einleitung der künstlichen Frühgeburt und des Abortus durch die heisse Douche. *Tübing.* 8°

**VAYSSETTES, G.** Étude clinique de l'accouchement prématuré accidentel, suivie de recherches historiques et cliniques sur l'accouchement prématuré artificiel à Lyon. *Lyon*. 4°

**Ahlfeld, F.** Ueber Indicationen zum künstlichen Abort und über Ausführung desselben. *Arch. f. Gynaek. Berl.* XVIII. 307-318. — **Budin.** Accouchement prématuré artificiel. *Gaz. d. hôp. Par.* LIV. 1050-1052. — **Charles, N.** Secondipare tuberculeuse à 7 mois de grossesse; diamètre sacro-pubien mesurant 5 centimètres; présentation du sommet en O. J. D. P.; accouchement prématuré, provoqué par la méthode de Krause; présentation de l'épaule gauche en première position, version podalique et extraction; suites de couches heureuses. *J. d'accouch. Liège*. II. 125-128. — **Charlier.** Rétrécissement du bassin; accouchement prématuré artificiel; insuccès relatif de la pilocarpine. *Presse méd. belge. Brux.* XXXIII. 297. — **Depaul.** Considérations sur l'accouchement avant terme dans des cas de rétrécissement du bassin à 7 centimètres  $\frac{1}{2}$ . *J. d. sages-femmes. Par.* IX. 249. — **Depaul.** Deux bassins de 8 centimètres; indication de l'accouchement provoqué. *J. d. sages-femmes. Par.* IX. 313. — **Depaul.** Rétrécissement du bassin; accouchement prématuré à l'éponge préparée. *France méd. Par.* II. 373-375. — **Dougall, J.** Induction of labour twice in the same patient. *Glasgow M. J.* XVI. 26. — **Heylen.** Accouchement prématuré artificiel provoqué par les injections sous-cutanées du chlorhydrate de pilocarpine. *Ann. Soc. d'anat. path. de Brux.* 1879.

XXVIII. 218-222. — **Joyce, T.** Induction of premature labour at the eighth month. *Brit. M. J. Lond.* II. 626. — **Nasmyth, T. G.** Induction of premature labour in a woman who had been delivered formerly by craniotomy; child alive. *Edinb. M. J.* 1881-82. XXVII. 720. — **Priestley, W. O.** On the induction of abortion as a therapeutic measure. *Tr. Obst. Soc. Lond.* (1880). XXII. 271-287. — **Reamy, T. A.** Induction of premature labor. [Synopsis of a lecture.] *Cincin. Lancet & Clinic.* N. s. VI. 333-337. — **Richardson, W. L.** Deformed pelvis; induction of labor. *Boston M. & S. J. Civ.* 245. — **Richardson, W. L.** Manual dilatation of the os uteri as a means of inducing premature labor. *Tr. Am. Gynec. Soc.* 1880. *Bost.* V. 351-358. *Also*, Reprint. — **Sabarth, F.** Ueber die Einleitung der künstlichen Frühgeburt bei Beckenenge. *Breslau. aerztl. Ztschr.* III. 181, 194, 207. — **Trush, J.** Induction of premature labor for contracted pelvis. *Obst. Gaz. Cincin.* 1881-82. IV. 176-182. — **Wiinckel.** Beitrag zur Beurtheilung des Werthes der künstlichen Frühgeburt bei Beckenenge. *Centralbl. f. Gynäk. Leipz.* V. 197-203.

### LABOR, Sequelæ of. See, also, Fistula, etc.; Loehia; Perineum, Laceration of the; Phlegmasia Dolens; Puerperal Fever, etc.

**Destrée, E.** Gangrène du vagin et de l'utérus par compression, suivie de métror-péritonite; mort; autopsie. *Presse méd. belge. Brux.* XXXIII. 217-219. — **Hibberd, J. F.** Accidents to the perineum after parturition. *Am. Prac. Louisville.* XXIV. 65-70. — **Joslin, B. F.** Four instances of separation of linea alba, occurring during pregnancy and parturition, causing in three cases extensive ventral hernia, and in all four, peritonitis; fatal result in one instance. *Homeop. J. Obst. N. Y.* III. 251-267. — **Mackintosh, E. E.** False aneurism of the labium (commonly called thrombus) following parturition. *Glasgow M. J.* XVI. 276-278. — **Mekertschiantz.** Ueber die Centralrisse der hinteren Lippe des Scheidentheils während der Geburt. *Centralbl. f. Gynäk. Leipz.* V. 311-316. — **Tauffer, W.** Ueber die Verletzungen der weichen Geburtswege, mit Anführung zweier Fälle. *Pest. med. chir. Presse. Budapest.* XVII. 85, 105.

### LABOR with Abnormal Presentation.

**GESANG, JOSEPH.** \*Ueber die manuelle Umwandlung der Gesichtslagen in Schädellagen. *Marburg.* R. Friedrich. 17 pp. 8°

**KOENIG, ADOLF.** \*Die Extraction des Kindes am Steiss mittelst eines Taschentuchs. [Marburg.] *Hofheim a. T. C. Reuter.* 20 pp. 8°

**KOLLOSSER, W.** \*Ueber Gesichtslagen und deren manuelle



Umwandlung in Hinterhauptslagen mit Veröffentlichung einiger Fälle aus der Halle'schen geburtshilflichen Poliklinik. 8° Halle. 1880.

LOCHARD, GUSTAVE. \*Étude sur les positions occipito-postérieures. Paris. 57 pp. 4° No. 243.

DA ROCHA, A. M. \*Indicações das apresentações de face. 4° Rio de Janeiro. 1880.

Affatati, O. Contribuzione alla caustica del parto spontaneo (evoluzione spontanea) nelle presentazioni della spalla. Gior. internaz. d. sc. med. Napoli. N. s. III. 1293-1297. — Ayuso, A. M. Version podalica practicada á favor de la anestesia combinada en una presentacion de tronco. An. de obst., ginep. y pediat. Madrid. 2 ép. I. 233-240. — Benli, W. T. A case of malposition of the fœtus sixty hours in labor. South M. Rec. Atlanta. XI. 368. — Bidder, E. Die mechanische Behandlung verschleppter Querlagen. Ztschr. f. Geburtsh. u. Gynäk. Stuttg. VI. 333-351. — Biller, E. F. Mechanisches posobie pri tak naz. zapushennich poperechn. polojenijach. [External version in transverse presentation.] Vrach. St. Petersb. II. 101, 126. — Boncinelli, F. Del parto per la spalla e del modo di favorirlo e praticarlo artificialmente. Imparziale. Firenze. XXI. 33, 74, 105, 140, 173. — Bosch, J. Caso de distosia por una presentacion rara; estraccion forzada de los secundinos. Union med. Caracas. I. 82. — Van den Bosch, H. Présentation de l'épaule droite avec dégagement du bras et proci-

de du cordon ombilical; version impossible; décollation par le procédé du prof. Wasseige. J. de méd., chir. et pharm'col. Brux. LXXIII. 145-147. — Budin, P. Du diagnostic, pendant la grossesse, de la présentation définitive de l'extrémité pelvienne. Progrès méd. Par. IX. 495, 514. — Bunge, O. Beschreibung einer neuen Schlinge zur Vollendung der Geburt bei Beckenendlagen. Centralbl. f. Gynäk. Leipz. V. 179-182. — Cantacuzène. Note pour servir à l'histoire clinique des présentations de l'extrémité pelvienne. Union méd. Par. 3 s. XXXII. 1081-1085. — Chalot, V. Prés-

entation du tronc céphalo-iliaque gauche, dos en arrière, avec proci-

de du cordon ombilical, de la main et du pied gauches; version podalique complétée; succès. Gaz. heb. d. sc. méd. de Montpel. III. 145-147. — Charles, N. Multipare à terme; présentation de l'épaule droite en 1<sup>re</sup> position; eaux écoulées depuis 18 heures; version podalique; succès pour la mère et l'enfant. J. d'accouch. Liège. II. 93. — Chiarleoni, G. Distocia meccanica fetale per presentazione del fronte. Ann. d'ostet. Milano. III. 3, 102. — Croom, J. H. A complication of occipito-posterior positions of the vertex. Tr. Edinb. Obst. Soc. VI. 92-100. — Croom, J. H. On a complication of occipito-posterior positions of the vertex. Edinb. M. J. 1880-81. XXVI. 1078-1085. — Depaul.

Céphalo-latérale-droite de l'épaule droite; enfant mort; version pelvienne. J. d. sages-femmes. Par. IX. 290. — Depaul. De l'accouchement par l'extrémité pelvienne. Praticien. Par. IV. 275-283. — Depaul. Mento-iliaque-gauche antérieure; rupture prématurée des membranes; application de forceps; enfant mort. J. d. sages-femmes. Par. IX. 369. — Depaul. Occipito-iliaque-droite-postérieure terminée sans réduction. J. d. sages-femmes. Par. IX. 217. — Depaul. Occipito-iliaque droite postérieure non réduite. J. d. sages-femmes. Par. IX. 290. — Depaul. Occipito-iliaque-gauche-postérieure; travail de 41 heures  $\frac{1}{2}$ ; fistule vésico-vaginale. J. d. sages-femmes. Par. IX. 345. — Donaldson, W. A method of facilitating version in cases of neglected shoulder-presentation. Brit. M. J. Lond. 511. — Fifield. A case of labor with abnormal presentation; decapitation. Boston M. & S. J. CIV. 133. — Grassi, E. Sostituzione d'una presentazione del tronco a quella originaria delle natiche avvenuta dopo la rottura del sacco. Imparziale. Firenze. XXI. 361-366. Also, Medicina e la chir. Roma. III. 99-101. — Green, T. B. Bad case of neglected shoulder presentation, treated by removal of arm through sleeve of skin and version. Brit. M. J. Lond. I. 720. — Grynfeltt, J. Un cas d'application du forceps sur le siège. Gaz. heb. d. sc. méd. de Montpel. III. 434, 446. — Hamon, L. Dystocie pelvienne; présentation du siège. J. d. sages-femmes. Par. IX. 253-260. — Hamon de Fresnay, L. Le forceps, le céphalotribe, le crochet et le rétroceps dans les cas de dystocie par présentation du siège. Siècle méd. Par. II. 81, 92. — Marsden, J. H. A peculiarly difficult case of shoulder presentation, with practical inferences. Homœop. J. Obst. N. Y. 1881-82. III. 249-258. — Massaretti, C. Considerazioni intorno l'evoluzione pelvica spontanea, e modo di praticarla artificialmente in caso d'impegno profondo della spalla, evitando possibilmente la eversione e la decollazione del feto. Riv. clin. di Bologna. 3 s. I. 641-657. — Murray, R. M. A difficult face case, complicated with shoulder dystocia from an unusual position of the arms. Edinb. M. J. 1881-82. XXVII. 890-899. 2 pl. — Occipito-postérieures, Des; fréquence, diagnostic; terminaisons; causes de la rotation en avant; rotation naturelle, artificielle; le tronc suit-il le mouvement? J. d'accouch. Liège. II. 173-181. — Perkins, J. T. A rare presentation. Med. Rec. N. Y. XIX. 429. — Revilla, N. Parto en presentacion de hombro; posicion céphalo-ílica izquierda; insercion viciosa de la placenta y desprendimiento parcial de la misma; metrorragia grave; version podalica con éxito feliz; pronto restablecimiento. Génio. méd.quir. Madrid. XXVIII. 353. — Rey, M. Auscultation dans un cas de présentation du siège. Gaz. méd. de Par. 6 s. III. 203. — Sromatnikoff, I. M. O nepravilnom povortnie pleche i golovki pri temennich polojenijach ploda. [On the vicious turning of the shoulders and head

in head presentations.] *Vrach. St. Petersb.* II. 613, 630. — **Von Weckbecker-Sternefeld, H.** Beitrag zur Frage über die Behandlung der Steisslagen mit der Schlinge. *Arch. f. Gynaek. Berl.* XVIII. 319-340.

#### LABOR with Fetal Abnormalities.

**Brown, H. M.** A case of complete eventration of the fetus in utero complicating labor. *Am. J. Obst. N. Y.* XIV. 551-553. — **Charles, N.** Multipare à terme; dystocie par excès de volume du crâne fetal sans hydrocéphalie; application infructueuses du forceps; perforation du sommet et céphalotripsie; délivrance artificielle; suites de couches heureuses. *J. d'accouch. Liège.* II. 77. *Also, J. d. sages-femmes. Par.* 1881. IX. 299. — **Charles, N.** Multipare à terme; présentation du siège; impossibilité d'extraire la tête, excessivement volumineuse par suite d'hydrocéphalie; évacuation aisée du liquide au moyen d'une sonde élastique introduite dans le crâne par le canal spinal; suites de couches excellentes. *J. d'accouch. Liège.* II. 41. — **Dougall, J.** Breech presentation; spina bifida; hydrocephalus; retained placenta. *Glasgow M. J.* XVI. 25. — **Hamon de Fresnay, L.** Breveté du cordon ombilical. *Courrier méd. Par.* XXXI. 122-124. — **Hamon, L.** Dystocie par brevété accidentelle du cordon ombilical. *J. d'accouch. Liège.* II. 62, 70. — **Herman, G. E.** Ascites in the foetus obstructing delivery. *Med. Times & Gaz. Lond.* II. 731. — **Multipare** à terme, dont tous les enfants viennent au monde avec des circulaires du cordon autour du cou; présentation du sommet en O. I. D. P.; application du forceps au détroit supérieur; rotation en avant au détroit inférieur; extraction d'un enfant fortement asphyxié; suites heureuses pour la mère. *J. d'accouch. Liège.* II. 157-159. — **Mundé, P. F.** Dystocia from hydrocephalus. *Am. J. Obst. N. Y.* XIV. 662. — **Nagle, F. O.** A case of dystocia; relief by episiotomy. *Med. & Surg. Reporter. Phila.* XLIV. 670. — **Patoir.** Dystocie foetale causée par le développement considérable de la vessie, suite d'imperforation du canal de l'urètre. *Bull. méd. du nord. Lille.* XX. 581-589. *Also, J. d. sages-femmes. Par.* 1882. X. 43-45. — **Phänomenow.** Beitrag zur Casuistik der durch die Frucht bedingten Geburtshindernisse. *Arch. f. Gynaek. Berl.* XVII. 133-139. — **Pucci, P.** Storia di un caso di distocia meccanica dipendente dalla riunione di due feti. *Riv. clin. di Bologna.* 3 s. I. 609-612. — **Roeha, A.** Caso de distocia fetal. *Coimbra med. I.* 33, 53. — **Simpson, A. R.** Dystocia from exomphalos of the foetus. *Edinb. M. J.* 1881-82. XXVII. 873-878. 1 pl. — **Taylor, J.** Dystocia from hydrocephalus, with remarks. *Glasgow M. J.* XV. 202-205. — **Taylor, W. T.** Difficulties of a twin labor. *Med. Bull. Phila.* III. 279. — **Vermeil.** Rétention d'urine du foetus cause de dystocie; arrêt du développement de l'urètre; hydronéphrose congénitale; déformation mécanique du squelette. *France méd. Par.* II. 482-485.

#### LABOR with Maternal Abnormalities.

**AMELINE, MICHEL.** \*Des tumeurs fibreuses de l'utérus considérées au moment de l'accouchement. *Paris.* 41 pp. 4°

**CHANTREUIL, G.** De la hauteur exagérée de la symphyse pubienne comme cause de dystocie. [From: *France méd.*] *In his: Clin. d'accouch.* 8° *Paris.* 102.

**HAMANN, ALBERT.** \*Ein Fall von pseudo-osteo-malacischer Beckenform. *Halle a. S. R. Nietschmann.* 29 pp. 2 pl. 8°

**LEFHOZ, CARL.** \*Beiträge zur Complication der Geburt durch Geschwülste der Weichtheile im kleinen Becken. *Halle a. S. R. Nietschmann.* 33 pp. 8°

**VON MICHELIS, A.** \*Einige Beobachtungen über den Geburtsverlauf bei engem Becken. 8° *Würzburg.* 1880.

**SCHWARZ, ALBERT.** \*Ueber Conglutinatio orificii uteri externi. [Erlangen.] *Memmingen.* 1880. I. Otto. 27 pp. 8°

**Aguado Morari, F.** Distocia por fibroma uterino; terminación por la muerte. *Siglo méd. Madrid.* XXVIII. 664-667. — **Bailey, W. H.** Obstructed labor caused by rapidly forming tumor. *Med. Ann. Albany.* II. (Tr. M. Soc. County Albany. 185.) — **Van den Bosch.** Bassin rachitique cypho-scoliotique; présentation du sommet; palper très favorable; application du forceps Tarnier; enfant vivant; femme guérie. *Bull. Acad. roy. de méd. de Belg.* 3 s. XV. 849-859. 1 tab. — **Budin.** Orifice microscopique du col de l'utérus; phénomènes d'oblitération au moment de l'accouchement chez une femme primipare. *Gaz. d. hôp. Par.* LIV. 995-997. — **Del Busto, A.** Estudio de un parto natural en una raquítica con estrechez pelviana de cuarto grado. *An. de obst., ginepat. y pediat. Madrid.* 2 ép. I. 41-59. — **Del Busto, A.** Estudio de un parto natural en una raquítica con estrechez pelviana de cuarto grado. *Jurado méd.-farm. Madrid.* II. 123, 132, 139, 147, 156, 162. — **Caneva, G.** Di un caso di fibromi multiple dell'utero complicanti il parto. *Gazz. d. osp. Milano.* II. 14-22. — **Cassin, P.** Note sur trois cas d'anomalie des organes génitaux dans leurs rapports avec l'accouchement. [From: *Lyon méd.*] *J. d. sages-femmes. Par.* IX. 196. — **Chafot.** Grossesse et accouchement compliqués de cancer utéro-vaginal. *Gaz. hebdom. d. sc. méd. de Montpel.* III. 363-365. — **Chiara, D.** Del parto prematuro al taglio cesareo; divagamenti ostetico-statistici. *Gior. internaz. d. sc. med. Napoli.* 1880. II. 1248-1253. — **Clark, C. S.** A case of uterine polypus complicating pregnancy. *Gaillard's M. J. N. Y.* XXXII. 296. — **Cuzzi, A.** Forcipe e

riovolgimento nel bacino ovale-obliquo. Gior. internaz. d. sc. med. *Napoli*. N. s. III. 941-962. — **Depaul**. Bassin rétréci chez une femme en travail depuis 60 heures; mort de l'enfant; perforation du crâne; application de forceps; accouchement. Praticien. *Par.* IV. 592-594. — **Depaul**. Femme cyphotique; accouchement avant terme; hémorrhagie peu abondante; mort après vingt minutes. J. d. sages-femmes. *Par.* IX. 193. — **Dumas, L.** Bassin cypho-scoliotique rachitique; prédominance de la forme scoliotique, saillie du promontoire; version podalique, extraction d'un fœtus vivant; mort de l'enfant le onzième jour; issue heureuse pour la mère. Montpel. méd. XLVII. 230, 323. — **Duncan**. Case of protracted labour from occlusion of the os uteri; incision; forceps. Canada M. & S. J. *Montreal*. 1881-82. X. 10-13. — **Gusserow**. Ein schrägverengtes Becken. *Ztschr. f. Geburtsh. u. Gynäk. Stuttg.* VI. 412. — **Hamon**. Rétrécissement à 0<sup>m</sup>.07 du droit conjugué; travail de quatre jours; extraction rapide et facile d'un enfant vivant; rétablissement de la mère sans la moindre complication. J. d'accouch. *Liège*. II. 102, 111. — **Hart, D. B.** The causation of the movements of the head at the brim of the rickety pelvis; with illustrative cases and some remarks on treatment. *Edinb. M. J.* 1881-82. XXVII. 613-621. — **Von Hecker, C.** Ueber ein durch rechtsseitige chronische Coxitis in hohem Grade verengtes Becken. *Arch. f. Gynaek. Berl.* XVIII. 44-49. 1 pl. — **Henning, B. G.** Thrombus or hematocoele complicating labor. Mississippi Valley M. Month. *Memphis*. I. 402-405. — **Hosmer, A.** A peculiar condition of the cervix uteri which is found in certain cases of dystocia. *Boston M. & S. J. CV.* 368-372. — **Inverardi, G.** Descrizione di un bacino cifotico. *Ann. di ostet. Milano*. III. 171-207. 1 pl. — **Jakins, W. V.** A case of cancer during labour. *Austral. M. J. Melbourne*. N. s. III. 203. — **Jakins, W. V.** Parturition with contracted pelvis. *Austral. M. J. Melbourne*. N. s. III. 398-400. — **Janinet, L.** De l'accouchement chez les femmes à deux vagins. [From: *Paris méd.*] *Arch. de tocol. Par.* VIII. 171-173. — **Jordan, H.** Uwagi z powodu szerzenia się chorób potogowych pomiędzy ludnością żydowską w Krakowie. [Hourglass contraction in Jewish women in Cracow.] *Przegl. lek. Kraków*. XX. 101, 136. — **Lebedeff, A. I.** Zadacha akushera pri podach oslojennich rakom sheiki matki. k kazuist. nadrezov na matochnoi sheike. [Delivery in cancer of neck of uterus.] *Ejened. klin. gaz. St. Petersburg*. I. 538-568. — **Lerch, A., Jr.** Der Mutterhals als Geburtshinderniss. *Med.-chir. Centrabl. Wien*. XVI. 97, 109, 121, 133, 145, 157, 163. — **Makeyew, A.** Becken einer Multipara mit einer Neubildung auf dessen Vorderwand. *Arch. f. Gynaek. Berl.* XVIII. 175-177. — **Marchionneschi, O.** Gravidanza e parto in donna rachitica. *Ann. di ostet. Milano*. III. 513-538. — **Maurice, E. F.** Cas de dystocie par tumeurs cancéreuses du col utérin. *Ann. Soc. de méd. de St. Etienne et de la Loire* (1877-80). VII. 117-119. — **Ory, E.** Dystocie par cloisonnement

transversal, diaphragmatique, perforé, du vagin (colposténose congénitale); incisions du diaphragme au moment du travail de l'accouchement; application de forceps; guérison. *France méd. Par.* II. 541-544. *Also*, *Rev. méd.-chir. d. mal. d. femmes. Par.* 1882. IV. 99-102. — **Palop Segovia, F.** Un caso de distocia por obliteracion del orificio uterino. *Prensa med. de Granada*. III. 215-218. — **Pilat**. Rétrécissement du bassin à 7 centimètres  $\frac{1}{2}$  dans le conjugué vrai; forceps; enfant vivant; guérison de la mère. J. d. sages-femmes. *Par.* IX. 338. — **Ponte, M. M.** Cistocéle vaginal, como causa de distocia; aplicacion del fórceps, exito feliz para la madre i para el hijo. *Gac. cient. de Venezuela. Carácas*. 1881-82. IV. 35. — **Poulet, V.** Contribution à l'étude de la dystocie occasionnée par la présence d'une tumeur pelvienne. *Concours méd. Par.* III. 13, 26, 38. — **Poulet, V.** Reflexions sur plusieurs cas de dystocie occasionnée par une tumeur intra-pelvienne. *Concours méd. Par.* III. 183, 195. — **Rex, O. P.** Hour-glass contraction of the uterus. *Tr. Phila. Obst. Soc.* (1880). 41-43. — **Rex, O. P.** Hour-glass contraction of the uterus. *Am. J. Obst. N. Y.* XIV. 135. — **Richardson**. Hydrate of chloral in cases of rigid os uteri. *Boston M. & S. J. CIV.* 133. — **Richardson, W. L.** Three successive deliveries in a case of narrowed pelvis. *N. York M. J.* XXXIV. 285-287. — **Riez**. Bassin rétréci; opération du forceps-scie; métrô-péritonite compliquée de pneumonie. *Ann. soc. d'anat. path. de Brux.* 1878. XXVII. 143-147. — **Rochet**. Primipare de 39 ans à terme; travail durant depuis plusieurs jours; rupture de la poche des eaux datant de 16 heures; rétrécissement du bassin de 63 millim.; forceps-scie; adhérences placentaires; guérison. J. d'accouch. *Liège*. II. 206-208. — **Ronaldson, T. R.** On two cases of labour in rickety pelvis. *Tr. Edinb. Obst. Soc.* VI. 219-221. — **Roper, G.** On trismus and tetanus of the uterus in labor. *Tr. Internat. M. Cong.* 7 sess. *Lond.* IV. 362-374. — **Sacchi, P.** Distocia per miofibromi dell' utero. *Bull. d. Comit. med. Cremonese. Cremona*. I. 62-64. — **Sang, W.** Fibroid tumour of the uterus complicating labour. *Tr. Edinb. Obst. Soc.* VI. 63-70. — **Sang, W.** Fibroid tumour of the uterus complicating labour; delivery with forceps. *Edinb. M. J.* 1881-82. XXVII. 38-44. — **Smith, A. J.** A sacral exostosis in the way of natural labor. *Elect. M. J. Cincin.* XLI. 489-491. — **Smith, H.** Delivery through an imperforate vagina. *Brit. M. J. Lond.* I. 684. — **Stadfeldt, A. S. N.** Fødslen ved Baekkenets Sulster, med saerligt Hensyn til Anvendelsen af Laparo - Hysterotomien. *Laparo-Elytrotomien og Hysterotomien. Festskr.... d. lægevidensk. Fak. v. Kjøbenhavn. Univ. Kjøbenhavn*. 1879. No. 2/1-72. 2 pl. — **Ten Eyck, A. P.** Occlusion of the vagina complicating labor. *Med. Ann. Albany*. II. (Tr. M. Soc. County Albany, 176.) — **Turner, W.** Delivery by the breech through a greatly narrowed, flat, rachitic pelvis. *Tr. Edinb. Obst. Soc.* VI. 111-127. 2 pl. — **Tur-**

**ner, W.** Delivery by the breech through a greatly narrowed, flat, rachitic pelvis. *Edinb. M. J.* 1881-82. XXVII. 44-57. 2 pl. — **Vittorelli, C.** Dei fibromi dell' utero durante e dopo il parto; storie cliniche. Movimento. *Napoli.* 2 s. III. 81-88. — **Wiener.** Ueber Carcinoma uteri als Schwangerschafts- und Geburtscomplication. Jahresb. d. schles. Gesellsch. f. vaterl. Kult. 1880. *Bresl.* LVIII. 2-11. — **Wilson, W. R.** Uterine fibroid complicating labor; what is the proper treatment? *North Car. M. J. Wilmington.* VIII. 138-140. — **Yarnall, M.** Forceps versus podalic version in contraction of the pelvis in the antero-posterior diameter of the superior strait. *St. Louis Cour. Med.* V. 101-106.

### LACTATION.

**Duval, René.** \*De la sécrétion mammaire non-puerpérale. *Paris.* 65 pp. 4°

**DE FOURCAULD.** Des rapports qui existent entre le non-allaitement et les diverses affections de l'appareil utéro-ovarien. *Paris.* 8°

**Dolan, T. M.** An experimental inquiry into human milk, and the effects of drugs during lactation on either nurse or nursing; with chemical analyses, by W. H. Wood. Practitioner. *Lond.* XXVI. 85-99. — **Durand, M.** Notes sur quelques troubles réflexes observés pendant l'allaitement. *J. de méd. de Bordeaux.* 1880-81. X. 438, 451, 461. — **Martin, S.** Le persil comme antilaiteux. *Bull. gén. de therap., etc. Par.* 1881. Cl. 70. — **Ricardo, N. C.** Lactation re-established. *Homœop. J. Obst. N. Y.* 1880-81. II. 428. — **St-h.** Mutterbrust und Muttermilch; ein ernstes Wort an die Mensehenärzte. *J. f. Gsundtsplfg. Wien.* V. No. 10. 1-5.

### LAPARO-ELYTROTOMY,

**Lenoel.** De la gastro-élytrotomie. *Soc. méd. d'Amiens. Bull.* (1878-79). 1880. XVIII. et XIX. 87-89. — **McCormack, J. N.** Laparo-elytrotomy. *Am. Pract. Louisville.* XXIII. 65-72.

### LAPAROTOMY.

**Bardenheuer.** Ueber die Drainage der Peritonealhöhle. *Arch. f. Gynaek. Berl.* XVIII. 465-472. — **Bauer, L.** Case of abdominal tumor [extra-uterine]; laparotomy; recovery. *St. Louis Clin. Rec.* 1881-82. VIII. 42. — **Janvrin.** The question of retreating after opening the peritonæum for the removal of tumors. *N. York M. J.* XXXIV. 70. — **Kemperdick, W.** Laparotomie wegen einer in die weiblichen Genitalien eingeführten Gänsefeder. *Deutsche med. Wchnschr. Berl.* VII. 49-54. — **Langenbuch, C.** Laparohysterotomie wegen Fibromyoma, Ileus, Heilung. *Berlin. klin. Wchnschr.* XVIII. 121-124. — **Rydygier.** 10 przypadków laparotomii [10 cases of laparotomy.] *Przegled. lek. Kraków.* XX. 401, 427. — **Tait, L.** An account of one hundred and ten consecutive cases of abdominal section performed since the 1st of November, 1880. *Med. Times & Gaz. Lond.* II. 544-546, 625-

627. — **Thornton, J. K.** One hundred and seventy-two antiseptic abdominal sections, with remarks on the causes of death in the fatal cases. *Med.-Chir. Tr. Lond.* 2 s. XLVI. 139-165. — **Underhill, C. E.** Historical note on a case of abdominal section in the sixteenth century. *Edinb. M. J.* 1881-82. XXVII. 80-85. — **Zweifel.** Casuistische Beiträge; insbesondere über die Laparotomien und Fisteloperationen. *Berl. klin. Wchnschr.* XVIII. 305, 327, 342.

### LEUCORRHEA.

**Drury, C. D. H.** Backache. *Brit. M. J. Lond.* I. 467. — **Roe, A. J.** Berberis aquifolium, oleic iodoform and oleate of bismuth in leucorrhœa. *Therap. Gaz. Detroit. N. s.* II. 131.

### LEVATOR-ANI MUSCLE.

**Budin, P.** Quelques remarques sur la contraction physiologique et pathologique du muscle releveur de l'anus chez la femme. *Progrès méd. Par.* IX. 613, 631, 657, 675.

### LIGAMENT, BROAD.

**Heineman.** Abscess of the broad ligament. *Med. Rec. N. Y.* XX. 553.

### LIQUOR AMNII. See, also, Amnion.

**Wiener.** Ueber die Herkunft des Fruchtwassers. Jahresb. d. schles. Gesellschaft. f. vaterl. Kult. 1880. *Bresl.* LVIII. 56-58. *Also, Arch. f. Gynaek. Berl.* XVII. 24-44.

### LITHOPEDION.

**Küchenmeister.** Ueber eine Abdominal-Schwangerschaft, die vor 57 Jahren (1823) begann und am 1. Juni 1880 mit dem Tode der Frau endete, und über Steinkinder im Allgemeinen. Jahresb. d. Gesellschaft. f. Nat.-u. Heilk. in Dresd. 1880-81. 9. — **Küchenmeister.** Ueber Lithopädien. *Arch. f. Gynaek. Berl.* XVII. 153-259. 2 pl.

### LITHOTOMY.

**Durham, W. M.** A case of lithotomy [girl of six]. *Georgia & Tenn. Eclect. M. J. Atlanta.* 1881-82. III. 186.

### LIVER, Acute Yellow Atrophy of the.

**Grammatikak, I. N.** Ostraja jeltaja atrophija pečeni ve techenii beremennosti. [Acute yellow atrophy of liver in pregnancy.] *Ejened. klin. gaz. St. Petersburg.* I. 428-437.

### LOCHIA.

**Clark, P. H.** Suspended lochia with fatal results. *Detroit Lancet.* 1881-82. N. s. V. 45.

### MAMMA. See Breast.

### MEDICATION, Topical.

**Heussi.** Kühlapparat für die weiblichen Sexualorgane. *Berl. klin. Wchnschr.* XVIII. 153-156. — **Walter.** The various uses of intra-uterine injections of hot water in obstetric practice. *Brit. M. J. Lond.* I. 1004.

### MENSES, Retained.

**Carter, C. H.** Absence of the va-

gina; uterus distended by retained menstrual fluid; operation; recovery. *Tr. Obst. Soc. Lond.* (1880). XXII. 251-260.—**Pirovano, I.** Atresia puntiforme de la vagina; menstruacion laboriosa; operacion. *Rev. méd.-quir. Buenos Aires.* 1881-82. XVIII. 83.

## MENSTRUATION.

GENET, PAUL - ALEXANDRE.

\*Considérations cliniques et physiologiques sur des troubles survenant du côté des amygdales pendant la menstruation. *Paris.* 32 pp. 4°

GUÉNOT, ZENAYDE. \*Étude sur la physiologie de la menstruation et sur ses rapports avec l'arthritisme et la scrofule. *Paris.* 59 pp. 4°

MISTRAL, ALEXANDRE. \*Essai clinique sur les troubles de la menstruation. *Paris.* 80 pp. 4°

SIMPSON, A. R. Emmenologia; an inaugural address. 8° *Edinburgh.* 1876.

**Barthel, E.** Ueber das Verhalten der Menstruation und über die Häufigkeit der Pseudo-menstruation bei den verschiedenen Typhus-formen. *St. Petersb. med. Wchnschr.* VI. 15.—**Dubois.** De l'hémorrhagie cataméniale. *Soc. méd. d'Amiens. Bull.* (1878-79). 1880. XVIII. et XIX. 163-165.—**Fleury.** De l'hémorrhagie chez les femmes opérées de la hernie à l'époque de la menstruation. *Gaz. hebdom. Par.* 2 s. XVIII. 773-775.—**Fothergill, J. M.** The systemic relations of the menstrual week. *Am. J. Obst. N. Y.* XIV. 38-47.—**Garcia Quintero, R.** Dos palabras sobre desarreglos menstruales. *Ciñica. Zaragoza.* 1881. V. 378. *Also, An. de Obst., ginec. y pediat. Madrid.* 2 ép. I. 369-372.—**Green, J. O.** Vicarious menstruation from a sebaceous tumor of the meatus. *Am. J. Otol. N. Y.* III. 133.—**Hammond, G. A.** Cases of certain menstrual neuroses. *Med. Gaz. N. Y.* VIII. 334.—**Hopper, H. A.** Menstrual headache. *Tr. M. Soc. N. Jersey. Newark.* CXV. 183-190.—**Kirk, C. D. R.** Fatal case of vicarious menstruation. *Indiana M. J. Indianapolis.* 1881-82. I. 329.—**Labbé, L.** Péritonite chronique aiguë à la suite d'un refroidissement et de l'arrêt brusque de l'écoulement menstruel. [From: France méd. *Par.* 1880. II. 533-538.—**Mann.** Vicarious menstruation; general peritonitis without characteristic symptoms. *N. York M. J.* XXXIV. 180.—**Marsh, J. O.** Menorrhagia and metrorrhagia of the climacteric period, with cases. *Obst. Gaz. Cincinnati.* IV. 285-288.—**Meadows, A.** Menstruation and its derangements. [Abstr. rep. of Harveian lectures for 1881.] *Med. Press & Circ. Lond. N. s.* XXXII. 487-489.—**Möricke, R.** Die Uterusschleimhaut in den verschiedenen Altersperioden und zur Zeit der Menstruation. *Ztschr. f. Geburtsh. u. Gynäk. Stuttgart.* VII. 84-137.—**Morse, W. II.** De-

layed menstruation and pelvic contraction. *N. York M. J.* XXXIII. 428-434.—**Noxon, Mary W.** Absence of menstruation terminating in Addison's disease. *Tr. Homœop. M. Soc. N. Y.* 1880-81. *Havana.* 1882. XVI. 355-358.—**Noxon, Mary W.** Absence of menstruation terminating in Addison's disease. *Homœop. J. Obst. N. Y.* III. 286-292.—**Pavesi, C.** Della menstruatione e specialmente della applicazione dell'acetato di sesquiossido di ferro dializzato. *Indipendente. Torino.* XXXII. 651-663.—**Prochowick.** Fall von Menstruatio præcox mit Sectionsbericht. *Arch. f. Gynaek. Berl.* XVII. 330-337.—**Queirel et Rouvier, J.** Recherches statistiques sur la menstruation à Marseille et dans les Bouches-du-Rhône. *Assoc. franç. pour l'avance d. sc. Compt. rend. 1879. Par.* 1880. VIII. 962-968.—**De Sinéty.** Recherches sur la muqueuse utérine pendant la menstruation. *Gaz. méd. de Par.* 6 s. III. 175.—**Tumeurs, Les,** péri-utérines cataméniales de cause hémorrhagique. *Gaz. d. hôp. Par.* LIV. 714.

**METRRORRHAGIA.** *See, also, Hemorrhage, Uterine.*

GUÉGAN, JULES - FORTUNÉ.  
\*Considérations sur l'emploi du café dans le traitement des métrorrhagies. *Paris.* 45 pp. 4°

## MIDWIVES.

**Dyhrenfurth, O.** Soll den Hebammen eine operative Hilfeleistung bei frischen Mittelfleischrisen gesetzlich gestattet sein? Antwort an Prof. Valenta. *Arch. f. Gynaek. Berl.* XVIII. 50-52.—**Dyhrenfurth, O.** Ueber notwendige Reformen im Hebammenwesen. *Breslau. aertzl. Ztschr.* III. 97.—**Dyhrenfurth, O.** Ueber Reformen im Hebammenwesen. Discussion. *Breslau. aertzl. Ztschr.* III. 127.—**Instrux** af 4de Novemb 1881 for samtlige til Praxis berettigede Jordemodre paa Faerøerne. [Instructions for midwives entitled to practice in Faeroe.] *Ugeskr. f. Læger. Kjøbenhavn.* 4 R. IV. 377-382.—**Von Massenbach.** Die Verbreitung der Hebammen im preussischen Staate, mit besonderer Berücksichtigung des Regierungsbezirks Köslin. *Ztschr. d. k. preuss. statist. Bureau's. Berl.* XXI. 1-18.—**Praktische** Regeln für Hebammen, entworfen von der Gesellschaft praktischer Aerzte zu Riga. *St. Petersb. med. Wchnschr.* VI. 369.—**Schmitt, J.** Antwort auf Prof. Valenta's in Laibach "Offene Frage: Soll den Hebammen eine operative Hilfeleistung bei frischen Mittelfleischrisen gesetzlich gestattet sein?" *Aertzl. Int.-Bl. München.* XXVIII. 86.—**Valenta, A.** Soll den Hebammen eine operative Hilfeleistung bei frischen Mittelfleischrisen gesetzlich gestattet sein? [From: *Arch. f. Gynaek. Berl.* XVII.] *Oesterr. ärztl. Vereinsztg. Wien.* V. 34.

## MILK.

**Radenhausen, P.** Die Frauenmilch. *Ztschr. f. physiol. Chem. Strassb.* V. 272.

## MOLE, Hydatidiform.

**Donoso, A. G.** Una mola hidatidiforme. *Rev. méd. de Chile. Sant. de Chile.* 1880-81. IX. 334-336. — **Fischel.** Hydatid mole. *St. Louis M. & S. J.* XLII. 106. — **Lewis, E. S.** Hydatidiform mole. *N. Or. M. & S. J.* 1881-82. N. s. IX. 401-406. — **Magnin.** Mole hydatique; expulsion au quatrième mois de la grossesse. *J. de méd. et chir. prat. Par.* LII. 499-501. — **Sackett, S. P.** Case of hydatids. *Obst. Gaz. Cincin.* 1881-82. IV. 174-176.

## MONSTERS.

**BECKER, ERNST.** \*Ein Fall von Bauchblasengenitalspalte mit Kloakenbildung und Dicephalus tripus dibrachius. *Göttingen.* E. A. Huth. 26 pp. 2 pl. 8°

**BEUTNER, FERDINAND.** \*Ein Fall von Doppelmissbildung (Thoracopagus tetrabrachius). *Erlangen.* 1880. E. Th. Jacob. 24 pp. 2 pl. 8°

**Allen.** A typical acephale. *Austral. M. J. Melbourne.* N. s. III. 409. — **Blauks, J. H.** A case of monstrosity. *N. Or. M. & S. J.* 1881-82. N. s. IX. 424. — **Blodgett, A. W.** Description of a double monster; foetus diccephalus, hydrocephalus, anencephalus, microcephalus. *Boston M. & S. J. CV.* 194-197. — **Brenzinger.** Eine Missgeburt. *Aerztl. Mitth. a. Baden. Karlsruhe.* 1877. XXXI. 43-46. — **Breus, C.** Geburt einer Missbildung: Hernia funiculumbilicalis, Hydrocephalus. *Wien. med. Wechschr.* XXXI. 300-302. — **Burke, C. C.** Case of monstrosity. [Texarkana twins.] *N. Or. M. & S. J.* 1880-81. N. s. VIII. 1025. — **Charon.** Un monstre ectromélien. *Ann. Soc. d'anat. path. de Brux.* 1880. XXIX. 187-191. 1 pl. — **Cintra, S.** Monstre unitaire de l'ordre des omphalosités, famille des acéphaliens, genre peracéphale. *Ann. Soc. d'anat. path. de Brux.* 1880. XXIX. 93-96. — **Duval, M.** Sur un monstre otocéphale. *Gaz. méd. de Par.* 6 s. III. 255. — **Eve, F. S.** Description of a double-headed human female monster born at the full term of gestation. *Tr. Obst. Soc. Lond.* (1880). XXII. 74-78. — **Garden, A.** Note of a case of heterodolphic monstrosity. *Indian M. Gaz. Calcutta.* XVI. 95. — **Gauche, P.** Note sur un cas d'anencéphalie. *Ann. Soc. de méd. de St. Etienne et de la Loire* (1877-80). VII. 331-343. — **Goode, B. P.** Anencephalic fetus. *Cincin. Lancet & Clinic.* N. s. VI. 566. — **Hein, R.** Beschreibung einer seltenen Missgeburt und Bemerkungen über ihr Entstehen. *Ztschr. f. Geburtsh. u. Gynäk. Stuttg.* VI. 352-357. 1 pl. — **Jacobs, J.** Beschrijving van het dubbel-kind Srie Sedono en Srie Gati. *Geneesk. Tijdschr. v. Nederl.-Indie. Batav.* 1880. N. s. IX. 187-193. 1 pl. — **James, C.** An anencephaloid monster. *Tr. Obst. Soc. Lond.* (1880). XXII. 241. — **Lannelongue.** Bec-de-lièvre rare chez un monstre anencéphalique; à gauche, le bec-de-lièvre est latéral et étendu jusqu'à

la paupière inférieure; à droite, il est commissural. *Bull. et mém. Soc. de chir. de Par.* N. s. VII. 483-488. — **Lebedeff, A.** Ueber Entstehung der Anencephalie und Spina bifida bei Vögeln und Menschen. *Tr. Internat. M. Cong. 7 sess. Lond.* I. 178-181. — **Lichter, D. C.** An anencephalic monster. *Cincin. Lancet & Clinic.* N. s. VI. 493-495. — **Maurice, E. F.** Note sur un monstre humain hémimèle, né à Saint-Etienne le 14 décembre, 1876. *Ann. Soc. de méd. de St. Etienne et de la Loire* (1877-80). VII. 48-52. — **McLaurin, H. N.** Twin monster. *Tr. Obst. Soc. Lond.* (1880). XXII. 155. — **Müller, E.** Beitrag zur Casuistik der menschlichen Missgeburten. *Arch. f. Gynaek. Berl.* XVII. 298-312. 1 pl. — **Murphy, J.** Double monster. *Tr. Obst. Soc. Lond.* (1880). XXII. 109. — **Note** sur un cas de tératologie. *Marseille méd.* XVIII. 545-548. — **Parada y Santin, J.** Monstruo autotiso ectroparameliano. *An. de obst., ginep. y pediat. Madrid.* 2 ép. I. 329-331. — **Parada y Santin, J.** Sobre un monstruo ameliano. *Rev. de med. y cirug. práct. Madrid.* VII. 109-119. — **Playfair, W. S.** Conjoined twins. *Tr. Obst. Soc. Lond.* (1880). XXII. 265. — **Purefoy, R. D.** On a case of arrested development. *Dublin J. M. Sc.* 3 s. LXXI. 260-262. — **Shiland, A.** United twins. *Med. Ann. Albany.* II. (Tr. M. Soc. County Albany.) 181. — **Sims, J. T., and G. W. Farrar.** A double monster. *Med. & Surg. Reporter. Phila.* XLV. 446. — **Stedman, J.** A case of united children or double monstrosity. *Boston M. & S. J. CV.* 583-586. — **Taruffi, C.** Sui gemelli monocorici; studi critici. *Bull. d. sc. med. di Bologna.* 6 s. VII. 313-347. — **Thomas, J. H.** Monstrosity. *Brit. M. J. Lond.* I. 594. — **Thomson, W. S.** Short notes on a rare obstetric case, with specimen of acephalous foetus. *Glasgow M. J.* XV. 21-23. — **Watkins, J. M.** Foetal deformities not due to heredity. *N. Or. M. & S. J.* 1881-82. N. s. IX. 425-434.

## MYOMOTOMY.

**Schücking, A.** Myomotomie mit gleichzeitiger Kastration. *Centralbl. f. Gynäk. Leipz.* V. 53-57.

## NERVOUS SYSTEM, Affections of the; from Pelvic Disease.

**Cirera, J.** Breves consideraciones acerca de los trastornos nerviosos que acompañan á algunas de las enfermedades de los órganos genitales de la mujer. *Gac. méd. catal. Barcel.* I. 161, 235, 302. — **Dubay, M.** A nők idegességéről. [Nervous diseases of women.] *Gyógyászat. Budapest.* XXI. 729-734. — **Durell, T. M.** Functional diseases of the nervous system dependent upon diseases of the uterus. *Boston M. & S. J. CV.* 253. — **Edis, A. W.** On the influence of uterine disorders in the production of numerous sympathetic disturbances of the general health and affections of special organs. *Tr. Internat. M. Cong. 7 sess. Lond.* IV. 309-312. — **Lefort, L.** L'assistance publique et la réorganisation des services d'accouchement. *Rev. scient. Par.* 3 s.

I. 346, 404.—**LITTLE, W. S.** Symptoms (reflex) in and about the eye, due to some affection of the uterus or its appendages. *Phila. M. Times.* 1880-81. XI. 581-583.—**Playfair, W. S.** Notes on the systematic treatment of nerve prostration and hysteria connected with uterine disease. *Lancet. Lond.* I. 857, 948.—**Playfair, W. S.** Further notes on the systematic treatment of nerve prostration and hysteria connected with uterine disease. *Lancet. Lond.* II. 991, 1029.—**Warren, J. S.** The hysteroneurosis of the stomach in pregnancy. *Coll. & Clin. Rec. Phila.* II. 75-78.

**NIPPLE, Diseases of the.**

**Chalot.** Phlegmon annulaire de l'aréole du sein. *Gaz. hebdom. d. sc. méd. de Montpel.* III. 253.—**Chambers, T.** Eczema of the nipple in both breasts. *Tr. Obst. Soc. Lond.* (1880). XXII. 266-269.

**OBSTETRICS.**

**APOSTOLI, G.** Sur une nouvelle application de l'électricité après les accouchements. *Paris.* 8° [Repr. from: *Ann. de gynéc.*]

**APOSTOLI, G.** De l'application de l'électricité aux accouchements; deuxième mémoire. *Paris.* 8° [Repr. from: *Rev. méd. fran. et étrang.*]

**ATKINSON, W. B.** The Therapeutics of Gynecology and Obstetrics; comprising the Medical, Dietetic, and Hygienic Treatment of Diseases of Women. 2d ed. *Philadelphia.* 8°

**BAILLY.** Les vacances d'un accoucheur; trois semaines d'excursions en Velay et en Vivarais en 1880. *Paris.* 8°

**BELLUZZI, C.** Pericoli dell' applicazione dell' uncino ostetrico all' inguine del feto nel parto per le natiche. *Bologna.* 4°

**BEUKEMANN, WILHELM.** \*Ein Beitrag zur Untersuchung über die Vertheilung der Geburten nach Monaten und zur Methodologie von Causaluntersuchungen in der Statistik. [Göttingen.] *Seesen.* J. Becker. 60 pp. 1 tab. 8°

**BOURNEVILLE et A. BLONDEAU.** Des services d'accouchements dans les hôpitaux de Paris. *Paris.* 8° [Repr. from: *Progrès méd.*]

**BUDIN, P.** Obstétrique; recherches cliniques; le palper abdominal; la présentation du siège; le releveur de l'anus chez la femme. *Paris.* 8°

**CALDERINI, G.** Le precauzioni antisettiche nella pratica ostetrica.

*Torino.* 8° [Repr. from: *Osservatore.*]

**CALDERINI, G.** R. Istituto ostetrico annesso all' ospizio di maternità nell' Università di Parma. 1° Rendiconto, anni 1872-73, 1873-74, 1874-75. 8° *Parma.* 1877.

**CHANTREUIL, G.** Clinique d'accouchements. Leçons faites à l'hôpital des cliniques. Supplément. M. le Professeur Depaul et recueillis par M. le Dr. Lordereau. *Paris.* A. Delahaye et E. Lecrosnier. 103 pp. 8°

**CHANTREUIL, G.** Cours d'accouchements de la Faculté de médecine. Agrégé suppléant de Professeur Pajot. *Paris.* A. Delahaye et E. Lecrosnier. 23 pp. 8°

**CHIARLEONI, G.** Distocia meccanica del fronte. *Milano.* 1881. 8° [Repr. from: *Ann. di ostet., ginepat. e ped.* III.]

**COTTING, BENJAMIN E.** Historical Sketch of Obstetrical Society of Boston. *Boston.* D. Clapp & Son. 34 pp. 8°

**DUBRISAY, J.** De la réorganisation des services d'accouchements dans les hôpitaux et chez les sages-femmes agréés. *Paris.* 8°

**DUPUY-WALBAUM, L. E.** Compte rendu des thèses du concours d'agrégation (section d'accouchements de l'année 1880). Avec une préface de M. le prof. Pajot. *Paris.* 8° [Repr. from: *Gaz. Obst.*]

**FABBRI, E. F.** Un difetto dell' insegnamento ostetrico. *Bologna.* 8° [Repr. from: *Bull. d. sc. med. di Bologna.*]

**GLISAN, R.** Modern Midwifery: A Text-Book of American Practice. *Philadelphia.* 8°

**HARRIS, ROBERT P.** The Practice of Obstetrics among the Chinese. *New York.* Wm. Wood & Co. 14 pp. 8° [Repr. from: *Am. J. Obst. N. Y.* XIV.]

**HOLLMANN, CARL.** \*Ueber die geburthülffliche Bedeutung des Pilocarpins. *Halle.* E. Karras. 31 pp. 8°

**HÜLFs- und Schreibkalender für Hebammen** 1882. Im Auftrage des deutschen Aerztereineverbundes hrsg. von L. Pfeiffer. 5 Jahrg. (Auszg. A. und B.) *Weimar.* 12° 2 M. 20.

**KLEINWÄCHTER, L.** Compendio

di ostetricia ad uso delle levatrici. *Innsbruck*. 8° 6 M.

KLEINWÄCHTER, L. Grundriss der Geburtshülfe für praktische Aerzte und Studierende. 2 Aufl. *Wien*. 8° 10 M.

KRASSOWSKY, A. Aus der Gebäranstalt des kaiserl. Erziehungshauses, gegenwärtig unter der Direction d. Geh.-R.... Medicinischer Bericht für die Jahre 1873-76. *St. Petersburg*. 8° 5 M.

LUSK, W. T. The Science and Art of Midwifery. *New York*. 1882. [1881.] 8°

MEADOWS, A., and A. J. VENN. A Manual of Midwifery. 4th ed., Revised and Illustrated. *London*. 12°

MEADOWS, A., and A. J. VENN. A Manual of Midwifery. 4th ed. *New York*. 16°

MINATI, C. Ostetricia minore. *Milano*. 8° L. 8.

NÉGADELLE, CHARLES. \*De la composition d'un sac obstétrical. *Paris*. 32 pp. 4° No. 171.

RENDU, J. Notes sur quelques voyages à l'étranger au point de vue de l'obstétrique et de la gynécologie (1879-80). *Paris*. 8°

REYNOLDS, J. J. Notes on Midwifery. Specially designed to assist the Student in preparing for examination. *London*. 12°

SCHROEDER, C. Manuale di ostetricia, trad. sopra la vi ediz. da G. Rocca; con prefaz. ed aggiunte di Domenico Tibone. fasc. 1° *Milano*. 8° L. 1.

TAGEBUCH für Hebammen. Verzeichniss der Entbindungen. [Nach Vorschrift des preuss. Hebammenbuchs.] *Merseburg*. 1880. 4°

ZINKEISEN. Der Mutter-Beruf, seine Forderungen für das körperliche Wohl der Frauen und die erste Pflege des Kindes. Belehrung für Frauen über die wichtigsten Pflichten der Gesundheitspflege. *Wismar*. 8° 2 M. 50.

ZWEIFEL, P. Lehrbuch der operativen Geburtshülfe für Aerzte und Studierende. *Stuttgart*. 8° 10 M. 80.

De Alarcon, G. Objeto y limites de la obstetricia. An. de obstet., ginep. y pediat. *Madrid*. 2 ép. I. 8-11. — **Bernard, M. C.** Reminiscences in midwifery practice. Med. Press & Circ. *London*. N. s. XXXI. 441-443. — **Coghill, J. G. S.** Address in obstetric medicine.

Brit. M. J. *London*. II. 314-320. — **Coghill, J. G. S.** Address in obstetric medicine. Med. Times & Gaz. *London*. II. 271-278. — **Collamore, G. A.** Clinical obstetric notes. Obst. Gaz. *Cincinnati*. 1880-81. III. 561-568. — **Cotting, B. E.** Extracts from a historical sketch of the Obstetrical Society of Boston. Boston M. & S. J. CV. 475-477. — **Cowles, J. B.** Summary of cases of accouchement from June 8, 1819, to May 1, 1879. Tr. M. Soc. N. Y. *Syracuse*. 291. — **Cullen, P.** Midwifery cases. Indian M. Gaz. *Calcutta*. XVI. 278. — **Depaul.** Inauguration de la nouvelle clinique d'accouchements de la Faculté. Arch. de tocol. *Paris*. VIII. 257-265, 321-333. — **Dieterich.** Zur geburts-hilflichen Statistik. Mit Rücksicht auf das neue preussische Hebammen-Lehrbuch. Vrtljrschr. f. gerichtl. Med. *Berlin*. N. F. XXXV. 339-343. — **Duncan, J. M.** Presidential address on medical education in relation to obstetrics; delivered before the Obst. Soc. of Lond. *Lancet*. *London*. I. 359-362. *Also*, Med. Times & Gaz. *London*. I. 259-262. — **Engelmann, G. J.** Posture in labor; an ethnological study. Tr. Am. Gynec. Soc. 1880. *Boston*. V. 175-279. 1 pl. — **Eustache, G.** Compte-rendu de clinique obstétricale. Arch. de tocol. *Paris*. VIII. 641-660. — **Eustache, G.** Congrès médical international de Londres; Compte rendu analytique de la section d'obstétrique et de gynécologie. Arch. de tocol. *Paris*. VIII. 513-543. — **Fenn, C. M.** The practice and perils of belly-squeezing in Mexican obstetrics. Am. J. Obst. N. Y. XIV. 395-400. — **Fort, C. H.** Our duties and remedies to woman during gestation and in the lying-in chamber. Tr. M. Ass. Alabama. *Montgomery*. XXXIV. 307-325. — **Geburts- und Sterblichkeits-Verhältnisse der Stadt Breslau während des Jahres 1880.** [Mith. d. Städt. statist. Bureau zu Bresl.] Veröffentlich. d. k. deutsch. Gsndtsamtes. *Berlin*. V. 53. — **Glasgow Maternity Hospital.** Glasgow M. J. XV. 127-129. — **Goepel.** Uebersicht der Geburts- und Sterblichkeits-Verhältnisse der Stadt Frankfurt a. O. im Jahre 1880. Veröffentlich. d. k. deutsch. Gsndtsamtes. *Berlin*. V. 53. — **Harris, R. P.** The practice of obstetrics among the Chinese. Am. J. Obst. N. Y. XIV. 570-581. *Also*, translation in Ann. de gynéc. *Paris*. XVI. 349-363. — **Hart, D. B.** On some of the phenomena of parturition in their practical aspects. *Edinb. M. J.* 1880-81. XXVI. 1085-1088. — **Von Hecker.** Bericht über die Ereignisse in der Kreis- und Local-Gebäranstalt München im Jahre 1880. Aertzl. Int.-Bl. *München*. XXVIII. 259, 273. — **Hoke, A. F.** Report on two hundred and eighteen consecutive obstetrical cases. *Detroit Lancet*. 1880-81. N. s. IV. 392-394. — **Inauguration** de la nouvelle clinique d'accouchements de la Faculté. Arch. de tocol. *Paris*. VIII. 257-265. — **Keating, J. M.** Mortality in the obstetrical wards of the Philadelphia Hospital. *Phila. M. Times*. 1881-82. XII. 467. — **Knaggs, S. T.** Report of 660 cases of midwifery in Australia. *Dublin J. M. Sc.* 3 s. LXXXI. 426-442.



*Also*, Austral. M. J. *Melbourne*. N. s. III. 241, 289, 338. — **Macdonald, A.** Quarterly report of the Royal Maternity and Simpson Memorial Hospital. *Edinb. M. J.* 1881-82. XXVII. 111-118. 1 tab. — **Masman, F.** Otchet o rodinolnu prioutie Vasilevskoi chasti za desjatielietie s. 1. aug. 1869 g. po 31 jul. 1879 g. [Report of lying-in asylum of Vasilkov.] *Sborn. sochin. po sudebnoi med.*... *St. Petersburg*. II. Pt. 2. Pp. 39-62. — **Mays, W. H.** On the study of midwifery. *West. Lancet. San Fran.* 1881-82. X. 145-150. — **McClintock, A. H.** Internat. Med. Cong. Section of obstetric medicine and surgery; opening address. *Med. Press & Circ. Lond.* XXXII. N. s. 121-123. *Also*, *Brit. M. J. Lond.* II. 214. *Also*, *Med. Times & Gaz. Lond.* II. 149-151. *Also*, *Lancet. Lond.* II. 228-230. *Also*, *Boston M. & S. J. CV.* 154-156. — **McClennahan, H. M.** Medical knowledge of the North American Indians; midwifery. *Med. & Surg. Reporter. Phila.* LXIV. 539-541. — **Miles, C. E.** Reminiscences and conclusions drawn from an obstetric practice of twenty-two years. *Mass. Eclect. M. J. Bost.* I. 401, 433. — **Miller, H.** Introductory lecture to the clinical obstetric course of 1881, in the Glasgow Maternity Hospital. *Glasgow M. J. XV.* 449-462. — **Mouat, F. J.** Note on the statistics of childbirth in the lying-in wards of the workhouse infirmaries of England and Wales for ten years, 1871-80. *Tr. Internat. M. Cong.* 7 sess. *Lond.* IV. 392-394. — **Murillo, A.** Boletín de la maternidad del mes de agosto de 1880. *Rev. méd. de Chile. Sant. de Chile.* 1880-81. IX. 69, 232. — **Ortiz Lara, V.** Una página suelta sobre algun punto oscuro en la practica de la tocolofía. *Andalucía méd. Córdoba.* VI. 256, 273. — **Poincaire, R.** Recherches statistiques sur l'influence de la parturition sur la mortalité, la durée moyenne de la vie, la nature et la marche des maladies. *Ann. d'hyg. Par.* 3 s. VI. 509-521. — **Reamy, T. A.** Obstetrical clinic in the medical College of Ohio. *Cincin. Lancet & Clinic.* N. s. VI. 187-192. — **Reynolds, J. P.** Safeguards in private obstetrics. *Boston M. & S. J. CV.* 389-391. — **Rice, A. B.** Rapid child bearing. *Am. Homœop. N. Y.* 1881-82. VII. 206. — **Sacchi, P.** Tavola nosostatica della maternità pel biennio 1878-79. (Istituto ostetrico presso l'ospedale Maggiore, diretto dal Dott. P. Coggi.) *Bull. d. Comit. med. cremonese. Cremona.* I. 6-8. — **Simpson, A. R.** Method of case-taking in midwifery. *Edinb. M. J.* 1880-81. XXVI. 680-685. — **Simpson, A. R.** Method of case-taking in midwifery. *Tr. Edinb. Obst. Soc.* VI. 18-24. — **Simpson, A. R.** Proposal for a common nomenclature in obstetrics. *Tr. Internat. M. Cong.* 7 sess. *Lond.* IV. 274-277. — **Simpson, A. R.** Quarterly report of the Royal Maternity and Simpson Memorial Hospital. *Edinb. M. J.* 1880-81. XXVI. 1057-1063. — **Staples, F.** Obstetrical statistics. *Tr. Minnesota M. Soc. St. Paul.* 102. — **Ullman, C. M.** Ur årsberättelsen från Göteborgs Barnbördshus. [Annual report from Lying-in Asylums in

Göteborg.] *Hygiea. Stockholm.* XLIII. 632-644. — **Walker, M. M.** Three hundred consecutive cases of obstetrics occurring in private practice. *Homœop. J. Obst. N. Y.* 1881-82. III. 173-200. — **Williams, D. M.** Abstract of two thousand five hundred consecutive cases in midwifery practice. *Brit. M. J. Lond.* II. 9. — **Witzel, O.** Erster Jahresbericht über die unter Leitung des Herrn Prof. Gusserow stehende geburtshilfliche Poliklinik des königl. Charité-Krankenhauses zu Berlin (1 April, 1880-30. März, 1881). *Berl. klin. Wchnschr.* XVIII. 397, 419. — **Wretling, E. W.** Döde genom Barnsängsfeber och Barnsbörd i Sverige 1861-1878. [Deaths from puerperal fever and child-birth in Sweden.] *Eira. Göteborg.* V. 229-238. 1 tab. — **Yarnall, M.** Some observations in obstetrics. *St. Louis Cour. Med.* V. 282-286.

## OÖPHORECTOMY.

FRANZOLINI, F. La prima ooforectomia completa per frenosi isterica eseguita in Italia. *Padova.* 80

**Antal, G.** Hasmetszési esetek. Ujjab adatok a méhcsomk kezeléséhez a petefészkek sovasszító alkötése. [Cases of gastrotomy; new observations in uterine affections. Removal of ovaries.] *Orvosi hetil. Budapest.* XXV. 1157, 1179. — **Balleray, G. H.** Oöphorectomy for fibroid tumours of the uterus. *Am. J. M. Sc. Phila.* N. s. LXXXI. 378-382. — **Batley, R.** Oöphorectomy; Battey's operation; spaying; castration of women. *Tr. Internat. M. Cong.* 7 sess. *Lond.* IV. 279-288. — **Batley, R.** Ueber Castration der Frauen. *Wien. med. Bl.* IV. 1087-1091. — **Batley, R.** What is the proper field for Battey's operation? *Tr. Am. Gynec. Soc.* 1880. *Bost. V.* 38-43. — **Dawson, B. F.** Double oöphorectomy. *Am. J. Obst. N. Y.* XIV. 419-421. — **DeWitt, W. H.** Battey's operation; both ovaries removed for chronic ovarian neuralgia; recovery. *Obst. Gaz. Cincin.* 1880-81. III. 452. — **Doran, A.** Hydroperitoneum, traced to chronic ovaritis; oöphorectomy; recovery. *Brit. M. J. Lond.* II. 699. — **Van Eman, J. H.** Removal of both ovaries by abdominal section, with history of case. *St. Louis Cour. Med. V.* 201-204. *Also*, *Rocky Mountain M. Rev. Colorado Springs.* 1887-81. I. 106-108. — **Engelmann, G. J.** Two cases of anterior displacement of the ovary simulating inguinal hernia; Battey's operation. *Tr. Am. Gynec. Soc.* 1880. *Bost.* 1881. V. 44-70. *Also*, *Reprint. Also*, translation in *Rev. méd.-chir. d. mal. d. femmes. Par.* III. 601-619. — **Fehling, H.** Zur Casuistik des Intermenstrualschmerzes, zugleich als Beitrag zur Casuistik der Castration. *Arch. f. Gynaek. Berl.* XVII. 338-350. — **Goodell, W.** Clinical notes on the extirpation of the ovaries for insanity. *Am. J. Insan. Utica, N. Y.* 1881-82. XXXVIII. 294-302. — **Israel, J.** Ein Beitrag zur Würdigung des Werthes der Castration bei hysterischen Frauen.

- Verhandl. d. Berl. med. Gesellsch. (1879-80). XI. Pt. 2. 139-146. — **Johnson, N. M.** Mutilation of the ovary in situ. North Car. M. J. *Wilmington*. VIII. 261-263. — **Kleinwächter, L.** Zur Castration wegen functionirender Ovarien bei rudimentärer Entwicklung der Müller'schen Gänge. Arch. f. Gynaek. *Berl.* XVII. 475-489. — **Malins, E.** Remarks on the removal of the ovaries (a) for dysmenorrhœa; (b) for fibroid tumours of the uterus. *Brit. M. J. Lond.* II. 385. — **Mäurer, A.** Hystero-Epilepsie; cystoide Degeneration beider Ovarien; Castration; Heilung. Deutsche med. Wchnschr. *Berl.* VII. 530-534. — **Murillo, A.** Ovariectomia normal y operacion de Battey. Rev. méd. de Chile. *Sant. de Chile.* 1881-82. X. 305-314. — **Odebrecht, E.** Beitrag zur Castration des Weibes; Retroflexio uteri, Pelvipéritonitis, Hydrosalpinx; Exstirpation beider Ovarien und einer Tube; Genesung. *Berl. klin. Wchnschr.* XVIII. 220, 240. — **Paggi, A.** Un caso di ooforectomia. Sperimentale. *Venezia.* XLVII. 143-153. — **Porter, G. W.** Battey's operation. Tr. Rhode Island M. Soc. 1880. *Providence.* II. 270-297. — **Rogers, W. B.** Extirpation of ovaries; report of three cases (two double and one single) successfully operated upon. Mississippi Valley M. Month. *Memphis.* I. 345-354. — **Rydygier.** Ein Fall von Castration. Deutsche Ztschr. f. Chir. *Leipzig.* xv. 285. — **Savage, T.** Oophorectomy; being a series of twenty-five consecutive successful cases. Birmingham. M. Rev. N. s. IV. 147-161. 1 tab. — **Savage, T.** Oophorectomy. Tr. Internat. M. Cong. 7 sess. *Lond.* IV. 288-297. — **Simpson.** [Dancing fits; Battey's operation.] *Edinb. M. J.* 1880-81. XXVI. 926-929. — **Spanton.** Case of oophorectomy for ovarian dysmenorrhœa; recovery. *Lancet.* *Lond.* II. 750. — **Tait, L.** The discussion on "Battey's operation." *Med. Times & Gaz. Lond.* II. 371. — **Thomas.** A fatal case of Battey's operation. *Am. J. Obst. N. Y.* XIV. 672. — **Tyng, Anita E.** A case of removal of both ovaries by abdominal section, for the relief of an exhausting menorrhagia and uterine fibroid, with remarks. Tr. Rhode Island M. Soc. 1880. *Providence.* II. 265-275. — **Wilkerson, T. B.** Removal of both ovaria, or "Battey's operation," for the cure of insanity. North Car. M. J. *Wilmington.* VII. 366-372. — **Wilson, H. P. C.** Oophorectomy. Maryland M. J. *Balt.* 1881-82. VIII. 158-160. — **De Zouche, I.** A case of Battey's operation, or double oophorectomy. *Austral. M. J. Melbourne.* N. s. III. 145-153.
- OPHTHALMIA NEONATORUM.**  
*See, also, Infants.*
- Credé.** Die Verhütung der Augenentzündung der Neugeborenen. Arch. f. Gynaek. *Berl.* XVII. 50-53.
- OVARIOTOMY.** *See, also, Laparotomy and Ovary; Tumors of the.*
- BRUCCHIETTI, L.** Laparotomia antisetica: storia di un' estirpazione di voluminoso cistosarcoma ovarico sinistro. *Rieti.* 8°
- BUCKLER, T. H.** On the Surgical Treatment of the Ovarian Pedicle. *In his: Strangulated Veins of the Uterus, and other Papers. Cambridge.* 8° 70-72.
- ECKARDT, WILHELM.** \*Sechs Ovariectomien. *Greifswald.* 1880. C. Sell. 41 pp. 8°
- EUSTACHE, G.** L'ovariotomie, statistique et manuel opératoire. *Paris.* 8° [Repr. from: Arch. de tocoul.]
- FRATTINA, B.** Storie cliniche di otto ovariectomie eseguite dal medesimo. *Pordenone.* 8° 1880.
- HOMANS, JOHN.** Twenty-five Consecutive Cases of Ovariectomy. *Cambridge.* 22 pp. 8° [Repr. from: Boston M. & S. J.]
- LEROY, EDMUND.** \*Contribution à l'étude des ovariectomies incomplètes. *Paris.* 62 pp. 4° No. 35.
- MANGIAGALLI, L.** Due ovariectomie con esito felice. *Bologna.* 8°
- NEWMAN, W.** Ovariectomy; Three Cases. *In his: Surg. Cases. London.* 8° 86-88.
- TODD, S. S.** Ovariectomy. *Fort Scott, Kan.* 8 pp. 8° [Repr. from: Kansas M. Index. II.]
- WENZEL, H. P.** Protrusion of the Stump of the Pedicle through the Cicatrix more than Three Years after Ovariectomy. Deligation of the Protruding Part, and Complete Recovery. *Richmond.* 8° 1879. [Repr. from: Virginia M. Month. 1879.]
- Alarco, J. L.** La primera ovariectomia practicada en el Perú. *Gac. méd. Lima.* 1878. IV. 194-201. — **Alexander, W.** Ovariectomy at Liverpool Workhouse. [10 cases.] *Med. Times & Gaz. Lond.* II. 63-65. — **D'Antona, A.** Decima ovariectomia seguida da morte per rapida setticemia peritoneale. Movimento. *Napoli.* 2 s. III. 641-649. — **D'Antona, A.** Settima ovariectomia, ligatura doppia del picciuolo, e suo abbandono nella cavità peritoneale; guarigione in pochi giorni. *Gior. internaz. d. sc. med. Napoli.* N. s. III. 35-38. — **D'Antona, A.** Ottava e nova ovariectomia; doppia ligatura del picciuolo; rapide guarigione. Movimento. *Napoli.* 2 s. III. 321-326. — **Armangué, J.** Una ovariectomia. *Clinica. Zaragoza.* V. 389. — **Ask, C. J.** Om ovariectomi. C. r. Sur l'ovariectomie. No. 14. Nord. med. Ark. *Stockholm.* XIII. No. 10. 1-39. — **Atlee, W. F.** Case of ovariectomy.

Boston M. & S. J. CV. 529-531. — **Att-hill**. Case of double ovariectomy. Dublin J. M. Sc. 3 s. LXXI. 154-156. — **Baer, B. F.** Monocyst, probably of the ovary, but which contained limpid fluid. Phila. M. Times. 1881-82. XII. 293. — **Balls-Headly**. Ovariectomy; recovery. Austral. M. J. Melbourne. N. s. III. 167-169. — **Bantock, G. G.** Cases of ovariectomy performed under "modified Listerism." Lancet. Lond. II. 499, 543. — **Bantock, G. G.** Fourth series of twenty-five cases of completed ovariectomy. Brit. M. J. Lond. I. 112-115. — **Bantock, G. G.** Listerian ovariectomy. Brit. M. J. Lond. I. 70. — **Bantock, G. G.** On hyperpyrexia after "Listerian" ovariectomy. Med.-Chir. Tr. Lond. 2 s. XLVI. 103-137. — **Bantock, G. G.** On hyperpyrexia after Listerian ovariectomy. [Abstr.] Proc. Roy. M. & Chir. Soc. Lond. IX. 14-16. — **Basadre**. Resúmen estadística de las operaciones de ovariotomía é hysterotomía hechas en Chile. Gaz. méd. Lima. 1878. IV. 231. — **Batten, J. M.** A case of ovariectomy. Pittsburgh M. J. 1880-81. I. 231-233. — **Bennett, J. M.** Tetanus following ovariectomy; death on the eighteenth day. Lancet. Lond. II. 947. — **Berry, W.** Ovarian dropsy; removal of both ovaries; death. Brit. M. J. Lond. II. 1055. — **Bird, T.** Ovariectomy under nitrous oxide gas. Med. Times & Gaz. Lond. I. 151. — **Böckel, J.** Accidents provoqués par la réduction du pédicule ovarique. Gaz. méd. de Strasb. 3 s. X. 75-77. — **Böckel, J.** De l'ovariotomie antiseptique. Mém. Soc. de méd. de Strasb. (1879-80). XVII. 20-25. — **Böckel, E.** Trois laparotomies antiseptiques pour tumeurs ovariques et utérines; réduction des pédicules; guérison. Mém. Soc. de méd. de Strasb. 1879-80. XVII. 26-34. — **Boissarie**. Contribution à l'étude de l'ovariotomie. Gaz. d. hôp. Par. LIV. 266. — **Bopp**. Bericht über fünf Ovariotomien, ausgeführt im deutschen Hospitale zu New-York. Breslau. aerztl. Ztschr. III. 240-242. — **Borsini, C.** Ovariectomia parziale in donna di 77 anni. Riv. ital. di terap. ed ig. Piacenza. I. 367. — **Borsini, C.** Storia di ovariectomia seguita da guarigione. Guglielmo da Saliceto. Piacenza. 1881-82. III. 3, 25. — **Borsini, C.** Terza ovariectomia. Guglielmo da Saliceto. Piacenza. III. 129. — **Van den Bosch, H.** Kyste multiloculaire de l'ovaire droit; ovariectomie; phénomènes thoraciques graves; guérison. Ann. de gynéc. Par. XV. 134-141. Also, Reprint. — **Branco, A.** Mais dois casos de ovariectomia, atmosphaera phenica, pediculo intra-peritoneal; cura em 15 dias. Correio med. de Lisb. 1880. IX. 81, 105. — **Branco, A.** Novo caso d'ovariotomia. Correio med. de Lisb. 1880. IX. 281-283. — **Branco, A.** Oitavo caso de ovariectomia, pediculo intra-peritoneal; cura em 16 dias. Correio med. de Lisb. 1880. IX. 241-243. — **Branco, A.** Ovariectomia. Correio med. de Lisb. 1880. IX. 267-273. — **Breisky**. [11 Ovariectomien mit 4 Todesfällen.] Prag. med. Wchschr. VI. 457. — **Bruntzel, R.** Die erste im hiesigen Franckel'schen Hospital ausge-

führte Ovariectomie. Breslau. aerztl. Ztschr. III. 265-267. — **Campbell, D.** Case of ovariectomy. Boston M. & S. J. CIV. 494. — **Cazin**. Contribution à l'étude des ovariectomies incomplètes. Arch. de tocol. Par. VIII. 129-137. — **Cazin, H.** De la coexistence des kystes ovariens et de la hernie ombilicale au point de vue de l'ovariotomie. Bull. gén. de therap., etc. Par. C. 433-443. Also, Reprint. — **Chénieux**. Ovariectomie; guérison. J. Soc. de méd. et pharm. de la Haute-Vienne. Limoges. V. 83-87. — **Clementi, G.** La prima ovariectomia in Catania seguita da guarigione. Gior. internaz. d. sc. med. Napoli. N. s. III. 835-842. — **Clementi, G.** Una prima e seconda ovariectomia seguita da guarigione. Osservatore med. Palermo. 3 s. XI. 457-498. — **Coblentz, H.** Zur Ovariectomie. Arch. f. Gynaek. Berl. XVIII. 187-251. 1 pl. — **Cosentino, G.** Una seconda ovariectomia in Palermo seguita da guarigione. Gior. internaz. d. sc. med. Napoli. N. s. III. 38, 149. — **Cystocarcinoma ovarii sin.** Ovariectomie, Tod. Jahresh. ü. d. chir. Abth. d. Spit. zu Basel (1880). 77. — **Daniels, C. M.** Report on last ovariectomy performed by Prof. J. P. White. Buffalo M. & S. J. 1881-82. XXI. 159. — **Dawson, B. F.** Ovariectomy; adhesions prevent the completion of the operation; unusual development of fat in the wall of the cyst. Am. J. Obst. N. Y. XIV. 675-678. — **Drysdale, T. M.** An undescribed source of danger in ovariectomy. Am. J. M. Sc. Phila. N. s. LXXXI. 444-446. — **Drysdale, T. M.** Two ovarian tumors successfully removed from patients who had previously undergone ovariectomy. Am. J. Obst. N. Y. XIV. 601-606. — **Duncan, R. B.** Multilocular cyst of right ovary. Austral. M. J. Melbourne. N. s. III. 258. — **Duplay**. Accidents graves occasionnés par la torsion du pédicule d'un kyste de l'ovaire; ovariectomie; guérison. Bull. et mém. Soc. de chir. de Par. N. s. VII. 347. — **Eustache, G.** L'ovariotomie en 1880. Arch. de tocol. Par. VIII. 1-38. — **Flaischlen, N. C.** Ein Fall von combinirtem Dermoid des Ovarium. (Zur Lehre von der Entwicklung der glandulären Kystome und Dermoides.) Ztschr. f. Geburtsh. u. Gynäk. Stuttg. VI. 126-137. 2 pl. — **Fuentes, F. A.** La primera ovariectomia practicada en el Perú por el Dr. J. Lino Alarco. Rev. méd. de Chile. Sant. de Chile. 1878-79. VII. 170, 199. — **Gallozzi, C.** La prima ovariectomia eseguita nella clinica chirurgica, coronata da felice risultato. Resoc. Accad. med.-chir. di Napoli. XXXV. 63-67. — **Giddings**. A rare case of double ovariectomy, illustrating to some extent the value of antiseptic surgery. [Abstr.] Boston M. & S. J. CV. 254. — **Golenvaux**. Présentation de deux femmes sur lesquelles il a pratiqué l'ovariectomie, avec succès, pendant la gestation. Bull. Acad. roy. de méd. de Belge. Brux. 3 s. XV. 894-904. — **Goodell, W.** A list of the home articles needed for the operation of ovariectomy, together with instructions for the after-treatment of the patient. Med. News. Phila. II. 76. — **Goodell, W.** Ovariectomy. Am. J. Obst. N. Y. XIV.

900. — **Gresham, P.** Ovariectomy without a clamp or carbolic spray. *Gaillard's M. J. N. Y.* XXXI. 481-483. — **Gresham, P.** Ovariectomy without a clamp or carbolic spray. *Am. M. Bi-Weekly. N. Y.* XII. 265-267. — **Gussenbauer, C.** Rechtsseitiges, multiloculäres, sehr grosses Ovarialcystom; Ovariectomie; flächenartige multiple Adhäsionen; Stielversenkung; secundäre Drainage; Heilung. *Prag. med. Wchnschr.* VI. 101-103. — **Harris, V.** Spinal cord from a case of tetanus following ovariectomy. *Tr. Path. Soc. Lond.* 1879-80. XXXI. 7-11. — **Harrison, G. T.** Ovariectomy of an adherent tumor without a drainage tube. *Am. J. Obst. N. Y.* XIV. 878. — **Helmutz, W. T.** A case of ovariectomy. *Med.-Chir. Quart. N. Y.* 1880-81. I. 249-251. — **Helmutz, W. T.** Ovariectomy [case]. *N. York M. Times.* 1881-82. IX. 44. — **Henderson, W.** Case of ovariectomy, followed by abscess of abdominal wall; recovery. *Brit. M. J. Lond. II.* 157. — **Herr, M. L.** Successful case of double ovariectomy. *Quart. Tr. Lancaster City & Co. M. Soc.* 1880-81. I. 119-124. — **Heustis, J. F.** Ovariectomy. *Tr. M. Ass. Alabama. Montgomery.* XXXIV. 493. — **Hidalgo, W.** Datos estadísticos sobre las operaciones de ovariectomia e hysterotomia practicadas en Chile. *Rev. méd. de Chile. Sant. de Chile.* 1878-79. VII. 88-92. — **Hidalgo, W.** Ovariectomia e hysterotomia; conclusion de las observaciones del caso de hysterotomia operado en Concepcion en agosto de 1876. *Rev. méd. de Chile. Sant. de Chile.* 1878-79. VII. 81-88. — **Hill, H.** Ovariectomy. *Canada M. & S. J. Montreal.* 1881-82. X. 257-262. — **Homans, J.** Ovariectomy; case. *Boston M. & S. J. CIV.* 374. — **Howitz, F.** Efterbehandlingen ved Ovariectomier. *Gynaek. og obst. Medd. Kjöbenhavn.* III. 3 Hft. 76-96. — **Howitz, F.** Ovariectomie under Graviditeten med heldigt Udfald. [Successful ovariectomy in pregnancy.] *Gynaek. og obst. Medd. Kjöbenhavn.* III. Pt. 2. 72-75. — **Hubert, E.** Kyste de l'ovaire; adhérences indestructibles; suture du kyste à la paroi abdominale; guérison. *J. d. sc. méd. de Louvain.* VI. 544-551. — **Hubert, E.** Kyste ovarique; ovariectomie; guérison; puis cachexie cancéreuse et mort. *J. d. sc. méd. de Louvain.* VI. 168-171. — **Hué, J.** Contribution à l'étude de l'ovariectomie; deux opérations; un succès. *Ann. de gynéc. Par.* 1881. XV. 1-29. — **Hué, J.** Contribution à l'étude de l'ovariectomie; Deux opérations; un succès. *Par.* 1881. 8° [Repr. from: *Ann. de gynéc.*] *Also in:* *Union méd. de la Seine-Inf. Rouen.* XIX. 93-135. — **Hué, J.** Opération d'une tumeur fibro-kystique inénucléable de l'ovaire gauche; ablation de l'ovaire droit, atteint également de dégénérescence kystique; mort; présentation des pièces; examen histologique par M. Kiener. *Union méd. de la Seine-Inf. Rouen.* XX. 92-105. 1 pl. — **Hunter, J. B.** Multilocular cyst of the ovary discharging periodically into the abdominal cavity; operation; recovery. *Am. J. Obst. N. Y.* XIV. 874. — **Hunter, J. B.** Ruptured ovarian cyst;

ovariectomy. *N. York M. J.* XXXIII. 454. — **Johanovsky, V.** Ovariectomiebericht aus Reichenberg. *Prag. med. Wchnschr.* VI. 256. — **Johanovsky, V.** Zur geburtsstülflich-gynäkologischen Casuistik; Ovariectomiebericht. *Prag. med. Wchnschr.* VI. 481-483. — **Jones, H. McN.** Ovariectomy; operation; recovery. *Med. Press & Circ. Lond. N. s.* XXXII. 45. — **Keen, W. W.** A case of ovariectomy, with apparently double oblique inguinal hernia and two uncertain tumors of the labia majora. *Phila. M. Times.* 1881-82. XII. 449. — **Keith, F.** On ovariectomy. *Am. Pract. Louisville.* XXIV. 257-275. — **Kuznetski, P. V.** Ovariectomija na chetvertom miesjatsje beremennosti. [Ovariectomy in the 4th month of pregnancy.] *Ejened. klin. gaz. St. Petersburg.* I. 60, 68. — **Labbé, L.** De la valeur du drainage péritonéo-abdominal dans l'ovariectomie. *Arch. de tocol. Par.* VIII. 473-479. — **Lane, L. C.** Ovariectomy in which transfusion was resorted to with success; remarkable pulse. *Pacific M. & S. J. San Fran.* 1881-82. XXIV. 345-348. — **Macdonald, A.** Report of fourteen cases of completed ovariectomy. *Tr. Edinb. Obst. Soc.* 1881. VI. 188-219. — **Macdonald, A.** Report of fourteen cases of complete ovariectomy. *Edinb. M. J.* 1881-82. XXVII. 323, 413. — **Maclean, D.** Practical observations on ovariectomy, with notes of ten recent cases. *Physician & Surg. Ann Arbor, Mich.* III. 529-547. — **Madden, T. M.** Case of ovariectomy. *Dublin J. M. Sc.* 3 s. LXXI. 420. — **Malins, E.** Case of tetanus after ovariectomy. *Brit. M. J. Lond.* I. 509. — **Malins.** Sarcoma of right ovary; protracted metrorrhagia; removal of both ovaries; recovery. *Lancet. Lond. I.* 736. — **Mangiagalli, L.** Due ovariotomie con esito felice. *Bull. d. sc. med. di Bologna.* 6 s. VII. 165-180. — **Mann, M. D.** Report of two cases of ovariectomy successfully performed. *Buffalo M. & S. J.* 1881-82. XXI. 351-356. — **Marcil, D.** Un cas d'ovariectomie. *Union méd. du Canada Montréal.* X. 193-202. — **Marocco, C.** L'ovariectomia all' ospedale di Vicenza. *Gazz. med. Ital., prov. Venete. Padova.* XXIV. 263, 271. — **Maurice, O. C.** Six cases of ovariectomy. *Lancet. Lond. I.* 174. — **Mayne, N.** Ovariectomy. *Med. Press & Circ. Lond. N. s.* XXXII. 67. — **Noeggerath, E.** A new method of performing ovariectomy. *N. York M. J.* XXXIII. 145-160. — **D'Oliveira Feijão, F. A.** Operação d'ovariotomia. *Correio med. de Lisbon.* X. 236. — **Orłowski, W.** Trzy ovariotomije. *Medycyna Warszawa.* IX. 657, 674. — **Ovarialecysten,** 4 Fälle; in 2 Fällen Ovariectomie. *Jahresb. ü d. chir. Abth. d. Spit. zu Basel* (1880). 73-75. — **Paquet, A.** Ovariectomie compliquée suivie de succès. *Bull. méd. du nord. Lille.* XX. 329-343. — **Patterson, A.** Six consecutive cases of ovariectomy. *Glasgow M. J.* XV. 4-15. — **Pietrzikowski, E.** Erfahrungen über Ovario- und Hysterotomien [von Prof. Gussenbauer ausgeführt]. *Prag. med. Wchnschr.* VI. 73, 83, 101, 114, 122, 136, 163, 174, 184, 195, 204, 215, 235. — **Pezuzzi, D.** Contributo alla casuistica

delle ovariectomie, e laparo-isterotomie parziali, praticate in Italia nel 1880. Raccogliatore med. *Forlì*. 4 s. XV. 41-70. — **Peruzzi, D.** Storia di doppia ovariectomia coronata da rapida guarigione. Raccogliatore med. *Forlì*. 4 s. XVI. 545-550. — **Ponchon.** Kyste multiloculaire de l'ovaire gauche. [Operation; patient 53 years of age.] *Ann. Soc. d'anat. path. de Brux.* 1880. XXIX. 143-175. — **Powell, C. B.** Ovariectomy; a fatal case. *N. York & Chicago M. & S. J. N. Y.* 1880-81. VII. 585-588. — **Ray, J. A.** Ovariectomy; recovery. *Ann. Anat. & Surg. Brooklyn.* III. 96. — **Reber, C. T.** Double ovarian tumor. *Coll. & Clin. Rec. Phila.* II. 264. — **Reuss, P.** Ovariectomie bei eitrigem Peritonitis, Drainage, permanente Irrigation, Heilung. *Arch. f. Gynaek. Berl.* XVII. 112-116. — **Reuss, P.** Siebzehnmalige Spontanruptur einer Ovarialcyste; Utero-ovariectomie; Tod am zwölften Tage. *Arch. f. Gynaek. Berl.* XVII. 110-112. — **Reverdin, A.** Un cas d'ovariectomie; traitement intra-péritonéal du pédicule. *Rev. méd. de la Suisse Rom. Genève.* I. 740-743. — **Roberts, W. O.** A case of ovariectomy. *Am. Pract. Louisville.* XXIII. 329-331. — **Roberts, L.** Ovarian tumour. *Brit. M. J. Lond.* I. 276. — **Rodolfi, R.** Orchitomia in donna ventenne. *Gazz. med. ital. lomb. Milano.* 8 s. III. 371. — **Rodriguez Fernandez, D.** Cistoma ovarico multilocular; ovariectomia doble; muerte a las 33 horas de la operation. *Prensa méd. de Granada.* III. 361-368. *Also*, *Gac. méd. catal. Barcel.* I. 699-704. *Also*, *Bol. de med. y cirug. de Jaen.* 1881-82. IV. 143-152. — **Rowan.** Case of ovariectomy; fatal. *Austral. M. J. Melbourne.* N. s. III. 358-360. — **Ruge, P.** Einige interessanter Ovariectomien. *Berl. klin. Wchnschr.* XVIII. 158. — **Ruggi, G.** Cisti dermoide dell' ovaio di destra estirpata con felice successo. Storia e considerazione dell' dott. G. Bendandi. *Raccogliatore med. Forlì*. 4 s. XV. 193, 238. — **Rydygier.** Drei Ovariectomien. *Deutsche Ztschr. f. Chir. Leipz.* XV. 279. — **Salzer.** Exstirpation einer Ovarialcyste; rasche Heilung. *Wien. med. Presse.* XXII. 1382. — **Schenck, P. V.** A successful case of ovariectomy and hysterectomy combined. *Am. J. Obst. N. Y.* XIV. 532-584. — **Sims, J. M.** Thomas Keith and ovariectomy. *Tr. M. Soc. N. Y. Syracuse.* 1880. 291-305. — **Sklifosovski, N. V.** Grijevija vjijachivanija poslije ovariectomii. [Abdominal hernia after ovariectomy.] *Laitop. khirurg. Obsh. v Mosk.* IV. 257-263. — **Van der Smagt, F.** Case of ovariectomy; operation; recovery. *Med. Press & Circ. Lond.* N. s. XXXII. 278. — **Spalding, A. C.** The first case of ovariectomy in Rock County, Minn. *Northwest. Lancet. St. Paul.* 1881-82. I. 69. — **Svensson, I.** Ovariectomier. [5 cases.] *Ars-Berätt. f. Sabbatsbergs Sjukh. i Stockholm.* 1880. 140-147. — **Svensson, I.** Parovarialcysta. *Ars-Berätt. f. Sabbatsbergs Sjukh. i Stockholm.* 1880. 147-149. — **Tait, L.** Case of removal of large cystoma of ovary, followed by disappearance of a uterine myoma. *Lancet. Lond.*

I. 578. — **Thomas.** Ovariectomy: adhesion, dilatation, and incision of the bladder; recovery. *Am. J. Obst. N. Y.* XIV. 672-674. — **Thomas, T. G.** Fibroid of the ovary; case. *Boston M. & S. J. CV.* 461. — **Thornton, J. K.** Dermoid ovarian tumour in a child aged seven years; ovariectomy; recovery. *Brit. M. J. Lond.* II. 933. — **Thornton, K.** Remarks on antiseptic ovariectomy. *Lancet. Lond.* II. 352. — **Todd, S. S.** Ovariectomy; two cases. *Kansas M. Index. Fort Scott.* II. 57-67. — **Trongé, F.** Ultima operacion de ovariectomia practicada en Buenos Aires con feliz resultado. *Rev. méd.-quir. Buenos Aires.* 1881-82. XVIII. 40-43. — **Ulloa, J. C., y A. Leon.** La primera ovariectomia en el Perú. *Gac. méd. Lima.* 1878. IV. 284-287. — **Vulpiet.** Ovariectomie; réduction du pédicule. *Rev. méd. de la Suisse Rom. Genève.* I. 368-370. — **Weinlechner.** Cystoid des rechtsseitigen Ovariums; Ovariectomie; Heilung. *Ber. d. k. k. Krankenanst. Rudolph-Stiftung in Wien* (1880). 426. — **Weinlechner.** Ein linksseitiger Cystoid des Ovariums nach der letzten Entbindung sehr rasch und unter Fiebererscheinungen gewachsen; Punction; Ovariectomie; Heilung. *Ber. d. k. k. Krankenanst. Rudolph-Stiftung in Wien* (1880). 424-426. — **Weinlechner.** Gallertcystoide beider Eierstöcke; doppelseitige Ovariectomie; Versenkung der Stiele und Drainagurung; Heilung. *Ber. d. k. k. Krankenanst. Rudolph-Stiftung in Wien* 1880. 420. — **Weinlechner.** Gallertcystoid des rechten Ovariums; Ovariectomie nach einer vor 5 Wochen vollzogenen Punction; Drainage; Tod an septischer Peritonitis 31 Stunden nach der Operation. *Ber. d. k. k. Krankenanst. Rudolph-Stiftung in Wien* (1880). 423. — **Weinlechner, J.** Rechtsseitige eiterhaltige, mit dem Uterus, der Flexura sigmoidea, dem Rectum und dem kleinen Becken innig verwachsene Ovarialcyste. *Med.-chir. Centrabl. Wien.* XVI. 303. — **Wells, T. S.** Two hundred additional cases, comprising one thousand cases of ovariectomy, with remarks on recent improvement in the operation. *Med.-Chir. Tr. Lond.* 2 s. XLVI. 167-183. — **White, J. P.** A case of double ovariectomy. *Buffalo M. & S. J.* 1880-81. XX. 549-551. — **Wilberson, T. B.** Ovariectomy for the removal of a multilocular cyst weighing fifty pounds; successful; pedicle ligatures cut short and returned. *Virginia M. Month. Richmond.* 1881-82. VIII. 100-103. — **Wilson, H. P. C.** Ovariectomy during pregnancy. *Tr. Am. Gynec. Soc.* 1880. *Bost. V.* 100-118. — **Younkin, E.** Ovarian cyst; a case in practice; ovariectomy; the operation successful. *Am. M. J. St. Louis.* IX. 135-143.

## OVARY.

**MacLeod, J.** Contribution à l'étude de la structure de l'ovaire des mammifères; seconde partie: ovaire des primates. *Arch. de biol. Gand.* II. 127-144. 2 pl. — **Schulin, K.** Zur Morphologie des Ovariums. *Arch. f. mikr. Anat. Bonn.* 1880-81. XIX. 442-512. 3 pl. — **Skene, A. J. C.** The relation of the ovaries to the

brain and nervous system. *Am. J. Obst. N. Y.* XIV. 54-77.

### OVARY, Diseases of the.

**Bernier de Bournoville.** Ovarite aiguë; guérison après trois semaines, par le traitement ordinaire; rechute grave; guérison obtenue le 7<sup>e</sup> jour. *Médecin. Par.* VII. No. 33.—**Féré, C.** Compressur de l'ovaire. *Progrès méd. Par.* IX. 911. *Also*, transl.: *An. de obst. & gynec. y pediat. Madrid.* 2<sup>e</sup> ép. II. 15-17.—**Foot, A. W.** Subacute ovaritis. *Dublin J. M. Sc.* 3 s. LXXI. 97.—**Galbeil, H. S.** Colloid degeneration of the non-cystic ovary, with associated vascular changes. *J. Anat. & Physiol. Lond.* 1881-82. XVI. 192-199. 1 pl.—**Jastreboff, N. V.** K patologii ganglion cervicala uteri pri stradanijach jai-chinka. [Pathology of ganglion cerv. uteri in affections of the ovaries.] *Ejened. klin. gaz. St. Petersb.* I. 121-126.—**Lar-rivé.** Absces de l'ovaire; pelvipéritonite purulente consécutive; mort; autopsie. [From: *Lyon méd.*] *Arch. de tocol. Par.* VIII. 116-118.—**Leeds, L. L.** A case of ovarian abscess, with post-mortem. *Peoria M. Month.* 1881-82. II. 47.—**Potain.** Spasme de la glotte et congestion ovarienne. *Gaz. d. hôp. Par.* 1881. LIV. 833. *Also*, *Arch. de tocol. Par.* VIII. 675-677.—**Seeligmüller.** Therapie der Ovarien. *Centralbl. f. Gynäk. Leipz.* V. 57-59.—**Vedeler.** Foredrag om Ovarit. *Förh. Norske med. Selsk. i Kristiania.* 1879-80. 257-295. *Also*, *Rev.: Schmidt's Jahr. Leipz.* CLXXXIX. 248-250. *Also*, transl. of rev.: *Siècle méd. Par.* II. 153, 164. *Also*, *Rivista clin. di Bologna.* 3 s. I. 498-503. *Also*, *Lyon méd.* 1882. XXXIX. 84-91.—**Walter, H. B.** Death from hemorrhage of the left ovary. *Med. Bull. Phila.* III. 181.

### OVARY, Hernia of the.

**Lentz.** Un cas de hernie ovarique inguinale. *Gaz. méd. de Strasb.* 3 s. X. 97-103. *Also*, *Arch. de tocol. Par.* VIII. 608-610.—**Von Mosetig-Moorhof.** Hernia ovarialis; Kelotomie; Heilung. *Ber. d. k. k. Krankenh. Wieden* 1878. *Wien.* 1879. 165-167.—**Raffo, C.** Di un caso di ernia inguinale ovarica, simulante strozzamento intestinale; curato felicemente con l'estirpazione. *Sperimentale. Firenze.* XLVII. 28-35. *Also*, *in his:* *Due casi di chir. prat.* 8<sup>o</sup> *Firenze.* 6-12.

### OVARY, Prolapse of the.

**Herman, G. E.** On prolapse of the ovaries. *Med. Times & Gaz. Lond.* II. 440, 460, 488.

### OVARY, Tumors of the.

**HEIBERG, W.** Om ovariesvulsten som Komplikation ved Svan-gerskabet. [During pregnancy.] *Kjøbenh.* 2 Kr. 50 øre.

**KEMPF, G.** \*Ueber den Mechanismus der Wanderung der wachsenden Beckentumoren, speciell der Ovarialtumoren, aus der Becken-

höhle in die Bauchhöhle. 8<sup>o</sup> *Of-fenburg.* 1880.

**QUÉNU, E.** \*Anatomie pathologique des kystes non dermoïdes de l'ovaire. *Paris.* 71 pp. 4<sup>o</sup>

**Allen, B. W.** Report of a case of multilocular ovarian tumor, weighing forty-one pounds, successfully removed. *Tr. M. Soc. W. Virg. Wheeling.* 1880. 612-619. 2 charts.—**Althan, J.** Ueber Differential-Diagnose zwischen Geschwülsten des Uterus und der Eierstöcke; nach den Darstellungen von Spencer Wells mitgeteilt. *Wien. med. Bl.* IV. 638-641, 671-673.—**Bang, R. F.** Compound ovarian tumor. *Med. Rec. N. Y.* XIX. 661-663.—**Baskett, N. M.** Dermoid cysts of the ovary. *St. Louis M. & S. J.* XLI. 150-145.—**Black, J. G.** A case of ovarian dropsy spontaneously cured. *Austral. M. J. Melbourne.* N. S. III. 205-207.—**Cistovario** uniloculare suppurato; punzione; vuotamento continuato; guarigione con la persistenza di un oviducto. *Clin. chir. (Mazzoni). Roma.* VI.-VII. 238.—**Coblentz, H.** Die "papillären" Adeno-Kystomformen im Bereiche der inneren weiblichen Sexualorgane und ihre Behandlung. *Ztschr. f. Geburtsh. u. Gynäk. Stuttg.* VII. 14-52.—**Dickson, J. S.** Differential diagnosis of ovarian tumors. *Pittsburgh M. J.* 1880-81. I. 33-37.—**Doran, A.** Proliferating cysts in the ovary of a seven months' foetus. *Tr. Path. Soc. Lond.* XXXII. 147-150.—**Le Double.** De l'auscultation de l'ovaire dans les kystes ovariques; kyste de l'ovaire uniloculaire ouvert dans le péritoine et dans l'intestin; tintement avec bruit de flot de liquide. *Assoc. franc. pour l'avance. d. sc. Compt.-rend.* 1877. *Par.* 1878. VI. 894-901.—**Duploux.** Note sur un trocart fixateur des kystes de l'ovaire. *Bull. et mém. Soc. de chir. de Par.* N. S. VII. 856-858.—**Engelmann.** Ovarian tumor of a hen. *St. Louis Cour. Med. V.* 330.—**Fischel, W.** Ueber einen Fall von Schwangerschaft in Complication mit einer incirren Ovarialcyste. *Prag. med. Wchnschr.* VI. 423-425.—**Fläischlen, N.** Zur Lehre von der Entwicklung der "papillären Kystome" oder multiloculären Flimmerepithelkystome des Ovarium. *Ztschr. f. Geburtsh. u. Gynäk. Stuttg.* VI. 231-251. 2 pl.—**Gibier de Savigny.** Kyste ovarique ayant présenté le caractère d'une ascite. *Progrès méd. Par.* IX. 721.—**Goodell, W.** Supposed ovarian cyst, the fluid of which did not contain ovarian cells. *Am. J. Obst. N. Y.* XIV. 681-686.—**Hache.** Kyste de l'ovaire à pédicule tordu. *Progrès méd. Par.* IX. 1049.—**Hammarsten, O.** Metalbumin och Paralbumin, ett Bidrag till Ovarialkystomvätskornas Kemi. [Chemistry of liquid of ovarian cysts.] *Upsala Läkaref. Förh.* XVI. 461-513.—**Harris, V. D.,** and **Doran, A.** The ovary in incipient cystic disease. *J. Anat. & Physiol. Lond.* 1880-81. XV. 453-465. 1 pl.—**Hunter, J. B.** Accidental manual rupture of a small ovarian cyst. *Am. J. Obst. N. Y.* XIV. 656.—**Jastrebow.** On a point in the diagnosis of ovarian tumours. *Tr. Inter-*

nat. M. Cong. 7 sess. *Lond.* IV. 331-333. — **Von Jaksch, R.** Pneumocystoovarium, ein casuistischer Beitrag zur Lehre von der Peptonurie. *Prag. med. Wehnschr.* VI. 133, 143. — **Kellar, W. B.** Comments on Dr. Mathes's case of ovarian tumor. *Cincin. Lancet & Clinic.* N. s. VII. 521. — **Lowder, H. R.** Post-mortem revealing an ovarian tumor that had been mistaken for a fibroid of the uterus. *Ohio M. Recorder. Columbus.* 1880-81. V. 499. — **Malassez et De Sinéty.** Sur la structure, l'origine et le développement des kystes de l'ovaire. *Arch. de physiol. norm. et path.* *Par.* 1878. 2 s. V. 39, 343. 1 pl. 1879. VI. 624. 1880. VII. 867. 1 pl. 1881. VIII. 224. 1 pl. — **Mann, M. D.** Dermoid tumor of the ovary. *Am. J. Obst. N. Y.* XIV. 893-895. — **Mathes, G. L.** An ovarian tumor that caused obstruction and death. *Cincin. Lancet & Clinic.* N. s. VII. 490-495. — **McConnell, J. B.** A case of ovarian tumor; recovery after accidental bursting of the tumor. *Canada M. Rec. Montreal.* 1881-82. X. 1-3. — **Méhu, C.** Étude sur les liquides extraits des kystes ovariens. *J. de pharm. et chim. Par.* 5 s. IV. 447-453. *Also*, *Arch. gén. de méd. Par.* II. 257-286. *Also*, Reprint. — **Meredith, W. A.** Ovarian cyst which had ruptured repeatedly during a period of nine years prior to its removal. *Tr. Path. Soc. Lond.* 1879-80. XXXI. 180-182. — **Nicaise.** Tumeurs solides des ovaires. *Bull. et mém. Soc. de chir. de Par.* N. s. VII. 554-559. — **Noeggerath.** Pregnancy complicated by the presence of an ovarian cyst. *Med. Rec. N. Y.* XX. 552. — **Patenko, T.** Ueber die Entwicklung der Corpora fibrosa in Ovarien. *Arch. f. path. Anat., etc. Berl.* LXXXIV. 193-207. 2 pl. — **Punctio** cyst. ovarii. *Aerztl. Ber. d. k. k. allg. Krankenh. zu Prag* (1878). 1880. 265-267. — **Roberts, L.** Pseudo-colloid ovarian tumour. *Brit. M. J. Lond.* I. 723. — **Robin, C.** Sur les liquides ovariens normaux et accidentels. *Gaz. méd. de Par.* 6 s. III. 310-312. — **Satterthwaite, T. E.** Multilocular ovarian tumor; accidental injury causing amelioration of the symptoms; death from constriction of the intestines and general peritonitis. *Med. Rec. N. Y.* XX. 78. — **Schuchardt.** Zwei Präparate von Eierstockgeschwülsten. *Breslau. aerztl. Ztschr.* III. 101. — **Slavjansky.** Fibromyxoma duplex ovariorum. *Edinb. M. J.* 1881-82. XXVII. 787-789. — **De Sousa, F. T. Botelho.** Observação de kysto do ovario. *Correio med. de Lisb.* 1879. VIII. 185-189. — **Tait, L.** On axial rotation of ovarian tumours leading to their strangulation and gangrene; three cases successfully treated by immediate ovariectomy. *Tr. Obst. Soc. Lond.* (1880). XXII. 86-103. — **Terrier, F.** Contribution à l'étude des résultats fournis par l'ablation incomplète des kystes de l'ovaire. *Rev. de chir. Par.* I. 625-642. — **Thomas, T. G.** A case of ovarian tumor treated by incision and drainage. *N. York M. J.* XXXIII. 625. — **Thornton, K.** Papilloma-bearing ovarian cysts. *Med. Times & Gaz.*

*Lond.* I. 213, 673. — **Tournay, G.** Kyste de l'ovaire rompe dans l'intestin la veille du jour fixé pour l'opération; péritonite consécutive; guérison. *Presse méd. belge. Brus.* XXXIII. 369-373. — **Turretta, A.** Ciste dermoide dell'ovajo, apertasi per suppurazione nella parete addominale; guarigione. *Gior. internaz. d. sc. med. Napoli.* N. s. III. 1151-1158. — **Variot.** Kyste dermoide de l'ovaire; ataxie locomotrice. *Progrès méd. Par.* IX. 444. *Also*, *Bull. Soc. anat. de Par.* 1880. LV. 616. — **Weinlechner.** Ein vom rechten Ovarium ausgehendes 2 mannkopfgrosses Gallertcarcinom mit hochgradigem Ascites, nach dessen Punction letale Peritonitis eintrat. *Ber. d. k. k. Krankenanst. Rudolph-Stiftung in Wien.* 1880. 427. — **Weinlechner.** Vom rechten Ovarium ausgehendes Gallertcystoid; Punction; Tod durch Peritonitis; bemerkenswerther Obductionsbefund. *Ber. d. k. k. Krankenanst. Rudolph-Stiftung in Wien.* 1880. 421. — **Wiltshire.** Case of ruptured ovarian cyst. *Brit. M. J. Lond.* II. 669. *Also*, *Lancet.* *Lond.* 1881. II. 709. — **Wingate, U. O. B.** Spindle-celled sarcoma of ovaries, with deposits of the same growth in the stomach. *Boston M. & S. J.* CV. 37. — **Zagieli, F.** Caso di guarigione di una cisti ovarica sinistra complicata a gravidanza. *Bull. d. r. Accad. med. di Roma.* VII. 57-66.

#### PARAMETRITIS. *See, also*, Inflammation; Pelvic.

DOMAŃSKI, F. \*Parametritis nicht puerperalen Ursprungs. 8° *Halle.* 1880.

DUNCAN, M. A case of parametritis with a remote abscess; recovery. *Med. Press & Circ. Lond.* N. s. XXXII. 191.

#### PELVIS.

HART, D. B. \*The Structural Anatomy of the Female Pelvic Floor. *Fol. Edinburgh.* 1880.

KÖLLIKER. Ueber die Lage der Organe im weiblichen Becken. *Sitzungsab. d. phys.-med. Gesellsch. zu Würzb.* 120-123.

LANGER. Ueber den Situs der weiblichen Becken-Viscera. *Anz. d. k. k. Gesellsch. d. Aerzte in Wien.* 49-52.

#### PELVIS, Abscess of the.

DANION, AUGUSTE. \*De l'adénoplegmon juxtapubien. *Paris.* 4° 48 pp. 1881.

LUSK, W. T. Retro-uterine abscess mistaken for a fibrous tumor; death from septicæmia after the use of tents. *N. York M. J.* XXXIII. 253. — **Lusk.** Retro-uterine abscess mistaken for a fibrous tumor; death from septicæmia after the use of tents. *Obst. Gaz. Cincin.* 1880-81. III. 637-633. — **Morrill, L. T.** A case of pelvic cellulitis resulting in abscess. *Med. Ann. Albany.* II. (Tr. M. Soc. County Albany. 147.) — **Morrison, F. A.** Case of pelvic abscess discharging through the uterus. *St. Louis Clin. Rec.* 1881-82. VIII. 238. —

**Weinlechner.** Ein perimetrischer Abscess bei Prolapsus uteri vom Mastdarme aus eröffnet; Tod durch Pyämie. Ber. d. k. Krankenanst. Rudolph-Stiftung in Wien. 1880. 419.

#### PELVIS, Contracted.

**Chantreuil, G.** Du bassin cyphotique. [From: France méd.] *In his: Clin. d'accouch.* 8° *Par.* 91-102. — **Pinard.** Rétrécissement du bassin; indications. *Gaz. d. hôp. Par.* LIV. 497, 513, 521, 564.

#### PELVIS, Deformed.

**INVERARDI, G.** Descrizione di un bacino cifotico. *Milano.* 8° [Repr. from: *Ann. di ostet.*]

**NICOLINI, G. B.** Un bacino spinoso: descrizione. *Pavia.* 8°

**Chantreuil.** Du bassin cyphotique. *Arch. de tocol. Par.* VIII. 219-230. IX. 268, 275. — **Depaul.** De quelques conformations vicieuses du bassin. *Gaz. d. hôp. Par.* LIV. 937. — **Maggioli, V.** Due pelvi con deformazione rara per mancanza congenita della sinfisi publica e diastasi delle ossa relative: gespalteten Beckens di Th. Litzmann; bassin fendus dei francesi. *Ann. univ. di med. e chir. Milano.* CCLV. 52-92. 2 pl. 234-277. *Also,* Reprint. — **Marchioli, G.** Il bacino ovoidale obliquo studiato ne' suoi clinici rapporti. *Gazz. med. ital. lomb. Milano.* 8s. III. 51-55, 61-63. *Also,* Reprint. — **Sacchi, P.** Di alcuni bacini viziati. *Bull. d. Comit. med. cremonese. Cremona.* I. 100-107.

#### PELVIS, Measurements of the.

**CROUZAT, EUG.** \*De la mensuration du diamètre promonto-pubien minimum au point de vue obstétrical et d'un instrument pour la pratique suivant la méthode directe. *Paris.* 70 pp. 1 pl. 1 ch. 4°

**FREY, A.** \*Étude sur un procédé de mensuration du bassin au moyen de tiges flexibles, avec un essai sur l'histoire de la pelvimétrie. *Strasbourg.* 8° 1880.

**SETTIMI, A.** Sulla pelvimetria. *Camerino.* 8°

**Clisométrie, De la;** mesure de l'inclinaison des détroits et d'une façon très simples de la pratiquer. *Paris méd.* VI. 249. — **Depaul.** Pelvimètres et pelvimétrie. *Gaz. d. hôp. Par.* LIV. 858-860. — **Garson, J. G.** Pelvimetry. *J. Anat. & Physiol. Lond.* 1881-82. XVI. 106-134. 1 pl. — **Hamon.** Nouveau céphalo-pelvimètre universel. *J. d'accouch. Liège.* II. 118-120. — **Harrison, J. R.** A new pelvimeter. *Mississippi Valley M. Month. Memphis.* I. 556. — **Küstner, O.** Die exacte Messung aller Dimensionen des kleinen Beckens an der lebenden Frau. *Arch. f. Gynaek. Berl.* XVII. 54-68. 1 pl. — **Küstner, O.** Weitere Beiträge zur exacten inneren Beckenmessung an der Lebenden. (Eine einfache Methode, die

Querdurchmesser des kleinen Beckens an der lebenden Frau zu messen.) *Deutsche med. Wchnschr. Berl.* VII. 245-247. — **Rubinstein.** Wahrung der Priorität der Messungsmethode des Symphysen-Conjugata-vera Winkels; (contra A. Tschernowa-Popowa.) *Centralbl. f. Gynäk. Leipz.* V. 553-555.

#### PELVIS, Tumors of the.

**Bouley.** Kyste hydatique multiloculaire du petit bassin; adhérences multiples avec les organes avoisinants, intestins, utérus, vagin, etc.; adhérence de la vessie et incontinence d'urine; oblitération presque complète du vagin. *Progrès méd. Par.* IX. 775. — **Champneys, F. H.** On the pain in pelvic cancer and its relief by morphia, illustrated by fifty cases. *Tr. Obst. Soc. Lond.* (1880). XXII. 5-31. — **Coblenz, H.** Zur Genese und Entwicklung von Kystemen im Bereich der inneren weiblichen Sexualorgane. *Arch. f. path. Anat., etc. Berl.* LXXXIV. 26-70. 1 pl. — **Gärner.** 2 Fälle von malignen Tumoren in Cavum Douglas, und Zwischen Blase und Scheide. *Med. Cor.-Bl. d. württemb. ärztl. Ver. Stuttg.* LI. 100. — **Kroner, T.,** und **F. Marchand.** Meningocele sacralis anterior; ein Beitrag zur Kenntniss der Beckencysten. *Arch. f. Gynaek. Berl.* XVII. 444-474. 1 pl. — **Noeggerath, E.** Tumor of the ovarium; incision into the bladder; drainage of the sac; death in twenty-six hours. *Am. J. Obst. N. Y.* XIV. 663-666. — **Spiegelberg.** Ueber eine bislang nicht beschriebene Art von Beckencysten. *Jahresb. d. schles. Gesellschaft. f. vaterl. Kult.* 1880. *Bresl.* 1881. LVIII. 63.

#### PERINEUM, Laceration of the. See, also, Jurisprudence, and Labor, Sequelæ of.

**LATASTE, G.** \*Essai de critique historique de la périnéorrhaphie. *Bordeaux.* 53 pp. 4° 3s.

**LOTZ, LÉON.** \*De l'utilité de la suture immédiate (après l'accouchement) dans le traitement des déchirures incomplètes du périnée. *Nancy.* 60 pp. 4°

**MINTERT, FRANZ.** \*Ueber Verletzungen und Schutz des Damms in der Geburt. *Halle a. S. R. Nietschmann.* 44 pp. 8°

**RICAVY, V.** Du traumatisme de la région vagino-périnéale pendant l'accouchement, de son influence sur les suites de couches et de son traitement. *Lyon.* 4°

**THOMAS, GUSTAV.** \*Ueber die Methoden der Perineoplastik bei veralteten complete Dammrissen. *Halle.* 37 pp. 8°

**Burke, W. C., Jr.** Laceration of the female perineum. *Proc. Connect. M. Soc. Hartford.* N. s. II. No. 2. 189-200. — **Caccioppoli, D.** Progetto



di cura della lacerazione completa del perineo. Resoc. Accad. med.-chir. di Napoli. XXXV. 10. — **Conant, C. M.** A case of ruptured perineum. Homœop. J. Obst. N. Y. 1881-82. III. 57-61. — **Gilechrist, J. G.** Lacerations of the female perineum. Weekly M. Counselor. Chicago. 1881-82. VI. 161-165. — **Greene, J. M.** Case of extensive laceration of perineum with prolapsus uteri, complicated with vaginal cystocele. Tr. Mississippi M. Ass. Jackson. XIV. 136-138. — **Hall, L. M.** Operation for lacerated perineum followed by good results after apparent failure. Physician & Surg. Ann Arbor, Mich. III. 151. — **Harley, R. W.** Delivery through the perineum. Dublin J. M. Sc. 3 s. LXXII. 240-246. — **Hirschberg, M.** Vereinfachung der Dammplastik bei veralteten complete Dammrissen. Arch. f. klin. Chir. Berl. XXVI. 67-76. 1 pl. Also, Verhandl. d. deutsch. Gesellsch. f. Chir. 1880. Berl. IX. Pt. 2. 203-212. — **Landis, H. G.** The prevention of laceration of the perineum. Med. Rec. N. Y. XIX. 253-255. — **Nickerson, N.** Laceration of the perineum; whose fault is it? N. Eng. M. Month. Newtown, Conn. 1881-82. 1. 60-74. — **Nott, T. H.** After perineorrhaphy. Texas M. & S. Rec. Galveston. I. 362-376. — **Notta.** Rupture complète du périnée et de la cloison recto-vaginale dans une hauteur de 3 centimètres; opération sept mois après l'accident; guérison complète. Union méd. Par. 3 s. XXXII. 277-281. — **Owens, B. A.** A distressing case due to lacerated perineum. Physician & Surg. Ann Arbor, Mich. III. 554-556. — **Pacifico Pereira, A.** Rupturas do perineo e perineorrhaphia. Gaz. med. da Bahia. 1880-81. 2 s. V. 16-22. — **Polailion.** Restauration d'une déchirure du périnée; guérison en onze jours. France méd. Par. II. 867. — **Radford, J. H.** A case of complete rupture of the perineum which united spontaneously. Canada J. M. Sc. Toronto. VI. 235. — **Reamy, T. A.** Rupture of the perineum; a clinical lecture. Cin. Lancet & Clinic. N. s. VII. 487-489. — **Runnels, O. S.** The operation for lacerated perineum. Homœop. J. Obst. N. Y. 1881-82. III. 61-67. — **Stadfeldt.** Fødsel geniem en Centralruptur af perineum. Gynæk. og obst. Medd. Kjøbenhavn. III. Pt. 2. 1-3. — **Stevens, E. B.** Case of laceration of the perineum; operation; cure. Obst. Gaz. Cin. 1880-81. III. 593. — **Stuart, F. H.** The management of the perineum during labor, and the immediate treatment of lacerations. Proc. M. Soc. County Kings. Brooklyn. 1881-82. VI. 13-29. — **Thomas, T. G.** Prolapse of the bladder from rupture of the perineum; marked retroflexion. Boston M. & S. J. CV. 462. — **Thomas, T. G.** Rupture of the perineum followed by prolapsus uteri. Bost. M. & S. J. CV. 461. — **Veit, J.** Ueber die Naht frischer Dammrisse. Deutsche med. Wchnschr. Berl. VII. 280-283. — **Warren, J. H.** Laceration of cervix uteri and perineum. Virginia M. Month. Richmond. 1880-81. VII. 924-933.

## PERITONITIS.

**Emmet, T. A.** Peritonitis without characteristic symptoms. Am. J. Obst. N. Y. XIV. 123-126.

## PESSARIES.

**MacCormac, J. McG.** The universal hysterophore. Lancet. Lond. I. 314. — **Price, E. C.** Some of the unpleasant effects of pessaries. Homœop. J. Obst. N. Y. 1881-82. III. 275-277. — **Rodenstein.** A pessary worn eleven years continuously. Am. J. Obst. N. Y. XIV. 656. — **Thevenot, A.** Des pessaires à antéversion. Union méd. Par. 1881. 3 s. XXXII. 781, 805. Also, Arch. de tocol. Par. 1882. IX. 82-92. — **Vidal Solares.** Nuevos pesarios. Independ. méd. Barcel. 1881-82. XVII. 159. — **Wendt, E. C.** Chronic perimetritis and vaginitis, with purulent vesical catarrh, caused by a pessary worn without interruption for ten years, and firmly attached to the cervix by a bridge of tissue. Med. Rec. N. Y. XX. 718.

## PHLEGMASIA DOLENS.

**Corral y Mairó, M.** Flegmasia alba-dolens. Alumno méd. Madrid. 1880-81. II. 105. — **Duncan, M.** Case of phlegmasia dolens with lymphatic varix. Brit. M. J. Lond. I. 883. — **Sen, P.** La flegmasia alba dolens; debe siempre considerarse como una hepatitis crural? Union méd. de Aragon. Zaragoza. 1880-81. 2 ép. II. 465, 481, 506.

## PLACENTA.

**Holl, M.** Ueber die Blutgefäße der menschlichen Nachgeburt. Sitzungsbd. d. k. Akad. d. Wissensch. Math.-naturw. Cl. Wien. LXXXIII. 219-260. 2 pl. Also, Reprint.

## PLACENTA, Delivery of the.

**FESTNER, PAUL.** \*Ueber die zweckmässigste Behandlung der Nachgeburtperiode. Halle. E. Karras. 44 pp. 8<sup>o</sup>

**Abegg, H.** Zur Entfernung der Nachgeburt nach Credé. Arch. f. Gynaek. Berl. XVII. 378-381. — **Bouchacourt, A.** Délivrance. Dict. encycl. d. sc. méd. Par. 1 s. XXXVI. 466-519. — **Breisky.** Ueber den Credé'schen Handgriff zur Entfernung der Nachgeburt. Prag. med. Wchnschr. VI. 141, 153. — **Chenowith, W. J.** Removal of the afterbirth. Peoria M. Month. 1881-82. II. 340-344. — **Credé.** Ueber die zweckmässigste Methode der Entfernung der Nachgeburt. Arch. f. Gynaek. Berl. XVII. 260-280. — **Dohrn.** Zur Behandlung der Nachgeburtzeit. Deutsche med. Wchnschr. Berl. VII. 153-156. — **Engelmann, G. J.** The third stage of labor; an ethnological study. Am. J. Obst. N. Y. XIV. 303-322. — **Hamon, L.** De la délivrance. J. d. sages-femmes. Par. IX. 282, 292. — **Jerzykowski, S.** Kilka uwag nad leczeniem zbrocen okresu wydalania loizyska. [Delay in expulsion of placenta.] Gaz. lek. Warszawa. 2 s. I. 651-654. — **Kabierske.** Beitrag zur Frage über die Behandlung der Nachgeburtperiode.

Centralbl. f. Gynäk. *Leipz.* V. 145-155.  
 — **Smith, F.** Investigations of utero-placental circulation. *St. Louis M. & S. J.* XL. 129-133. — **Spiegelberg, O.** Zur Leitung der Nachgeburtsperiode. Deutsche med. Wchnschr. *Berl.* VII. 37-39. — **Weis, C.** Beitrag zur Frage über die Behandlung der Nachgeburtsperiode. Centralbl. f. Gynäk. *Leipz.* V. 249-252.

#### PLACENTA, Diseases of the, etc.

**Thevenot, A.** Double insertion vélementeuse du cordon dans un cas de grossesse gémellaire; causes de l'insertion vélementeuse. *Ann. de gynec. Par.* XV. 161-174. — **Ciccone, V.** Intorno ad alcuni accidenti morbosi della placenta; quattro storie cliniche. *Gazz. med. ital., prov. venete, Padova.* XXIV. 430-432. — **Hurt, G.** Diseased placentas. *St. Louis M. & S. J.* XL. 668-673. — **Mason, P. H.** Fibrous degeneration of the placenta. *Homœop. J. Obst. N. Y.* 1880-81. II. 390-394. — **Poole.** Two specimens of cystic degeneration of the chorionic villi. *Dublin J. M. Sc.* 3 s. LXXXI. 423-426. — **Prochownick.** Ausgebreitete placentare Sinusthrombose bei Uterus bicornis. *Arch. f. Gynaek. Berl.* XVII. 317-326. 1 pl.

#### PLACENTA PREVIA.

**Ashworth, J. H.** Placenta prævia. *Brit. M. J. Lond.* I. 847. — **Barabo.** Ein Fall von Placenta prævia complicirt mit Querlage und Nabelschnurvorfall. *Aerztl.-Int.-Bl. München.* XXVIII. 435. — **Buchanan, J. M.** Three cases of placenta prævia. *Gaillard's M. J. N. Y.* XXXI. 144-146. — **Budin.** Hémorrhagie par insertion vicieuse du placenta sur le col, au terme de la grossesse; tamponnement. *Gaz. d. hôp. Par.* LIV. 898. — **Burge, J. H. H.** The placenta as a tampon. *Proc. M. Soc. County Kings. Brooklyn.* 1881-82. VI. 136. — **Canton, W. G.** Un caso de implantación de la placenta en el cuello del útero. Emulación. *Mérida.* IV. 4-20. — **Chantreuil, G.** Hémorrhagies par insertion vicieuse du placenta; trois leçons. [From: France méd.] *Inhis: Clin. d'accouch.* 8<sup>o</sup> *Par.* 63-90. — **Charles, N.** Seconclipare à terme; hémorrhagie causée par l'insertion vicieuse du placenta; présentation déviée du sommet. *J. d'accouch. Liège.* II. 149-151. — **Chiari-leoni, G.** Il distacco parziale della placenta nei casi di ectopia placentare. *Gazz. d. osp. Milano.* II. 97-111. Also, Reprint. — **Coombs, C.** Placenta prævia. *Brit. M. J. Lond.* I. 1001. — **Davis, L. N.** Placenta prævia. *Med. & Surg. Reporter. Phila.* XLV. 173-175. — **Day, De W. C.** Placenta prævia. *South. Pract. Nashville.* III. 133-137. — **Dieterleu.** Deux observations de placenta prævia. *France méd. Par.* XXVIII. 694-698. **Discussion** on placenta prævia. *Med. Rec. N. Y.* XIX. 276-278. — **Glaister, J.** An unusual experience of placenta prævia, with notes of cases. *Tr. Edinb. Obst. Soc. Vol.* 86-92. — **Glaister, J.** An unusual experience in placenta prævia. *Edinb. M. J.* 1881-82. XXVII. 304-

307. — **Goode, B. P.** Midwives and placenta prævia. *Obst. Gaz. Cincin.* 1881-82. IV. 230. — **Hickinbotham.** A care of placenta prævia complicated by a large myoma. *Am. J. Obst. N. Y.* XIV. 908. — **Ingerslev, E.** Om Placenta prævia. *Hosp.-Tid. Kjöbenhavn.* 2 R. VIII. 921, 941, 954, 981, 1001, 1021. — **Insertion vicieuse** du placenta. *Marseille méd.* XVIII. 154-157. — **Insertion vicieuse** du placenta; version; détroncation; application de forceps. *Marseille méd.* XVIII. 548-550. — **Kistler, W. P.** Placenta prævia; a forced delivery at eight months; mother and child saved. *Med. & Surg. Reporter. Phila.* XLIV. 163. — **Lafourcade.** Insertion vicieuse du placenta sur le col; perforation du placenta; version; guérison. *Gaz. d. hôp. Par.* LIV. 732. — **Lozano Caparros, E.** Distocia fetal; insercion viciosa de la placenta; presentacion de nalgas; extraccion de las secundinas primero, feto despues. *Corresp. méd. Madrid.* XVI. 308-310. — **Lvoft, I. M.** Sovremennoe sostojanie voprosu ob etiologii placenta prævia. *Vrach. St. Petersb.* II. 753, 775, 809, 826, 849. — **Macan, A. V.** Placenta prævia with hydrocephalus. *Dublin J. M. Sc.* 3 s. LXXXI. 72-76. — **Mangiagalli, L.** Placenta prævia. *Ann. di ostet. Milano.* III. 621-637. — **March.** Hemorragia en la segunda mitad del embarazo; placenta prævia; muerte del feto. *Independ. méd. Barcel.* 1881-82. XVII. 182-184. — **Merle, C.** Deux observations d'insertion prævia, intervention rapide; succès. *Ann. Soc. de méd. de St. Etienne et de la Loire (1877-80).* VII. 25-33. — **Pilat.** Insertion vicieuse du placenta; hémorrhagie abondante, tamponnement, puis version; enfant mort-né; guérison de la mère. [From: Bull. méd. du nord.] *J. d. sages-femmes. Par.* IX. 105. — **Pilat.** Quelques cas d'insertion vicieuse du placenta sur le col de l'utérus. *Bull. méd. du nord. Lille.* 1880. XIX. 299, 323, 344, 468. 1881. XX. 54, 112. — **Pulido y Fernandez, A.** Distocia fetal; insercion viciosa de la placenta; presentacion de tronco, version podálica; muerte á los seis dias. Siglo méd. *Madrid.* XXVIII. 533, 558, 602. Also, *An. de obst., ginep. y pediat. Madrid.* 2 ép. I. 331-340. — **Revilla, N.** Parto en presentacion de hombro; posición céfaloflaca izquierda; insercion viciosa de la placenta y desprendimiento parcial de la misma; metrorragia grave; version podálica con éxito feliz; pronto restablecimiento. *An. de obst., ginepat. y pediat. Madrid.* 2 ép. VI. 177-179. — **Roy, G. C.** A case of placenta prævia treated by partial separation of placenta and ergot; recovery. *Indian M. Gaz. Calcutta.* XVI. 258. — **Scott, I.** A case of placenta prævia. *Coll. & Clin. Rec. Phila.* II. 254. — **Sheller, A.** A case of placenta prævia. *Quart. Tr. Lancaster City & Co. M. Soc.* 1880-81. I. 79. — **Soca, L.** Insercion anormal completa ó central de la placenta. *Rev. de cien. méd. Barcel.* VII. 503-505. — **Styles, S. F.** A case of placenta prævia. *Tex. M. & S. Rec. Galveston.* I. 130-136. — **Wallace, W.** Placenta prævia. *Proc. M. Soc. County Kings.*

*Brooklyn.* 1831-82. VI. 118-124.—  
**WARTH, E. J.** A case of placenta previa. *St. Louis Cour. Med.* VI. 28. *Also*, *Tr. M. Ass. Missouri. St. Louis.* XXIV. 147-149.

**PLACENTA, Retained.**

**BUBENDORF, GEORGES - ALPHONSE.** \*Considérations sur l'enchâtonnement du placenta. *Nancy.* 71 pp. 4°

**SCHWENKE, EMIL.** \*Ueber Chonrionretention. *Halle.* 1881. E. Karras. 36 pp. 8°.

**AIR, A. C.** Adhesion of the placenta. *Lancet. Lond.* I. 210.—**DAUCHEZ, H.** Grosseesse gémellaire de 4 mois  $\frac{1}{2}$ ; avortement; rétention du placenta suivie de guérison sans aucun accident septicémique. *France méd. Par.* XXVIII. 268-270. *Also*, *Arch. de tocol. Par.* VIII. 173-175.—**JACOB, E. H.** Case of retention of placenta for seven months. *Lancet. Lond.* II. 374.—**KÜSTNER, O.** Decidua retention; Deciduium; Adenoma uteri. *Arch. f. Gynaek. Berl.* XVIII. 252-262. 1 pl.—**NICHOLSON, W.** Remarkable case of retention of the placenta. *Lancet. Lond.* II. 122.—**REITER, W. C.** An expeditious method of delivering retained placenta. *Coll. & Clin. Rec. Phila.* II. 132.—**SHALLER, J. M.** Adherent placenta. *Obst. Gaz. Cincin.* 1851-82. IV. 225-228.—**WEITZENBLUT, L.** O potrzebie narzedzia do wydobycia resztek jajki plodowego pozostalych w macicy, oraz opis fizycznej lozyskowej. [Need of forceps to extract fragments of placenta.] *Pam. Towarz. Lek. Warszaw.* LXXVII. 562-570.

**PLANIGRAPH.**

**PUTILOFF, K.** planigraphii v akusherstve. [The planigraph in obstetrics.] *Vrach. Vaidom. St. Petersb.* VI. 2615-2617.

**PLEURO-PNEUMONIA in Pregnancy.**

**OLIVAN, E.** Pleuro-neumonía en una señora embarazada de siete meses; parto prematuro espontáneo de un niño vivo al noveno día; retencion de la placenta por inercia de la matriz con metrorragia; extraccion; curacion. *Bol. ofic. Acad. méd. quir. españ. Madrid.* I. 3-7.

**POLYPODIUM.**

**MASTIN, C. H.** Polypodium incanum; its emmenagogue properties. *Chicago M. Rev.* IV. 377.

**PORRO'S OPERATION. See Cesarean Section with Removal of the Uterus.****POSTURE, Genu-pectoral.**

**HART, D. B.** The clinical features, anatomy, and uses of the genupectoral posture. *Am. J. Obst. N. Y.* XIV. 820-828.

**PREGNANCY. See, also, Auscultation.**

**GRETSCHER DE WANDELBURG, A.** D'une grossesse après une

longue absence présumée des règles. *In his: Mém. de méd. et chir.* 8° Paris.

**HOLST, J.** Conceptionstermin und Schwangerschaftsdauer. *Dorpat.* 8° I M. 60.

**KREUZMANN, HEINRICH.** \*Ueber die Messung Schwangerer als diagnostisches Hilfsmittel. *Erlangen.* 1880. Junge & Sohn. 36 pp. 8°.

**LETULLE, MAURICE.** Recherches sur l'état du cœur des femmes enceintes ou récemment accouchées. *Paris.* 8°

**PLET, LÉON.** \*Contribution à l'étude de l'influence de la grossesse sur les corps thyroïdes. *Paris.* 51 pp. 4°

**ADLER, A. S.** On abdominal examination in pregnancy; its diagnostic value. *Pacific M. & S. J. San Fran.* 1880-81. XXIII. 498-505.—**BATTEY, R.** Diagnosis of pregnancy; errata. *Obst. Gaz. Cincin.* 1880-81. III. 622.—**BROUSSIN.** Note sur la rétention d'urine au début de la grossesse. *Arch. gén. de méd. Par.* II. 287-296.—**COMNTEIN.** Ueber Prædilectionszeiten der Schwangerschaft und Sterilität. *Arch. f. Gynaek. Berl.* XVIII. 41-43.—**DURATION** of pregnancy. [Edit.] *South. M. Rec. Atlanta.* XI. 249-251.—**FISCHL, W.** Ueber ein bisher noch nicht beobachtetes Phänomen bei Deflexionslagen. *Prag. med. Wchnschr.* VI. 281, 295.—**GOTH, M.** A testúly ingadozásairól a terhesség alatt és a gyermekágyban. [Varying weight of body during pregnancy.] *Orvosi hetil. Budapest.* XXV. 209, 235, 255, 303, 349.—**HICKS, J. B.** Further remarks on the use of the intermittent contractions of the pregnant uterus as a means of diagnosis. *Tr. Internat. M. Cong.* 7 sess. *Lond.* IV. 271-274.—**IDELSON, E.** K voprosu o prodolji ternosti chelovecheskoi beremennosti. [On the duration of pregnancy.] *Vrach. St. Petersb.* II. 59.—**JOHNSON, J. T.** Can we make a positive diagnosis of pregnancy previous to the occurrence of the audible sounds of the fetal heart and the detection of the fetal movements? *Tr. Am. M. Ass. Phila.* XXXII. 271-277. *Also*, Reprint.—**LETULLE, M.** Recherches sur l'état du cœur des femmes enceintes ou récemment accouchées; de la dilatation du cœur dans la grossesse et les suites de couches. *Arch. gén. de méd. Par.* CXLVII. 257-275.—**NICKERSON, N.** The diagnosis of early pregnancy. *N. Eng. M. Month. Newtown, Conn.* 1881-82. I. 206-214.—**O'CONNELL, P.** Duration of normal human pregnancy. *Chicago M. J. & Exam.* XLII. 337-346.—**PARVIN, T.** Coition in pregnancy. *Am. Pract. Louisville.* XXIV. 12-16.—**RUGE, C.** Ist die Decidua zelle für die Graviddität charakteristisch? *Centralbl. f. Gynäk. Leipzig.* V. 287-289.—**SAUCEROTTE, C.** L'hygiène de la grossesse et la saignée préven-

tive. *J. d'hyg. Par.* VI. 592-595. — **Schweiger, Z.** A vastartalmú ásványvíz für-dő-es ivógyógyomdýának használata tekintettel a terhességre. [Beneficial effect of moderate use of ferruginous mineral waters in pregnancy.] *Orvosi hetil. Budapest.* XXV. 253-255. *Also*, *Pest. méd.-chir. Presse.* *Budapest.* XVII. 252-255. — **“Thoroughbred, A.”** Chacun à son goût; Mauriceau or Dionis; which? [Coition during pregnancy.] *South. Pract. Nashville.* III. 272-279. — **Vasileff, A. V.** Sluchai rodov pjadidesjatipjatiletneou jentshinoiu. [Birth in a woman of 50 years of age.] *Vrachs. Vaidom. St. Petersburg.* VI. 2670-2672.

**PREGNANCY, Complications and Diseases of.** *See, also, Chorea; Jaundice; Pleuro-pneumonia in Pregnancy; Uterus, Gravid, etc.*

**ROMEZ, EDOUARD.** \*De l'hypertrophie générale de la glande mammaire chez la femme dans le cours de la grossesse. *Paris.* 82 pp. 4°

**COURRÉJOL, L.** \*Des accidents gravido-cardiaques et de leurs indications obstétricales. *Paris.* 116 pp. 4°

**Bennet, J. H.** On hæmorrhage and excessive sickness during pregnancy; and on abortion, in connection with inflammation of the uterus and of its cervix. *Brit. M. J. Lond.* II. 37-41. — **Cordell, E. F.** Profuse flooding at seventh week of pregnancy; artificial delivery of ovum necessitated. *Virginia M. Month. Richmond.* 1881-82. VIII. 357. — **Defontaine.** Grossesse avec douleurs abdominales extrêmement vives; vomissements et impossibilité presque absolue de l'alimentation; amélioration. *J. d'accouch. Liège.* II. 115. — **Depaul.** Éventration acquise; treizième accouchement; enfant mort pendant le travail. *J. d. sages-femmes. Par.* IX. 329. — **Galabin.** A case of pregnancy complicated by cancer of cervix uteri, followed by pyæmia, associated with symptoms simulating diphtheria. *Med. Times & Gaz. Lond.* II. 295. — **Galabin.** A case of pregnancy complicated by cancer of the cervix uteri, followed by pyæmia associated with symptoms simulating diphtheria. *Am. J. Obst. N. Y.* XIV. 911-913. — **Hanot, V.** Rhumatisme puerpéral dans le premier mois d'une grossesse; avortement. *France méd. Par.* XXVIII. 706-710. — **Harris, R. P.** Do close adhesions between the uterus and abdominal wall, the uterus, or its appendages, and adjacent parts within the pelvis; and between the uterus and omentum, complicate subsequent gestation and parturition? *Tr. Phila. Obst. Soc. (1880.)* 15-28. — **Holmes, E. L.** Color-blindness during pregnancy. [Abstr. from: *Arch. Ophth.*] *Chicago M. J. & Exam.* XLIII. 606. — **Hurt.** Loss of liquor amnii. *St. Louis M. & S. J.* XLI. 499-506. — **Janot, A.** Note sur une môle de forme singulière. *Rev. méd. de Toulouse.* XV. 161-167. — **Menstruation** during preg-

nancy. Discussion. *St. Louis Cour. Med.* V. 239-246. — **Moffat, R. C.** Edema of the labia. *N. York M. Times.* 1881-82. IX. 45. — **Monod, C.** Gonflement énorme des seins chez une femme enceinte. *Bull. et mém. Soc. de chir. de Par.* N. s. VII. 738. — **More.** Du rachitisme propter graviditatem et de ses conséquences. *France méd. Par.* II. 470-474. — **Morra, E.** Sull' azione antipiretica dell' acido fenico nelle malattie della gravidanza e del puerperio. *Riv. clin. di Bologna.* 3. s. I. 536, 604, 658. — **Nottingham, J. C.** Fibrous attachment of placenta and hypertrophy of the uterus from injury. *Homœop. J. Obst. N. Y.* 1881-82. III. 148-150. — **Puech, A.** Du purpura hemorrhagica étudié au point de vue de ses rapports avec la menstruation et la grossesse. *Ann. de gynéc. Par.* XVI. 265-278. — **Richardson, W. L.** Excessive thirst and polyuria occurring during pregnancy. *Boston M. & S. J. CIV.* 248. — **Smith, W. G.** On herpes (hydroa) gestationis. *Dublin J. M. Sc.* 3. s. LXXI. 70-72. — **De Sojo, F.** Contribucion al estudio de las enfermedades infecciosas agudas en sus relaciones con el embarazo. *Gac. méd. catal. Barcel.* I. 297-302. — **Valin, H. D.** Hemiplegia at fourth month of pregnancy; recovery. *Chicago M. J. & Exam.* XLII. 271. — **Voornhees, S. R.** Hysteralgia during gestation. *Obst. Gaz. Cincinnati.* 1880-81. III. 619-621. — **Warren, J. S.** The hysteroneurosis of the stomach in pregnancy and its management. *Tr. M. Soc. N. Y. Syracuse.* 231-240. *Also*, *Med. Rec. N. Y.* XIX. 339-341. — **Werth.** Retention einer ausgetragenen Frucht in dem unvollkommen entwickelten Horne eines Uterus bicornis. *Arch. f. Gynaek. Berl.* XVII. 281-297.

**PREGNANCY, Extra-uterine.** *See, also, Lithopedion.*

**FINGER, P.** \*Ueber extrauterinale Schwangerschaft. [Würzburg.] 8° *Munsterberg.* 1880.

**GUICHARD, A.** Deux observations de grossesse extra-utérine péritonéale recueillies à la Maternité d'Angers. *Paris.* 1881. 8° [Repr. from: *Ann. de gynéc.*]

**HEINEKEN, GUSTAV.** \*Ueber Extrauterinschwangerschaften mit Berücksichtigung eines Falles von Laparotomie bei Graviditas ovarica. *Halle.* E. Karras. 33 pp. 8°

**SASSMANN, ERNST.** \*Ein Fall von interstitieller Schwangerschaft. [Erlangen.] *Nürnberg.* 1880. S. Kunze. 15 pp. 8°

**Anderson, E. C.** Extra-uterine foetation. Remarkable case. Gaillard's *M. J. N. Y.* XXXI. 520. *Also*, *Am. M. Bi-Weekly. N. Y.* XII. 277. XIII. 31, 232. — **Beisome, G.** Gravidanza extra-uterina a termine; gastrotomia; morte della madre al 6° giorno e salvezza del feto. Indipendente. *Torino.* XXXII.

553-557. — **Bell, C.** Extra-uterine conception. Tr. Edinb. Obst. Soc. VI. 222-228. *Also*, Edinb. M. J. 1881-82. XXVII. 294-299. — **Brightwell, J. H.** Case of labor called extra-uterine foetation. [E. C. Anderson's case.] Gaillard's M. J. N. Y. XXXII. 346-348. *Also*, Am. M. Bi-Weekly. N. Y. XIII. 230-232. — **Bulteau.** Grossesse extra-utérine; expulsion du fœtus par le rectum; guérison. Union méd. et scient. du nord-est. Reims. V. 289-293. — **Burckhardt, H.** Ein Fall von Tubenschwangerschaft; Ruptur; Heilung. Berl. klin. Wchschr. XVIII. 699. — **Burnier, H.** Zwei neue Fälle von Tuboovarialcysten. Ztschr. f. Geburtsh. u. Gynäk. Stuttg. VI. 87-92. — **Bush, R. H.** Extra-uterine foetation. Texas M. & S. Rec. Galveston. I. 127-130. — **Carter, C. H.** Two cases of extra-uterine foetation, with results. Tr. Obst. Soc. Lond. (1880). XXII. 160-172. — **Davidson, L. G.** On a case of tubal gestation. Lancet. Lond. II. 827. — **Davie, J.** A case of extra-uterine pregnancy terminated by laparotomy thirty-nine months after conception; ulceration from the sac containing the foetus into the alimentary canal; complete recovery. Am. M. Bi-Weekly. N. Y. XII. 193-193. — **Fenomenoff, N.** K ucheniou o laparotomii pri vniematochnoi beremennosti. [On laparotomy in extra-uterine pregnancy.] Vrach. St. Petersb. II. 733-737. — **Galabin.** Extra-uterine associated with intra-uterine foetation; abdominal section. Brit. M. J. Lond. I. 884. — **Gallard, L.** Grossesse tubaire; rupture au milieu du troisième mois; mort; examen de la caduque utérine. Progrès méd. Par. IX. 442. *Also*, Bull. Soc. anat. de Par. 1880. LV. 607-611. — **Godson, C.** Rupture of tubal foetation. Tr. Obst. Soc. Lond. (1880). XXII. 186; report, 242. — **Goodell, W.** A case of laparotomy for extra-uterine foetation. Tr. Phila. Obst. Soc. (1880). 34-41. *Also*, Am. J. Obst. N. Y. XIV. 128-135. — **Goodell, W.** Extra-uterine foetation. Phila. M. Times. 1881-82. XII. 292. — **Goodell, W.** Extra-uterine foetation. Med. & Surg. Reporter. Phila. XLV. 13. — **Goodell, W.** Laparotomy for extra-uterine foetation. Am. J. Obst. N. Y. XIV. 898-900. — **Guichard, A.** Grossesse extra-utérine péri-toneale au huitième mois, prise pour une grossesse utérine avec présence d'un corps fibreux; rupture du kyste; mort de la femme et de l'enfant; développement anormal du placenta; autopsie. Ann. de gynec. Par. XV. 199-205. — **Hassler, J. P.** A case of extra-uterine pregnancy. N. York M. J. XXXIII. 423-428. *Also*, Am. J. Obst. N. Y. XIV. 800. — **Hicks, J. B.** Case of extra-uterine foetation about the seventh month of pregnancy. Sudden urgent symptoms; removal of foetus by abdominal section; death. Tr. Obst. Soc. Lond. (1880). XXII. 141-153. — **Kaltenbach.** Zur Therapie der Extrauterin-Schwangerschaft. Arch. f. Gynaek. Berl. XVIII. 473-477. — **Legendre.** Grossesse extra-utérine abdominale; communication du kyste avec

les 2 trompes et ouverture dans l'S iliaque. Progrès méd. Par. IX. 404. *Also*, Bull. soc. anat. de Par. 1880. LV. 580-584. — **Leopold, G.** Experimentelle Untersuchungen über das Schicksal implantirter Föten; ein Beitrag zur Physiologie der Extrauterin-schwangerschaft. Arch. f. Gynaek. Berl. XVIII. 53-80. 1 pl. — **Litzmann, C.** Gastrotomie bei Tubenschwangerschaft, neun Monate nach dem Tode der ausgetragenen Frucht, mit vollständiger Entfernung des Fruchtsackes und glücklichem Ausgange für die Mutter. Arch. f. Gynaek. Berl. XVIII. 1-13. — **Lorentzen, L.** Et Tilfælde af Graviditas extrauterina. Hosp.-Tid. Kjøbenhavn. 2 R. VIII. 581-588. — **Lusk, W. T.** The treatment of extra-uterine pregnancy. Am. J. Obst. N. Y. XIV. 329-341. — **Martin, A.** On the operative treatment of extra-uterine pregnancy. Tr. Internat. M. Cong. 7 sess. Lond. IV. 333-336. 1 ch. — **Martin, A.** Ueber Extrauterin-schwangerschaft. Berl. klin. Wchschr. XVIII. 753, 775. — **Matsuwo Kozo.** [Autopsy of ovarian pregnancy.] Tokei Zasshi. Osaka. March. 25. — **Nezel, W., and Eneström, P. A.** Fall af extrauterin-hafvar deskap. Hygiea. Stockholm. XLIII. 169-191. — **Newcomb, G. H.** Extra-uterine foetation; a case. Med. Ann. Albany. II. 121. — **Noeggerath.** Hæmatocele from tubal pregnancy; death. N. York M. J. XXXIII. 602. — **Piersons, A. M.** A case of double pregnancy; one intra-, the other extra-uterine; abortion of the first, rupture of the cyst containing the second; death and autopsy. Homœop. J. Obst. N. Y. 1881-82. III. 150-163. — **Pigeolet.** Rapport de la commission qui a examiné l'observation d'un cas de grossesse extra-utérine. [Expulsion of foetus by rectum; recovery.] Bull. Acad. roy. de méd. de Belg. Brux. 3 s. XV. 21-33. — **Popoff, N. V.** Sluchai vniematochnoi beremennosti. [Case of extra-uterine pregnancy.] Vrach. St. Petersb. II. 794. — **Roberts, W. O.** A case of extra-uterine pregnancy; operation. Am. pract. Louisville. XXXIII. 193-198. — **Rodriguez, J. M.** Qué ingerencia ó participio tiene la matriz en la preñez extrauterina? Independ. mécd. México. 1881-82. II. 173, 178. — **Roseneuans, H.** Extra-uterine foetation. Chicago M. J. & Exam. XLIII. 178-180. 1882. XLIV. 31-34. — **Saray Conde, F.** Preñez extrauterina observada dos veces en una misma mujer. Corresp. méd. Madrid. XVI. 349. — **Underhill, C. E.** Case of abdominal section in the sixteenth century. Tr. Edinb. Obst. Soc. VI. 78-83. — **Wallis, F. M.** Case of extra-uterine foetation. Brit. M. J. Lond. I. 847. — **Walker, J. E.** [E. C. Anderson's case of extra-uterine foetation.] Gaillard's M. J. N. Y. XXXII. 56. — **Wathen, W. H.** Treatment of extra-uterine pregnancy. Med. Herald. Louisville. 1881-82. III. 556-560. — **Werth.** Bericht über das anatomische Ergebniss einer Gastrotomie bei Extrauterin-schwangerschaft. Arch. f. Gynaek. Berl. XVIII. 14-40. 1 pl. — **White, J. P.** A case of extra-uterine pregnancy; tapping of sac;

- recovery. *Buffalo M. & S. J.* 1880-81. XX. 446-449.
- PREGNANCY, False.**
- Hart, C. P.** Nervous pregnancy. *Hemecop. J. Obst. N. Y.* 1880-81. II. 429-432. — **Leavitt, S.** Pseudocyesis. *Clinique. Chicago.* II. 152-162. — **Mallik, P. D.** Phantom tumour. *Lancet. Lond.* I. 617. — **Rendu, J.** Grossesse nerveuse arrivée à terme; début du travail. *Lyon méd.* XXXVIII. 118-121. — **Ross, G.** A case of pseudo-cyesis or phantom pregnancy. *Canada M. & S. J. Montreal.* 1880-81. IX. 652-655.
- PREGNANCY, Injuries during.**  
*See, also, Fractures during Pregnancy.*
- Keini, C.** Fall von Verschüttung einer hochschwangeren Frau; schwere eigenthümliche Verletzung; Erysipel; Heilung; normale Geburt. *Prag. med. Wehnschr.* VI. 203.
- PREGNANCY, Jurisprudence of.**
- Kun, T.** Terhes volt-e a nő? Meghatározható-e a magzatelhajtas hullan? [Medico-legal case. Was she pregnant or not?] *Allamvornos. Budapest.* 17-20, 33-35.
- PREGNANCY, Precocious.**
- Dodd, H.** Remarkable case of early maternity. *Lancet. Lond.* I. 601. — **Smith, H.** Precocious maternity. *Brit. M. J. Lond.* I. 639. — **Thomas, J. P.** A youthful mother. *Louisville M. News.* XI. 74.
- PREGNANCY, Prolonged.**
- ESTACHY, L.** Critique médicale des grossesses dites prolongées. *Marseille.* 80
- Clark, C. J.** Prolonged utero-gestation, with comments. *Am. M. Bi-Weekly. N. Y.* XIII. 75. *Also, Gaillard's M. J. N. Y.* XXXII. 111. — **Depaul.** Présentation d'un fœtus ayant séjourné onze mois dans la cavité utérine. *Bull. Acad. de méd. Par.* 28. X. 1043-1046. — **Mattei, A.** De la grossesse utérine prolongée. *Obstétrique. Par.* 1850. I. 293, 321. 1881. II. 5, 29. — **Merchant, J. M.** Case of protracted gestation. *Boston M. & S. J. CIV.* 214. — **Quelques** exemples de grossesses prolongées. *J. d'accouch. Liège.* II. 134-136. — **Thompson, Mary H.** A case of prolonged gestation and unusual labor. *Med. & Surg. Reporter. Phila.* XLIV. 561-565. — **Wileox, C. A.** Prolonged gestation. *Boston M. & S. J. CIV.* 131.
- PREGNANCY, Vomiting of.**
- Bailly.** Vomissements graves au troisième mois de la grossesse chez une primipare; amélioration brusque et définitive à la suite d'un vésicatoire volant posé sur l'épigastre et de l'application le long de la colonne vertébrale, d'un sachet rempli d'eau glacée. *Arch. de tocol. Par.* VIII. 36-44. *Also, J. d. sages-femmes. Par.* IX. 220-222. — **Campbell, W. H.** *Belladonna* in the sickness of pregnancy. *Brit. M. J. Lond.* I. 881. — **Culver, D. M.** Obstinate vomiting in pregnancy. *Obst. Gaz. Cincin.* IV. 7. — **Fernet.** Grossesse avec douleurs abdominales extrêmement vives; vomissements et impossibilité presque absolue de l'alimentation; amélioration. *Médecin prat. Par.* II. 85. *Also, Marseille méd.* XVIII. 88. — **Forwood, W. S.** Remarks upon the treatment of the sick stomach of pregnancy. *Quart. Tr. Lancaster City & Co. M. Soc.* 1880-81. I. 17-24. — **Geller, W.** Zwei Fälle von unstillbarem Erbrechen bei Schwangeren. *Wien. med. Presse.* XXII. 918-920. — **Grünbaum.** Ueber einen Fall von Behandlung des Erbrechens einer Schwangeren durch Cauterisation des Muttermundes. *Mith. d. Ver. d. Aerzte in Steiermark* 1880. *Graz.* XVII. 115. — **Harvey, J. G.** Vomiting in pregnancy. *Med. & Surg. Reporter. Phila.* XLIV. 249. — **Mees Ten Oever, J.** Hardnekkig braken bij zwangeren. *Nederl. Tijdschr. v. Geneesk. Amst.* XVII. 389-391. — **Oltramare, H.** Influence de l'imagination dans un cas de vomissements incoercibles de la grossesse. *Rev. méd. de la Suisse Rom. Genève.* I. 371. — **Ross, W. S.** Vomiting in pregnancy. *Med. Bull. Phila.* III. 153-155. — **Sawyer, J.** Inguilin in the vomiting of pregnancy. *Practitioner. Lond.* XXVI. 43. — **Stocker, S.** Hartnäckiges Erbrechen bei einer Schwangeren, behandelt nach Copeman; Geburt einer Fleischmole nach 6½ Monaten. *Cor.-Bl. f. schweiz. Aerzte. Basel.* XI. 526-528. — **Thomas.** Excessive vomiting of pregnancy; artificial abortion; recovery. *Am. J. Obst. N. Y.* XIV. 674. — **Welchans, G. R.** Remarks on vomiting of pregnancy. *Quart. Tr. Lancaster City & Co. M. Soc.* 1880-81. I. 35-38. — **Wilmart, L.** Vomissements incoercibles de la grossesse; accouchement prématuré provoqué. *Presse méd. belge. Brux.* XXXIII. 329. — **Woodruff, L.** Case of vomiting in pregnancy necessitating abortion. *Ohio M. Recorder. Columbus.* 1880-81. V. 470.
- PUBERTY, Precocious.**
- Rodzevitch, G. U.** O polovoi zriedosti i rodach v ochen pozdnem vozrastie. [On precocious puberty and delivery at late age.] *Vrach. Vaidom. St. Petersb.* VI. 2722-2724.
- PUPERAL CONVULSIONS.**
- CHANTREUIL, G.** De l'éclampsie; deux leçons. [From: France méd.] *In his: Clin. d'accouch.* 80 *Paris.* 33-54.
- MOSSÉ, A.** Accidents nerveux observés au début de la grossesse, et considérés comme éclampsiformes. *Montpellier.* 80
- TESTUT, L.** De quelques produits de la désassimilation dans leurs rapports avec l'éclampsie puerpérale. Couronné (medaille d'or) par l'Académie des sciences,

belles-lettres et arts de Bordeaux. *Paris*. 1880. G. Masson. 78 pp. 2 pl. 8°

**D'Almeida e Azevedo, L.** Considerações sobre um caso de eclampsia puerperal. *Coimbra med.* I. 241, 257, 273, 289. — **Bailey, J. S.** Puerperal eclampsia. *Med. Ann. Albany*. II. [Tr. M. Soc. County Albany. 211-214.] — **Barbosa y A. Sabater.** Eclampsia puerperal de dos horas y media de duración; utilidad del cornezuelo de centeno; intermitente puerperal; curacion. *Siglo méd. Madrid*. XXVIII. 374-376. — **Boudet, G.** Eclampsie; emploi du chloral; hémorrhagie abondante; enfant mort; guérison de la mère. *J. Soc. de méd. et pharm. de la Haute-Vienne. Linoges*. V. 146-153. — **Bush, J. F.** Puerperal convulsions; manual dilatation; version. *Boston M. & S. J. CV*. 36. — **Charles, N.** Primipare à 8 mois de grossesse; éclampsie pendant le travail; accouchement naturel; nouvelles attaques convulsives après la délivrance; suites de couches compliquées de phlegmasies diverses; mort le 10<sup>e</sup> jour. *J. d'accouch. Liège*. II. 103. — **Charles, N.** Primipare à terme albuminurique; éclampsie rapidement mortelle; extraction par les voies naturelles d'un enfant mort né; autopsie. *J. d'accouch. Liège*. II. 85-87. — **Church, H. M.** Case of labour complicated with acute nephritis and eclampsia; twins, still-born. *Edinb. M. J.* 1881-82. XXVII. 601-605. — **Ciccone, V.** Eclampsia, delirio, mania puerperale. *Scuola med. napol.* IV. 337-344. — **Craig, W. H.** A case of puerperal convulsions treated by veratrum viride and chloral combined. *Med. Ann. Albany*. II. (Tr. M. Soc. County Albany. 149-152.) — **Depaul.** Éclampsie chez une primipare. *J. d. sages-femmes. Par.* IX. 233-235. — **Depaul.** Eclampsie; mort de l'enfant; cessation des attaques; rétablissement de la mère. *J. d. sages-femmes. Par.* IX. 282. — **Dumas, A.** Sur la gravité et le traitement de l'éclampsie puerpérale; réflexions et observations. *J. de therap. Par.* VIII. 446, 488. — **Dunn, C. L.** Eclampsia treated with Norwood's tr. veratrum viride; recovery. *Cincin. Lancet & Clinic.* N. s. VI. 302. — **Easley, E. P.** Puerperal eclampsia treated with chloral hydrate and morphia; six cases. *Louisville M. News*. XII. 112. — **Faust, C. P.** Large doses of morphia in puerperal eclampsia. *Am. J. Obst. N. Y.* XIV. 416-418. — **Gill, H. Z.** Eclampsia; puerperal convulsions. *Chicago M. J. & Exam.* XLIII. 113-130. — **Gill, H. Z.** Eclampsia. Puerperal convulsion. *Chicago*. 16 pp. 8° [Repr. from: *Chicago M. J. & Exam.*] — **Halbertsma, T.** De meeste gevallen van eclampsia puerperalis zijn het gevolg van druk op de ureteren. (Verkort voorgedr. op het Congr. te Londen.) *Nederl. Tijdschr. v. Geneesk. Aust.* XVII. 817-824. — **Halbertsma, T.** Eine Hypothese über puerperale Eclampsie. *Tr. Internat. M. Cong.* 7 sess. *Lond.* IV. 394-397. — **Hamilton, A.** Pilocarpin in the treatment of puerperal convulsions. *Brit. M. J. Lond.* I. 511. — **Von**

**Hecker.** Ueber Eclampsie. *Wien. med. Bl.* IV. 896, 927. — **Hill, N. S.** Hypodermic injection of morphia in puerperal eclampsia. *Obst. Gaz. Cincin.* 1880-81. III. 458. — **Hopkins, H. R.** Puerperal convulsions; induced labour; death of the mother. *Buffalo M. & S. J.* 1881-82. XXI. 11-14. — **Kroner, T.** Beitrag zur Frage über die frühe Entbindung bei der Eclampsie. *Breslau. aerztl. Ztschr.* III. 52-54. — **Leaves** from the diary of a country doctor. [Puerperal convulsions.] *Country Pract. Beverly, N. J.* 1880-81. II. 326-330. — **Leonard, R. J.** Puerperal convulsions. *Louisville M. News*. XII. 280. — **Löhlein, H.** Bemerkungen zur Eklampsiefrage. *Ztschr. f. Geburtsh. u. Gynäk. Stuttg.* VI. 49-63. — **Löhlein, H.** Bemerkungen zur Prognose der puerperalen Eklampsie. *Tagebl. d. Versamm. deutsch. Naturf. u. Aerzte. Danzig.* 1880. LIII. 242. — **Long, J. A.** A case of puerperal eclampsia. *Louisville M. News*, XII. 53. — **Maberly-Smith, S.** On the treatment of puerperal convulsions by hypodermic injection of morphia. *Lancet. Lond.* II. 86. — **Matthias.** Eclampsia parturientium und Pilocarpinum muriaticum; zwei Beobachtungen. *Prakt. Arzt. Wetzlar.* XXII. 73-78. — **McFarlane, L.** Puerperal eclampsia. *Canad. J. M. Sc. Toronto*. VI. 373-375. — **Morgan, W.** Puerperal eclampsia. *Med. Ann. Albany*. II. (Tr. M. Soc. County Albany. 182.) — **Morton, D.** A case of puerperal eclampsia. *Louisville M. News*. XII. 3. — **Mosse, A.** Accidents nerveux éclamptiformes observés au début de la grossesse. *Gaz. hebdom. d. sc. méd. de Montpel.* III. 63, 73. — **Oeflinger, H.** Eclampsia parturientium und Pilocarpinum muriaticum. *Aerztl. Mith. a. Baden Karlsruhe.* XXXV. 129-131. — **Parsons, J. W.** Puerperal convulsions. *Tr. N. Hampshire M. Soc. Concord.* XCI. 59-69. — **Pascucci, G.** Caso di eclampsia puerperale in donna a termine di gestazione. *Indipendente. Torino.* XXXII. 697-707. — **Redondo, R.** Eclampsia durante el embarazo; parto; aplicación del forceps; curacion. *An. de obst., ginepat y pediat. Madrid.* 2<sup>o</sup> ép. I. 206. — **Reuss, L. M.** Du traitement de l'éclampsie puerpérale. *J. de therap. Par.* VIII. 47-56. — **Reynolds, H. J.** Puerperal eclampsia. *Detroit Lancet.* 1881-82. N. s. V. 145-147. — **Richardson, W. L.** Eclampsia, acute parenchymatous nephritis, manual dilatation, version. *Boston M. & S. J.* CIV. 247. — **Rodger.** Case of puerperal convulsions. *Canada M. & S. J. Montreal.* 1881-82. X. 22-26. — **Schauta, F.** Beiträge zur Lehre von der Eclampsie. *Arch. f. Gynaek. Berl.* XVIII. 263 - 292. — **Schenck, P. V.** Etiology of puerperal eclampsia. *St. Louis Cour. Med.* VI. 97-109. — **Slagle, C. G.** A case of puerperal convulsions treated by depletion with the lancet and prolonged administration of chloroform; recovery. *Tr. Minnesota M. Soc. St. Paul.* 220-223. — **Smith, O. C.** Galvanism in the treatment of puerperal convulsions, the relief of pain in traumatic injuries, and other painful con-

ditions. *Texas M. & S. Rec. Galveston*. I. 121-126. — **Snedden, W.** Puerperal eclampsia. *Glasgow M. J.* XVI. 350-355. — **Staudinger, H. L.** Cases of puerperal eclampsia. *St. Louis Cour. Med.* VI. 193-200. — **Stewart, W. S.** Puerperal eclampsia successfully treated by chloral hydrate. *Tr. Phila. Obst. Soc.* (1880). 1-5. — **Stewart, J. S.** Written report of a case of puerperal convulsions and craniotomy. *Detroit Lancet*. 1881-82. N. s. V. 52. — **Stout, S. H.** Puerperal convulsions. *Tr. M. Ass. Georgia. Augusta*. XXXII. 172-190. — **Sydney-Turner, A. M.** A case of puerperal convulsions. *Brit. M. J. Lond.* I. 423. — **Ullman, G. L.** A case of albuminuric eclampsia. *Med. Ann. Albany*. II. (Tr. M. Soc. County Albany, 193.) — **Ventura Carvallo,** *Ensayo sobre la naturaleza y tratamiento de la eclampsia puerperal.* *Rev. méd. de Chile. Sant. de Chile*. 1878-79. VII. 265, 289, 321. — **Walden, D. A.** Eclampsia, or puerperal convulsions. *Chicago M. J. & Exam.* XLIII. 356-358. — **Wigur, J.** Przypadek drgawek porodowych (ec ampisie) bez białkomoczu. [Without albuminuria.] *Gaz. lek. Warszawa*. 2 s. I. 491-494. — **Willard, De F.** Gangrene of the lung from embolism (?) following puerperal convulsions. *Tr. Path. Soc. Phila.* 1880. IX. 55-58. — **Wilmart, L., et A. Feigneaux.** Éclampsie puerpérale; accouchement prématuré provoqué; guérison. *Art. méd. Brux.* 1881-82. XVII. 278.

#### PUERPERAL DISEASES.

**OPPENHEIMER, L. S.** Puerperal Epilepsy and Protracted Gestation. 8° *Louisville*. 1880. Repr. from: *Am. Pract.* 1880.

**García de Castro, J.** Metroperitonitis puerperal; abcesso consecutivo; abertura del mismo en la region infra-umbilical; curacion. *Gac. m'd. de Sevilla*. III. 121-124. — **Griswold, R. W.** Puerperal malarial lactaral mammarial neuralgia! *Am. M. Bi-Weekly, N. Y.* XIII. 1-4. — **Hauot.** Métorrhagies après l'accouchement; coagulations sanguines dans la veine fémorale droite et les veines du petit bassin; embolie de l'artère pulmonaire; mort subite. [From: *Arch. gén. de méd.*] *Arch. de tocol. Par.* VIII. 54-63. — **Harvey, T. P.** Puerperal embolism (?) with hemorrhage; recovery. *Brit. M. J. Lond.* I. 805. — **Holmes, E. L.** A case of puerperal retinitis; blindness; color-blindness; recovery. *Arch. Ophth. N. Y.* X. 421. — **King, E. W.** Puerperal pelvic cellulitis. *Louisville M. News*. XII. 242-244. — **Körte, W.** Ueber Gelenkentzündungen im Wochenbette. *Ztschr. f. Geburtsh. u. Gynäk. Stuttg.* VII. 224-226. — **Legendre.** État puerpéral; rougeole; bronchio-pneumonie; embolie pulmonaire. Rapport par R. Moutard-Martin. *Progrès méd. Par.* IX. 342. — **Murray, R. M.** On a form of post-partum incontinence of urine, and its treatment by faradism. *Tr. Edinb. Obst. Soc.* VI. 39-46. — **Prideaux, E.** A case of cerebral embolism fourteen days after confinement. *Lancet. Lond.*

II. 663. — **Riez.** Métro-péritonite puerpérale compliquée de perforation intestinale. *Ann. Soc. d'anat. path. de Brux.* 1878. XXVII. 119-123. — **Ripley.** Labor at full term; subsequent condition of the placental site. *Med. Rec. N. Y.* XX. 692. — **Sochaff, N. A.** Zamietka o poslirodovome diphtherite polovice chastei jentshini. [Diphtheritis of sexual organs in women after child-birth.] *Vrach. St. Petersb.* II. 561. — **Somerville, R.** Two cases of puerperal hæmatocele. *Tr. Edinb. Obst. Soc.* VI. 50-56. — **Wilmart, L.** De l'action de la glace et du sulfate de quinine dans le traitement de la péritonite puerpérale; trois observations. *Presse méd. belge. Brux.* XXXIII. 161-163.

#### PUERPERAL FEVER. See, also, Erysipelas.

**SCHMIDT, J. B.** \*Beobachtungen über die im Winter 1878-79 in der Kreis-Entbindungs-Anstalt zu Würzburg aufgetretenen Erkrankungen an Puerperalfieber. 8° *Würzburg*. 1880.

**FICHET.** Une épidémie de fièvre puerpérale à Pont-Saint-Ours. Histoire naturelle de ce village. *Nevers*. 8°

**THORBURN, JOHN.** On Metria; and on the Dual Clinical Characteristics of Metrial Blood-poisoning. *Manchester*. A. Ireland & Co. 20 pp. 8°

**Bennet, E. H.** Puerperal malarial fever. *Coil. & Clin. Rec. Phila.* II. 128. — **Bernardy, E. P.** Recurrence of puerperal fever. *Tr. Phila. Obst. Soc.* (1880). 6-13. — **Bleynie père.** Considérations pratiques sur l'infection putride puerpérale. *Rev. méd. franç. et étrang. Par.* II. 620-628. — **Brennecke.** Ein Beitrag zur praktischen Lösung der Puerperalfieberfrage. *Berl. klin. Wchnschr.* XVIII. 368-370, 384-387. — **Brennecke.** Ein Beitrag zur Prophylaxis des Puerperalfiebers. *Berl. klin. Wchnschr.* XVIII. 38-40. — **Desplats, H.** Lavages phéniqués intra-utérins dans les cas de fièvre puerpérale. *J. d. sc. méd. de Lille*. III. 452-470. — **Eade, P.** Two cases of puerperal fever; which recovered under the repeated local use of a strong solution of carbolic acid. *Brit. M. J. Lond.* I. 116. — **Elliot, G. T.** A résumé of 26 cases of puerperal fever, which have occurred in the Lying-in Ward of the Charity Hospital, from Sept. 20th, 1880, to Feb'y 1st, 1881. *N. OrL. M. & S. J. N. s.* IX. 46-56. — **Felsenreich, A., und J. Mikulicz.** Beiträge zur Kenntniss und chirurgischen Behandlung der puerperalen Pyohaemie mit Einschluss einiger progredienter nicht metastatischer Entzündungsprocesse im Puerperium. *Ztschr. f. Heilk. Prag.* II. 112-153. — **Hubert, E.** De l'infection puerpérale; pluripare; bassin de 75 millim.; présentation O. C. G.; transforation; infection puerpérale; mort. *J. d. sc. méd. de Louvain*. VI. 13-23. — **Maugh's.** Puer-



peral fevers. St. Louis Cour. Med. VI. 335-341. — **Masini, A.** Nota riassuntiva intorno ad alcuni studii sperimentali sopra l'infezione puerperale. Salute: Italia med. *Genova*. 2 s. XV. 201. — **Masini, A., et al.** Studi sperimentali sulla infezione puerperale. Sperimentale. *Firenze*. XLVIII. 161-176. — **McFalls, D.** Puerperal fever; its specific character, pathology, and treatment. Rocky Mountain Med. Rev. *Denver*. 1880-81. I. 431-436. — **Ojeda, J. M.** Fiebre puerperal; muerte. Rev. méd. de Chile. *Sant. de Chile*. 1878-79. VII. 142-145. — **Preussen;** Anzeigepflicht bei Erkrankungen an Rachenbräune (Diphtheritis) und Kindbettfieber im Reg.-Bez. Erfurt. Deutsche Med.-Zig. *Berl.* VII. 711. — **Ramella, A.** Caso de aplicación del forceps; fiebre puerperal con-ecutiva curada por la resorcina. Union méd. *Caracas*. I. 129. — **Rothe, C. G.** Beobachtungen an seinem Falle von Puerperalfieber, zur Beleuchtung der Natur dieser Erkrankung. Memorabilien. *Heibr.* N. F. I. 257-265. — **Spiegelberg.** Ueber die Entwicklung der puerperalen Infection. Jahrb. d. schles. Gesellsch. f. vaterl. Kult. 1880. *Berl.* LVIII. 49-51. — **Trush, J.** Concerning the prophylaxis of puerperal fever. Obst. Gaz. *Cincin.* 1880-81. III. 578-593. — **Veit, J.** Ueber puerperale Infectionen mit längerer Incubationszeit. Z-schr. f. Geburtsh. u. Gynäk. *Stuttg.* VI. 378-394. 3 tab. — **Vejledningen** for Jordemødre til Forebyggelse af Barselseber. Ugeskr. f. Læger. *Kjøbenhavn*. 4 R. III. 449-451. — **Wallace, E.** Child-bed fever. Clin. News. *Phila.*, II. 243-247. — **Wayne, A. B.** Puerperal fever. Med. Herald. *Louisville*. 1881-82. III. 120-122. — **Winckel, F.** Mittheilungen über die Erfahrungen mit der, seit dem ersten April 1880 im Königreich Sachsen, eingeführten Instruction für die Hebammen zur Verhütung des Kindbettfieber. Tr. Internat. M. Cong. 7 sess. *Lond.* IV. 382-386.

#### PUERPERAL INSANITY.

**Caron, A.** Manie puerpérale compliquée de septicémie puerpérale; guérison. J. d. sages-femmes. *Par.* IX. 290. — **Carr, J. M.** Puerperal insanity. *Cincin. Lancet & Clinic*. N. s. VII. 537-542. — **Lee, C. P.** Puerperal mania. Kansas M. Index. *Fort Scott*. II. 200-208.

#### PUERPERAL METRITIS.

**Pietrzycki, M.** Case of puerperal metritis followed by abscess. *Pacific M. & S. J. San Fran.* 1881-82. XXIV. 54-57. — **Waznots, L.** Métrite puerpérale; traitement par la quinine et les injections intra-utérines d'acide phénique; guérison. Presse méd. belge. *Brux.* XXXIII. 361-363.

#### PUERPERAL METRO-PERITONITIS.

**BOMPIANI, ARTURO.** La irrigazione intrauterina continua nel trattamento chirurgico della metro-peritonite puerperale. *Milano*. 8° [Repr. from: *Ann. di Ostet.*]

**Ojeda, J. M.** Metro-peritonitis puerperal; curacion. Rev. méd. de Chile. *Sant. de Chile*. 1878-79. VII. 145. — **Olayo-Gutierrez.** Metro-peritonitis puerperal sobreaugada; muerte. Rev. méd. de Chile. *Sant. de Chile*. 1878-79. VII. 146-148. — **Ventura Carvallo.** Metro-peritonitis puerperal; muerte. Rev. méd. de Chile. *Sant. de Chile*. 1878-79. VII. 177-179.

#### PUERPERAL SCARLET FEVER.

**LEGENDRE, HENRI.** \*Étude sur la scarlatine chez les femmes en couches. *Paris*. 112 pp. 3 ch. 4°

**Holst, J.** Vier Beobachtungen von Wochenbettscharlach nebst Bemerkungen. St. Petersburg. med. Wchnschr. VI. 447-449. — **Sykes, W.** Scarlatina in a puerperal female; short period of incubation; death. *Brit. M. J. Lond.* I. 158.

#### PUERPERAL SEPTICEMIA.

**Ashton, L.** Puerperal septicæmia with diphtheric membrane covering entire vaginal canal and os uteri. *Virginia M. Month. Richmond*. 1881-82. VIII. 732-734. — **De la C. Villaseca, J.** Septicæmia agudísima; aplicación de forceps; muerte. Rev. méd. de Chile. *Sant. de Chile*. 1878-79. VII. 141. — **Donovan, W.** A case of puerperal septicæmia; prolonged high temperature; recovery. *Brit. M. J. Lond.* I. 118. — **Fitzmaurice, N. F. H.** Puerperal septicæmia; recovery. *Brit. M. J. Lond.* I. 192. — **Negri, P.** La cura locale della setticæmia puerperale. *Ann. di ostet. Milano*. III. 208-211. *Also*, Reprint. — **Parish, W. H.** Some points in the consideration of puerperal septicæmia. *Cincin. M. News*. N. s. X. 361-369. — **Smith, A. H.** The relation of cleanliness to the prevention of puerperal septicæmia; a clinical lecture. *Med. News and Abstr. Phila.* XXXIX. 579-587.

#### PUERPERAL STATE. See, also, Antiseptics.

**BUCKLER, T. H.** On the Post-parturient Pathology resulting from Imperfect Uterine Contraction after Childbirth, and on Involution Complete and Incomplete. *In his: Strangulated Veins of the Uterus, and Other Papers.* 8° *Cambridge*. 35-49.

**FORSTER, EDWARD JACOB.** The Necessity of using the Long Nozzle in making Intra-uterine Injections after Confinement. Read before the Obstetrical Society of Boston, Mar. 12, 1881. *Cambridge*. Riverside Press. 8 pp. 8°

**HEIMBS, MAX.** \*Acute Miliartuberculose des puerperalen Uterus unter den Symptomen eines Puerperalfiebers. *Erlangen*. 1880. *Junge & Sohn*. 23 pp. 2 tab. 8°

PYCHLAU, E. \*Zur Casuistik der Scarlatina im Puerperio. *Dorpat*. 8°

**Bennett, A. H.** Chronic hemiplegia originating during the puerperal state. *Brit. M. J. Lond.* I. 261-265. — **Coles, W.** The management of the breasts. *St. Louis Cour. Med.* VI. 289-301. — **Cuzzi, A.** Due casi di recidiva di febbre da malaria dovuta al traumatismo del parto. *Spallanzani. Modena.* 2 s. X. 12-18. — **Depaul.** Accidents puerpéraux. *Gaz. d. hôp. Par.* LIV. 675. — **Letulle.** Recherches sur l'état du cœur des femmes enceintes ou récemment accouchées; de la dilatation du cœur dans la grossesse et les suites de couches. [From: *Arch. gén. de méd.*] *Arch. de tocol. Par.* VIII. 155-171. — **Löhlein, H.** Uebersicht über die Therapie der Puerperalkrankheiten. *Aerztl. Vereinsbl. f. Deutschl. Leipz.* X. 178-181. — **Lothrop, T.** Notes on puerperal cases. *Buffalo M. & S. J.* 1880-81. XX. 529-537. — **Macdonald, A.** Note on the presence of sugar and of albumen in the urine of the lying-in woman. *Tr. Edinb. Obst. Soc.* VI. 168. — **MacKintosh, E. Æ.** Mental excitement in the lying-in, its importance with regard to maternity hospitals. *Edinb. M. J.* 1881-82. XXVII. 895-904. 1 ch. — **Mandestamm, L.** Zwei Fälle von metastatischer Augenentzündung im Puerperium. *Klin. Monatsbl. f. Augenh. Stuttg.* XIX. 285-287. — **Moutard - Martin, R.** Rapport sur l'état puerpéral; rougeole; bronchio-pneumonie; embolie pulmonaire. *Bull. Soc. anat. de Par.* 1880-81. LV. 539-542. — **Murray, R. M.** On a form of post-partum incontinence of urine, and its treatment by faradism. *Edinb. M. J.* 1880-81. XXVI. 907-913. — **Napier, A. D. L.** Clinical observations on puerperal temperatures. *Tr. Edinb. Obst. Soc.* VI. 150-162. — **Napier, A. D. L.** Clinical observations on puerperal temperatures. *Edinb. M. J.* 1881-82. XXVII. 312, 436. — **Olshausen, R.** Ueber die Pulsverlangsamung im Wochenbett und ihre Ursache. *Centralbl. f. Gynäk. Leipz.* V. 49-53. — **Palmer, C. D.** Vaginal and uterine injections in the puerperal state. *Cincin. Lancet & Clinic.* N. s. VI. 565. — **Richardson, W. L.** Acute jaundice after labor. *Boston M. & S. J. CIV.* 246. — **Stoltz, J. A.** Puerpéralité. *N. dict. de méd. et de chir. prat. Par.* XXX. 87-145. — **Westmoreland, R. W.** Puerperal deformities; a source of serious nervous disturbances. *Atlanta M. & S. J.* 1881-82. XIX. 264-267.

#### PUERPERAL PYEMIA.

**Bleynie père.** Considérations pratiques sur l'infection putride puerpérale. *J. Soc. de méd. et pharm. de la Haute-Vienne. Limoges.* VI. 6-14. — **Bopp** Ein schwerer Fall von Pyämie im Wochenbett. *Breslau. aerztl. Ztschr.* III. 223. — **Burrage, R. L.** A case of acute pyæmia following labor. *Tr. M. Soc. N. Jersey. Newark.* CXV. 254-263.

#### PYOMETRA.

**ARNING, E.** \*Ein Fall von Pyometra lateralis mit epikritischen

Bemerkungen zur Differentialdiagnose complicirter Fälle. 8° *Strassburg.* 1880.

**Galabin, A. L.** Case of pyometra. *Tr. Obst. Soc. Lond.* (1880), XXII. 239-241. — **Howitz, F.** Laparotomi for pyometra i et højre Uterushorn. *Gynaek. og obst. Medd. Kjøbenhavn.* III. 3 Hft. 70-75.

#### QUADRUPLETS.

**Clark, J. M.** Quadruplets. *Am. M. Bi-Weekly. N. Y.* 1881-82. XIII. 49.

#### QUININE.

**Boccaccini, V.** Dell' azione oxicica del chinino e sua intossicazione. *Arch. clin. ital. Roma.* XI. 252. — **Cullen, P.** Is quinine an abortifacient? *Indian M. Gaz. Calcutta.* XVI. 279. — **Delthil.** Accidents causés par le sulfate de quinine chez les femmes qui le mettent en flacon. *France méd. Par.* II. 383. — **Powell, W. M.** Does quinine affect the gravid uterus? *Med. Brief. St. Louis.* IX. 134.

#### QUINTUPLETS.

**Moffitt, J.** Quintuple birth. *Med. & Surg. Reporter. Phila.* XLIV. 334.

#### RECTUM, Excision of the.

**Putti, M.** Estirpazione del retto e del setto retto-vaginale con successiva vagino-plastica. *Bull. d. sc. med. di Bologna.* 6 s. VII. 153-164. *Also, Reprint.*

#### RESPIRATION, ARTIFICIAL.

**Champneys, F. H.** Second communication on artificial respiration in still-born children; the expansibility of various parts of the lungs, an experimental inquiry. *Brit. M. J. Lond.* I. 722.

#### SACRUM, Abnormities of the.

**Lamb, D.** Primitive Spondylolysis and deren Verhältniss zur Steatopyga an der hottentottischen Venus. *Centralbl. f. Gynäk. Leipz.* V. 256-259, 281-287. *Also, Reprint.*

#### SEXUAL INSTINCT,

**Dayton, W. A.** Effects of the abuses of the sexual instinct in females. *Med. Rec. N. Y.* XX. 593-597.

#### SMALL-POX.

**Day, R. H.** Small-pox pustulation in the foetus in utero; a reply to R. McSherry. *Maryland M. J. Balt.* 1881-82. VIII. 443.

#### SPECULUM.

**Auvard, A.** Quelques modifications au speculum Cusco. *Bull. gén. de therap., etc. Par. Cl.* 442-447. — **Batley, R.** A new perineal retractor. *North Car. M. J. Wilmington.* VIII. 16. — **Hunter, A. S.** Modification of Erich's self-retaining Sims's speculum. *N. York M. J.* XXXIV. 178. — **Lebedeff, A.** Modification des Simon'schen Speculum. *Arch. f. Gynaek. Berl.* XVII. 350-354. 1 pl. — **Lévy, E.** Note sur un nouveau speculum vaginal. *Rev. méd. de Pest. Nancy.* XIII. 751-755. — **Neale, R.** How to renovate a speculum. *Med. Times & Gaz. Lond.* II. 107.

**STERILITY.**

**CLOZIER, H.** \*De la stérilité dans ses rapports avec l'inflammation chronique de la muqueuse du canal cervical. *Paris*. 79 pp. 4<sup>o</sup> No. 80.

**GRETSCHER DE WANDELBURG, A.** D'une cause peu connue de stérilité. *In his: Mém. de méd. et chir.* 8<sup>o</sup> *Paris*. 95.

**Allen, R. C.** Sterility; with a few clinical observations upon its cause and treatment. *Homœop. J. Obst.* N. Y. 1881-82. III. 52-57. — **Wigginton, R. M.** Six cases of sterility. *Tr. M. Soc. Wisconsin. Milwaukee.* XV. 130-136.

**STRYCHNINE.**

**Morton, A. S.** Strychnia poisoning during the fifth month of pregnancy; recovery. [No abortion.] *Lancet. Lond.* I. 578.

**SUPERFETATION.**

**Harter, J. F.** An obstetrical case. [Superfetation.] *Obst. Gaz. Cincin.* IV. 8. — **Oliver, F. W.** A case of superfetation. *Coll. & Clin. Rec. Phila.* II. 50.

**SYMPHYSEOTOMY.**

**MORISANI, J.** Sulla sinfisiotomia. *Milano.* 8<sup>o</sup>

**D'URSO, E.** Contribuzione alla sinfisiotomia. Parto difficile per eccessivo sviluppo fisiologico del feto. *Bari.* 16<sup>o</sup>.

**Morisanì, O.** Sulla sinfisiotomia. *Gior. internaz. d. sc. med. Napoli.* N. s. III. 1148-1150. *Also*, *Ann. di ostet. Milano.* III. 615-618. *Also*, translation in *Ann. de gynéc. Par.* XVI. 440-443.

**SYMPHYSES, PELVIC, Relaxation of.**

**Coniglione, A.** Contribuzione allo studio del rilassamento delle sinfisi pubica e sacro-iliache. *Gior. internaz. d. sc. med. Napoli.* N. s. III. 264-266.

**SYPHILIS.**

**Von Hecker.** Ueber Syphilis während der Schwangerschaft und ihre Beziehung zur Frucht. *Wien. med. Bl.* IV. 1147-1150. — **Mazzitelli, P.** Della influenza della gravidanza sulla sifilide, e rispettivamente della influenza di questa sul frutto del concepimento. *Movimento. Napoli.* 2 s. III. 557-565. — **Spillmann, P.** Rétrécissement du vagin survenu chez une femme atteinte de syphilis tertiaire; dilatation consécutive et mécanique du canal de l'urètre. *Ann. de dermat. et syph. Par.* 2 s. II. 324-327.

**TABLES AND CHAIRS.**

**Sellman, W. A. B.** A new gynecological table. *Tr. M. & Chir. Fac. Maryland. Ball.* LXXXIII. 252-254.

**TANSY.**

**Smith, T. C.** Poisoned by tansy,

taken to procure abortion. *Detroit Lancet.* 1881-82. N. s. V. 147.

**TENACULUM. See Cervix Uteri, Medication and Manipulation of the.****TENTS.**

**Lusk, W. T.** Septicemia and death following the repeated introduction of sponge and tupelo tents. *Am. J. Obst. N. Y.* XIV. 666.

**TETANUS, Puerperal.**

**Kuhn.** Ein Fall von Tetanus puerperalis. *Arch. f. Gynaek. Berl.* XVIII. 495-497. — **Kuhn.** Ueber einen Fall von Tetanus puerperalis. *Wien. med. Bl.* IV. 1599.

**THERMOMETRY.**

**Marchionneschi, O.** Termometria in ostetricia. *Ann. di ostet. Milano.* III. 26-37. *Also*, Reprint.

**TOBACCO.**

**Ygonin.** Quelques mots sur l'usage du tabac et de l'influence de sa fabrication sur les fonctions physiologiques de l'utérus. *Ann. Soc. de méd. de Lyon.* 1880. 2 s. XXVIII. 95-110.

**TRACHELITIS. See Cervix Uteri, Inflammation of the.****TRACHELORRHAPHY. See Cervix Uteri, Laceration of the.****TRACHELOTOMY. See Cervix Uteri, Incision of the.****TRIPLETS.**

**Bassett.** Placentæ from case of triplets. *Brit. M. J. Lond.* I. 685. — **Force, J. F.** A case of triplets. *Med. & Surg. Reporter. Phila.* XLIV. 531. — **Raposo, B.** Prenhez tripla; extracção manual de dois fetos; um dos fetos anencephalo. *Correio med. de Lisb.* X. 137. — **Taylor, W. T.** Case of triplets. *Tr. Phila. Obst. Soc.* (1880). 51.

**TUBERCULOSIS.**

**GEHLE, H.** Ueber die primäre Tuberkulose der weiblichen Genitalien. *Heidellb.* 8<sup>o</sup> I M.

**LUKASIEWICZ, J.** \*Zur Kenntniss der Tuberculose des weiblichen Genital-Apparates. *Dorpat.* 8<sup>o</sup> I M.

**TUMORS during Pregnancy.**

**JOHIM, ASTERIO DE CASTRO.** \*Des tumeurs bénignes pendant la grossesse et de leur traitement. *Paris.* 59 pp. 4<sup>o</sup>

**Bar, P.** Observation pour servir à l'histoire de l'évolution des tumeurs pendant la grossesse. *Ann. de gynéc. Par.* XVI. 81-85.

**TWINS.**

**Archinard, P. E.** United twins. *N. Or. M. & S. J.* 1881-82. N. s. IX. 411-417. — **Balleray, G. H.** Three twin labors in one day. *Med. Rec. N.*

**Y. XX.** 541. — **Baranski, A.** Zwillingsgeburt mit einer Pause von 18 Tagen zwischen dem Austritte der ersten und zweiten Frucht. Wien. med. Wchnschr. XXXI. 785-787. — **Budin, P.** On a peculiar arrangement of the ova in twin pregnancies; as observed in two cases. Am. J. Obst. N. Y. XIV. 811-816. — **Burton, R. B.** A complicated twin delivery. Am. J. Obst. N. Y. XIV. 817-819. — **Gaston, J. McE.** Complications in cases of twins. Gaillard's M. J. N. Y. XXXII. 1-7. Also, Am. M. Bi-Weekly. N. Y. 1881-82. XIII. 25-31. — **Hawkins, S. B.** Miscarriage followed by labor at full term. Tr. M. Ass. Georgia. Augusta. XXXII. 137. — **Mazuela, Josefina.** Dos casos curiosos de preñez jmelar; partos á término; en cada parto un feto muerto desde tiempo atras durante el curso de la preñez. Rev. méd. de Chile. Sant. de Chile. 1878-79. VII. 248. — **Ogawa Shoan.** [A case of united twins.] Tokai Iji Shinshi. Dec. 3, 1880. — **Smith, A. H.** Clinical notes of a case of twin pregnancy. Phil. M. Times. 1880-81. XI. 744-748.

**URETER.**

**Pawlik.** Ueber die Sondirung der Ureteren der weiblichen Blase aus freier Hand, ohne vorbereitende Operation. Arch. f. Gynaek. Berl. XVIII. 491-495.

**URETHRA.**

**Wathen, W. H.** Urethral examinations in the female. Med. Herald. Louisville. 1881-82. III. 17-21.

**URETHRA, Caruncle of the.**

**Goodell, W.** Clinical lecture on urethral caruncle. Phila. M. Times. 1881-82. XII. 161-163. — **Jenkins.** Urethral caruncle. Am. J. Obst. N. Y. XIV. 126. — **Thomas, T. G.** Urethral caruncle. Boston M. & S. J. CV. 413.

**URETHRA, Dilatation of the.**

**Bompiani, A.** Tre casi di dilatazione rapida ed incurrenta dell' uretra femminile con il processo Simon. Gazz. med. di Roma. VII. 161-166. — **Simonin, E.** Faits récents de dilatation rapide du canal de l'urètre chez la femme. In his: Quelques faits de chir. 8° Nancy. 19-25. 1 pl. — **Simonin, E.** Faits récents de dilatations rapide du canal de l'urètre chez la femme. Rev. méd. de Pest. Nancy. XIII. 97-103.

**URETHRA, Eversion of the.**

**Lusk, W. T.** Eversion of the urethra. Am. J. Obst. N. Y. XIV. 127.

**URETHRA, Foreign Body in the.**

**Von Dittel.** Haarnadeln in der Blase, in der Scheide und in der Urethra. Wien. med. Bl. IV. 1281.

**URETHRA, Inflammation of the.**

**Lewi, M. J.** Non-specific urethritis in the female. Med. Ann. Albany. II. 132-136.

**URETHRA, Prolapse of the.**

**Hudson, J.** Prolapsus of the female urethra. Brit. M. J. Lond. I. 966. — **Ingerslev, V.** Prolapsus urethralis hos

et Pigebarn [in a female child]. Hosp.-Tid. Kjøbenhavn. 2 R. VIII. 501-504.

**URETHRA, Rupture of the.**

**Levis, R. J.** Gangrene of the vulva, apparently due to infiltration of urine [rupture of the female urethra]. Med. Bull. Phila. III. 169.

**URETHRA, Stenosis of the.**

**Glenn, W. F.** Strictures of the female urethra. South. Pract. Nashville. III. 101-103.

**URETHRA, Tumors of the.**

**Englisch, J.** Ein Fall von einer Cyste in der Wand der weiblichen Harnröhre, mit Bemerkungen über die Entwicklung derselben. Wien. med. Presse. XXII. 599, 634. — **Richet.** Polyypes de l'urèthre ou hémorrhoides uréthrales développées par suite de la présence d'un pessaire dans le vagin. Siècle méd. Par. II. 1. — **Skene.** Vascular tumor of the urethra. Am. J. Obst. N. Y. XIV. 661. — **Stechow, W.** Zwei Fälle von Papillom der weiblichen Urethra. Ztschr. f. Geburtsh. u. Gynäk. Stuttg. VI. 93-100. — **Terrillon.** Des excroissances fongueuses de l'urèthre, considérées comme symptôme de la tuberculisation des organes urinaires de la femme. Assoc. franç. pour l'avance d. sc. Compt.-rend. 1879. Par. 1880. VIII. 977-979.

**URINE, Incontinence of. See, also, Bladder, Diseases of the.**

**Chapman, J. M.** A method of treatment for certain kinds of incontinence of urine in women. Edinb. M. J. 1880-81. XXVI. 1095.

**URINE, Retention of.**

**Broussin.** Note sur la rétention d'urine au début de la grossesse. Paris. 1881. 8° [Repr. from: Arch. gén. de méd.]

**Balestre.** La rétention d'urine chez les femmes récemment accouchées; réflexions sur la pathogénie de cet accident. Nice méd. VI. 251-254.

**USTILAGO MAIDIS.**

**Miles, C. E.** The ustilago maidis as an oxytotic. Mass. Elect. M. J. Bost. I. 241-245.

**UTERUS.**

**Cohnstein.** Zur Innervation der Gebärmutter. Arch. f. Gynaek. Berl. XVIII. 384-405. — **Hoggan, G.,** and **Frances E. Hoggan.** On the comparative anatomy of the lymphatics of the uterus. J. Anat. & Physiol. Lond. 1881-82. XVI. 50-59. 2 pl. — **Mierzejewski.** Sur les lymphatiques de la couche sous-séreuse de l'utérus. Compt. rend. Soc. de biol. 1879. Par. 1880. 7 s. I. 52-54. — **Schenck, P. V.** Uterine functions as a cause of disease. St. Louis Cour. Med. V. 10, 81.

**UTERUS, Abnormalities of the.**

**Faber, P.** \*Klinisches über den Uterus unicornis und infantilis. Dorpat. 8° 1 M.

**Edwards, Emma W.** Undevel-

oped uterus with apparent absence of ovaries. *Med. Rec. N. Y.* XX. 653. — **Hicks, J. B.** Case of congenital abnormality of the uterus simulating retention of menses. *Tr. Obst. Soc. Lond.* (1880). XXII. 260-264. — **Payne, R. L.** Two cases of congenital malformation in females, and a case of vaginismus. *North Car. M. J. Wilmington.* VII. 57-61. — **Pirovano, I.** Caso de ausencia completa del útero y sus anexos. *Rev. méd. - quir. Buenos Aires.* 1881-82. XVIII. 82. — **Reynolds, A. S.** Double uterus. *Tr. Path. Soc. Phila.* 1880. IX. 76.

#### UTERUS, Anteflexion of the.

**Abeille.** Antéflexion ancienne et extrême; déchirure de la commissure droite fixée, par rétraction, au cul-de-sac postérieur à droite; cette suture a sans doute contribué à augmenter l'antéflexion; intumescence myo-fibreuse de toute la face antérieure du col et du globe. *Courrier méd. Par.* XXXI. 418-421. — **Hayes, T. C.** Anteflexed uterus. *Tr. Obst. Soc. Lond.* (1880). XXII. 82. — **Richter, U.** Heilung der durch Anteflexio uteri bedingten Sterilität. *Centralbl. f. Gynäk. Leipz.* V. 73-76. — **Williams, A. W.** Sterility due to anteflexion of the uterus, treated by stem and shield. *Lancet. Lond.* I. 290.

#### UTERUS, Anteversion of the.

**Fauquez, R.** Anteversion complète en rapport avec une métrite parenchymateuse chronique consécutive aux accouchements. *Rev. méd.-chir. d. mal. d. femmes. Par.* III. 378-380. — **Fisher, T. B.** Complete anteversion of the gravid uterus, with ventral uterine hernia. *Indiana M. J. Indianap.* 1881-82. I. 162-165. — **Hamon, L.** Anteversion de l'utérus gravide au terme de deux mois de gestation; redressement de l'organe sans l'emploi d'aucun agent mécanique de réduction. *Siccle méd. Par.* II. 57-59. *Also,* *Rev. méd.-chir. d. mal. d. femmes. Par.* III. 504-507. — **Mermann, A.** Operative Behandlung der Anteversion uteri. *Arch. f. Gynaek. Berl.* XVIII. 427-432. — **Runnells, H. B.** Anteversion of gravid uterus at full term. *Brit. M. J. Lond.* II. 777. — **Thomas, T. G.** Anteversion of the uterus and chronic ovariitis, with prolapsus, dependent, apparently, on laceration of the cervix. *Boston M. & S. J. CV.* 414.

#### UTERUS, Atresia of the.

**Erich, A. F.** Atresia of the vagina and uterus; a clinical lecture. *Atlanta M. Rec.* 1881-82. N. s. I. 65-73. — **Lachowicz, A.** Zaros'nicie pochwy zupelne, wzrodzone niestnienie ujscia macicznego. [Complete congenital imperforation of uterus.] *Przegl. lek. Kraków.* 1879. XVIII. 53, 67, 81, 94. — **Liebmann, M.** Méhelzáródás (atresia uterina) nehéz szülés után. *Orvosi hetil. Budapest.* XXV. 297-299. — **Liebmann, M.** Ein Fall von Atresia uterina nach einer schweren Entbindung. *Pest. med.-chir. Presse. Budapest.* XVII. 317-320.

#### UTERUS, Cancer of the.

**Aibara Oama.** [Pathology of uterine carcinoma.] *Tokio Iji Shinshi.* Jan. 29, 1881. — **Alexander, W.** Case of cancer uteri treated by Chian turpentine. *Liverpool M.-Chir. J.* I. 83-85. — **Allen, R. C.** A case of cystic tumor springing from a cancerous uterus. *Honnoep. J. Obst. N. F.* 1881-82. III. 129-131. — **Blanco, J.** Historia de un cancer uterino. *Andalucía méd. Córdoba.* VI. 5-8. — **Caneva, G.** La trementina, sua azione nella cura del cancro uterino. *Gazz. d. osp. Milano.* II. 750-759. *Also,* *Osservatore med. Palermo.* 1882. 3 s. XII. 68-80. — **Carstens, J. H.** Uterine cancer. *Obst. Gaz. Cincin.* 1880-81. III. 449-452. — **Choiseau.** Cancer de l'utérus; hydronéphrose bilatérale. *Union méd. de la Seine-Inf. Rouen.* XX. 106-108. — **Colomiatti, V.** Sulla operabilità del cancro dell' utero. *Arch. per le sc. med. Torino.* V. 81-86. — **Darby, F. H.** A case of carcinoma uteri. *Obst. Gaz. Cincin.* 1881-82. IV. 228-230. — **Dumont.** Cancer de l'utérus; propagation aux urèteres; accidents urémiques avec élévation de température; mort; autopsie. *J. de méd. de Bordeaux.* 1881-82. XI. 226. — **Duncan, M.** A case of carcinoma uteri, relieved by lead iodide ointment. *Med. Press & Circ. Lond.* N. s. XXXII. 167. — **Fraipont, F.** Du traitement opératoire du cancer utérin. *Ann. Soc. méd.-chir. de Liège.* XX. 241, 281, 342. 1 pl. — **Godson.** Four cases of carcinoma uteri occurring in the out-patient department. *Med. Press & Circ. Lond.* N. s. XXXII. 6. — **Goodeil, W.** Result of an operation for uterine cancer. *Med. & Surg. Reporter. Phila.* XLV. 13. — **Maslovski, V. F.** Ke voprosu o rasviti iz dobrokachestvennich adenome polosti matri zlokachestv. novoobrazovanii (adenoma malignum). [2 cases of uterine tumor.] *Ejened. klin. gaz. St. Petersburg.* I. 378-384. — **Philipson.** Epithelioma of the uterus. *Lancet. Lond.* I. 14. — **Raymond, F.** Sarcomes du corps de l'utérus généralisés; sarcome de la dure-mère siégeant au niveau de la partie supérieure de la circonvolution pariétale ascendante, et ayant comme caractéristique symptomatique, une monoplégie brachiale, de la paralysie du facial inférieur, du nystagmus permanent. *Progrès méd.* IX. 711-714. — **Ruge, C., und Veit, J.** Der Krebs der Gebärmutter. *Ztschr. f. Geburtsh. u. Gynäk. Stuttg.* VII. 138-222. 7 pl. *Also,* *Ztschr. f. Geburtsh. u. Gynäk. Stuttg.* VI. 261-332. *Also,* *Reprint.* — **Skene, A. J. C.** Epithelioma of the cavity of the body of the uterus. *Am. J. Obst. N. Y.* XIV. 119-121. — **Snow, H. L.** Three cases of epithelioma uteri treated by the local application of solid perchloride of iron. *Brit. M. J. Lond.* I. 807. — **Varaillon.** Du cancer utérin; essai de traitement par la térébenthine de Chio à l'intérieur et les injections interstitielles de suc de Carica papaya. *Médecin. Par.* VII. No. 5. — **Wingate, U. O. B.** Malignant disease of the uterus, with probably secondary deposits in the stomach. *Boston M. & S. J. CV.* 38.

**UTERUS, Cast of the.**

**Atkins, R.** Specimens of complete uterine cast. Dublin J. M. Sc. 3 s. LXXI. 362.

**UTERUS, Diseases of the.**

**BUCKLER, T. H.** On Strangulated Veins of the Uterus and the Importance of Restoring their Circulation and Function of Drainage, thereby Preventing Engorgement and Morbid Nutrition. *In his: Strangulated Veins of the Uterus, and Other Papers.* 8° Cambridge. 1-34.

**FLOREZA, PAULINO.** \*De la congestión uterina et de la métrorrhagie d'origine névralgique. *Paris.* 82 pp. 4° No. 338.

**TILT, EDWARD JOHN.** A Handbook of Uterine Therapeutics and of Diseases of Women. 4th ed. *New York.* W. Wood & Co. 338 pp. 8°

**Campbell, W. M.** A possible fallacy in uterine diagnosis. *Liverpool M. Chir. J.* 1. 71.—**Chadwick, J. R.** The hot rectal douche. *Tr. Am. Gynec. Soc.* 1880. *Bost.* V. 280-292.—**Chrobak, R.** Ueber Therapie des Uteruskatarrhs. *Mitth. d. Ver. d. Aerzte in Nied.-Oest. Wien.* VII. 175-180. *Also,* *Wien. med. Wchnschr.* XXXI. 410, 437.—**Ciccoca, V.** Contribuzione clinica intorno alla eredità e diffusione nelle malattie dell' utero. *Morgagni. Napoli.* XXIII. 829-835.—**Cole, R. B.** On the mechanical treatment of some of the displacements and diseases of the uterus. *Tr. Am. M. Ass. Phila.* XXXII. 279-290. *Also,* *Tr. Internat. M. Cong.* 7 sess. *Lond.* IV. 313-323.—**Courty, A.** Sur la diversité des altérations histologiques de l'utérus en rapport avec la diversité des inflammations de cet organe. (Extr.) *Asso. franç. pour l'avance. d. sc. Compt.-rend.* 1879. *Par.* 1880. VIII. 970-975.—**Cushing, C.** Areolar hyperplasia of the uterus; a clinical lecture. *Pacific M. & S. J. San Fran.* 1881-82. XXIV. 171-177.—**Duncan, J. M.** Notes on the morbid anatomy of Douglas's pouch. *St. Barth. Hosp. Rep.* *Lond.* XVII. 1-7.—**Fauquez, R.** Congestion utérine. *Rev. méd.-chir. d. mal. d. femmes.* *Par.* III. 380-382.—**Gallard.** Des végétations de la muqueuse utérine et de leur traitement. *Assoc. franç. pour l'avance. d. sc. Compt.-rend.* 1877. *Par.* 1878. VI. 788-796.—**Gueneau de Mussy, N.** Engorgement chronique de l'utérus; fumigations iodées; guérison. *Bull. et mém. Soc. de thérap.* *Par.* XIII. 156-160.—**Hottenier, E.** Note sur certaines modifications dans la constitution histologique du pus en général et du muco-pus utérin en particulier à diverses périodes. *Compt. rend. Soc. de biol.* 1879. *Par.* 1880. 7 s. I. 93-97.—**III, E. J.** Atrophy of the uterus treated by electricity. *Med. Rec. N. Y.* XX. 737.—**Jackson, A. R.** Uterine massage as a means

of treating certain forms of enlargement of the womb. *Tr. Am. Gynec. Soc.* 1880. *Bost.* V. 80-96. *Also,* *Reprint.*—**Lvoft, I. M.** Hyperæsthesia uteri intermittens quotidiana. *Dnevnik Obsl. vrach. g. Kazani.* V. 482-484.—**Platonoff, I. J.** Zapoï i defekti matki. [Dipsomania and uterine trouble.] *Vrach. St. Petersburg.* II. 87-90.—**Tannasia, A.** La putrefazione dell' utero. *Riv. sper. di freniat. Reggio-Emilia.* VII. Pt. 2. 243-262.—**Warren, J. H.** A few suggestions on the medical and surgical treatment of the most common forms of uterine diseases. *Virginia M. Month. Richmond.* VII. 682-694.

**UTERUS, Displacements of the.**

**SCHULTZE, B. S.** Die Pathologie und Therapie der Lageveränderungen der Gebärmutter. *Berlin.* 8° 7 M.

**Ableitner.** Die Fruchthälterverdrehungen bei Kühen. *Oesterr. Vrtljschr. f. wissensch. Veterinärk.* *Wien.* LVI. 65-114.—**Bell, R.** An improved method of treating uterine displacements. *Tr. Edinb. Obst. Soc.* VI. 56-62. *Also,* *Edinb. M. J.* 1881-82. XXVII. 28-33.—**Coghill, J. G. S.** Remarks on the mechanical treatment of uterine displacements, and flexions. *Brit. M. J. Lond.* II. 387-389.—**Drummond, A.** Note on the use of Mr. Lawson Tait's dilators in displacement of the uterus backwards or forwards. *Birmingham M. Rev.* N. s. IV. 161-164.—**Hewitt, G.** Report on sixty-seven cases of uterine distortion or displacement, treated during seven years, at All Saints' Institution for Ladies suffering from Illness. *Tr. Obst. Soc. Lond.* (1880). XXII. 173-184. Discussion, 188-211.—**Gervis, H.** On the treatment of uterine flexions. *Brit. M. J. Lond.* I. 996-998.—**Jones, L. H.** Treatment of displacements of the uterus by uterine supporters and pessaries. *Michigan M. News.* *Detroit.* IV. 77.—**Mundé, P. F.** The curability of uterine displacement. *Am. J. Obst. N. Y.* XIV. 789-810.—**O'Connell, P.** Curability of uterine displacement. *Chicago M. J. & Exam.* XLII. 128-133.—**Priest, M. E.** A case of uterine displacement. *Med. Rec. N. Y.* XIX. 175.—**Schultze, B. S.** Pathologie und Therapie der Lageveränderungen der Gebärmutter. [Extr. from his work, of same title, pub'd in Berlin, 1881.] *Wien. med. Bl.* IV. 1516, 1544.

**UTERUS, Excision of the.**

**CASELLI, A.** Estirpazione totale dell' utero per la via della vagina. *Milano.* 1881. 8°

**WEIGT, EDUARD.** \*Die Radicaloperationen bei Uteruscarcinom. Eine historisch-kritische Untersuchung. *Halle.* 1881. E. Karras. 40 pp. 8°

**D'Antona, A.** Isterectomia addominale alla Freund; morte (per raffreddamento peritoneale?), operazione. Movimento. *Napoli.* 2 s. III. 385-393.—

**Azzio, C.** Extirpation totale de l'utérus par le vagin; extraction par le vagin d'un énorme fibrome utérin sous-péritonéal développé dans le ligament large gauche. Transl. from the Ital. by R. Fauquez. Rev. méd.-chir. d. mal. d. femmes. *Par.* III. 550-560. — **Bardenheuer.** Die Peritoneal-Drainage. Centralbl. f. Gynäk. *Leipz.* 1881. V. 515-520. *Also*, Allg. Wien. med. Ztg. XXVI. 431, 442. — **Bartley, E. H.** Extirpation of the uterus. Ann. Anat. & Surg. *Brooklyn, N. Y.* III. 274-282. — **Beauregard.** Hystérectomie par la méthode sus-pubienne. Bull. et mém. Soc. de chir. de Par. N. s. VII. 614-619. *Rapp.* 610. — **Bogoduboff, N. I.** Sluchai polnago viriezivaniya maki in situ (pervii v Kazani) po sposobu Freund'a, s blagopriyatnim ischodom. [Excision of uterus by Freund's method; favorable result.] Vrach. *St. Petersburg.* II. 812, 829. — **Bompiani, A.** La prima completa estirpazione dell' utero attraverso la vagina, con il processo Billroth; considerazioni e avvertenze. Gazz. med. di Roma. VII. 65-68, 92, 101. — **Börner, E.** Hysterotomie bei einer Kranken mit Fibrosarcom des Fundus uteri. Mitth. d. Ver. d. Aerzte in Steiermark 1876-77. *Graz.* 1878. 12-18. — **Bottini.** Altra estirpazione totale di utero canceroso e di porzione di vagina; guarigione. Gazz. Med. Ital., Prov. Venete. *Padova.* XXIV. 204. — **Bottini.** Altra estirpazione totale di utero canceroso e porzione di vagina; guarigione; cenno preventivo del dott. I. Tansini. Gazz. Med. Ital. Lomb. *Milano.* 8 s. III. 214. — **Bottini.** Estirpazione totale di utero canceroso; guarigione. Osservatorio. *Torino.* XVII. 231. — **Botini, E.** Estirpazione totale di utero canceroso e porzione di vagina. Salute: Italia Med. *Genova.* 2 s. XV. 153. — **Brown, G., and Simpson.** Carcinomatous uterus removed by abdominal section. Edinb. M. J. 1881-82. XXVII. 745. — **Cantalamesa, C.** Laparo-isterotomia letale per mioma levicellulare interstiziale dell' utero. Morgagni. *Napoli.* XXIII. 530-538. — **Caselli, A.** Estirpazione totale dell' utero per la via della vagina; asportazione attraverso la vagina d'enorme fibroma sotto-sieroso uterino sviluppato nel legamento largo sinistro. Ann. di Ostet. *Milano.* III. 275-284. *Also*, Reprint. — **Coudereau.** Description d'un procédé opératoire pour l'ablation totale de l'utérus par la vulve dans le cas de cancer utérin. Assoc. franç. pour l'avance. d. sc. Compt.-rend. 1878. *Par.* 1879. VII. 915-918. — **Currier, A. F.** Removal of the uterus for cancer. N. York M. J. XXXIV. 494-505. *Also*, Med. Herald. *Louisville.* 1881-82. III. 421-429. — **Engelmann, G. J.** Primary cancer of the corpus uteri; diagnosis and treatment; Freund's operation, and the scoop. St. Louis Cour. Med. VI. 493-503. Discussion, 552-564. *Also*, Reprint. — **Formari.** Laparotomia ed amputazione utero-ovarica. Salute: Italia Med. *Genova.* 2 s. XV. 180. — **Fornari, F.** Laparotomia ed amputazione utero-ovarica (post-partum) per rottura della matrice e per incarcerationamento di anse intestinali. Raccoglitore Med. *Forlì.* 4 s. XV. 413-420. — **Freund, W. A.** Gedanken-

gang der Eröffnungsrede über Total-Extirpation des Uterus. Tr. Internat. M. Cong. 7 sess. *Lond.* IV. 323-331. — **Freund, W. A.** Ueber Totalextirpation des Uterus. Wien. med. Bl. IV. 1054. — **Freund, M. B.** Zur Total-Extirpation des Uterus; combinirtes extra- und intraperitoneales Verfahren, Versorgung der Ligq. lata durch liegenbleibende Compressorien und Durchtrennung derselben mittelst des Thermocauters; mit den Protocollen über 17 Versuche an der Leiche. Ztschr. f. Geburtsh. u. Gynäk. *Stuttg.* VI. 358-377. — **Gallabin, A. L.** Escisione di un utero gravido, con epitelioma cervicale, seguita da guarigione. Indipendente. *Torino.* XXXII. 793-796. — **Geyl.** Een geval van extirpation uteri totalis vaginalis. Nederl. Tijdschr. v. Geneesk. *Amst.* XVII. 529-533. — **Goodell, W.** A successful case of hysterectomy. Phila. M. Times. 1881-82. XII. 292. — **Harris, R. P.** A case of Porro's operation. Am. J. Obst. N. Y. XIV. 691. — **Van der Hoeven, L.** Een wijziging in Pean's methode der hysterectomy. Nederl. Tijdschr. v. Geneesk. *Amst.* XVII. 584-588. — **Horteloup.** Rapport sur une observation d'hystérectomie par la méthode sus-pubienne, communiquée par M. Beauregard. Bull. et mém. Soc. de chir. de Par. N. s. VII. 610-613. — **Hyernaux.** Extirpation de la matrice et présentation d'un nouvel instrument pour cette opération. Bull. Acad. roy. de méd. de Belg. 3 s. XV. 827-830. — **Jakins, W. V.** The recent gastro-omy case at Sydney. Austral. M. J. *Melbourne.* N. s. III. 291-295. — **Kasprzik, R.** Beitrag zur Behandlung des Stumpfes bei der Amputation uteri supravaginalis. Centralbl. f. Gynäk. *Leipz.* V. 250-256. — **Kleinwächter, L.** Die erste Extirpation uteri nach Freund in Tirol. Wien. med. Presse. XXII. 72, 105. — **Kocher, T.** L'excision totale de la matrice et la question du drainage abdominal. Rev. méd. de la Suisse Rom. *Genève.* I. 653-668. — **Kolaczek.** Ueber einen Fall von Totalextirpation des carcinösen Uterus nach Freund-Bardenheuer. Jahresb. d. schles. Gesellsch. f. vaterl. Kult. 1880. *Bresl.* LVIII. 69-72. — **Kolaczek.** Ueber einen Fall von Totalextirpation des carcinösen Uterus nach Freund-Bardenheuer. Breslau. aerzt. Ztschr. III. 42. *Also*, Centralbl. f. Chir. *Leipz.* VIII. 129-131. — **Lesi, V.** Gastro-isterotomia. Raccoglitore Med. *Forlì.* 4 s. XV. 464-467. — **Linkenheld, J.** Zur Totalextirpation des Uterus. Centralbl. f. Gynäk. *Leipz.* V. 169-173. — **Mareacci, G.** Di un nuovo processo per la estirpazione dell' utero dal lato del ventre; e di un caso in cui fu incominciato e non compiuto. Raccoglitore Med. *Forlì.* 4 s. XVI. 133-145. 1 pl. — **Marcy.** Uterus and ovaries removed by gastrotomy. Boston M. & S. J. CV. 255. — **Martin.** Ueber vaginale Uterus-extirpation. Berl. klin. Wchnschr. XVIII. 261-265. — **Martin.** Uterus, von der Scheide aus extirpiert. Ztschr. f. Geburtsh. u. Gynäk. *Stuttg.* VI. 415. — **Martin, A.** Zur Technik der vaginalen Uterusextirpation. Centralbl. f. Gynäk. *Leipz.* V. 99. — **Mazzoni, G.**

Estirpazione del corpo dell' utero estroflusso. Bull. d. R. Accad. Med. di Roma. VII. 286-291. — **Mazzoni**. Estirpazione di utero retroflusso. Salute: Italia Med. *Genova*. 2 s. XV. 355. — **Mikulez, J.** Ueber die Totalexstirpation des Uterus. Wien. med. Wchnschr. 1880. XXX. 1281, 1309, 1419. 1881. XXXI. 9, 37, 93, 150, 182, 215, 241. — **Von Mosetig-Moorhof**. Carcinoma epitheliale cervicis uteri; Hysterectomia; Tod. Ber. d. k. k. Krankenh. Wieden 1878. *Wien*. 1879. 180-184. — **Von Mosetig-Moorhof**. Laparo-Cystovario-Hysterotomie bei vorhandener Schwangerschaft; Heilung. Wien. med. Wchnschr. XXXI. 836-841. — **Müller, C. J.** Ueber die Exstirpation uteri vaginalis. Deutsche med. Wchnschr. *Berl.* VII. 122-126, 142-146. — **Nelson, C. E.** Noeggerath's operation. Canada M. Rec. *Montreal*. 1880-81. IX. 219-221. — **Netzel, W.** Laparo-hysterotomi. [3 cases.] *Arsherrätt. f. Sabbatsbergs Sjukh. i Stockholm*. 207-211. — **Gislausen, R.** Ueber Totalexstirpation des Uterus nach zehn eigenen Fällen; Beitrag zur Kritik der ventralen und vaginalen Operationsmethode. *Berl. klin. Wchnschr.* XVIII. 497, 519. — **Olshausen, R.** Zur Myotomie und Amputation uteri supravaginalis. *Deutsche Ztschr. f. Chir. Leipz.* 1881-82. XVI. 171-190. — **Palmer, C. D.** Laparotomy and Laparo-hysterotomy; their indications and statistics; for fibroid tumors of the uterus. *Tr. Am. Gynec. Soc.* 1880. *Dost.* V. 361-382. — **Peruzzi, D.** Isterotomia totale, seguita da morte. *Raccoglitore Med. Forl.* 4 s. XVI. 550-556. — **Peruzzi, D.** Sopra un caso di estirpazione totale di utero canceroso; sull' ago di De-Roubaix modificato; sulla possibile spostabilità dei tumori ovarici dietro speciali manovre; sopra uno speculum addominale dopo eseguita l'ovariotomia [esame anatomico per L. Mazzotti]. *Raccoglitore med. Forl.* 4 s. XV. 129-144. — **Peruzzi, D.** Sopra un caso di estirpazione totale di utero canceroso [praticato per L. Mazzotti]. *Salute: Italia Med. Genova*. 2 s. XV. 50-52. — **Pietrzikowski, E.** Multiple Fibromyome des Uterus; supravaginale Uterusamputation [durch C. Gussenbauer]; Tod am 2 Tage an septischer Peritonitis. *Prag. med. Wchnschr.* VI. 205. — **Pietrzikowski, E.** Weit ausgebreitetes Carcinom des Cervix uteri; Totalexstirpation des Uterus durch Laparotomie [von C. Gussenbauer]; Tod nach 24 Stunden an septischer Peritonitis. *Prag. med. Wchnschr.* VI. 206. — **Ponte, M. M.** Tumor fibroso del utero; histerotomia. (Primera operación de esta especie que se practica en Venezuela.) *Gac. Cient. de Venezuela. Caracas*. IV. 20-24. — **Pozzi, G.** Sulla laparo-istero-ovariotomia col metodo del prof. Porro; alcune obiezioni al dott. G. Marchioli. *Gazz. Med. Ital. Lomb. Milano*. 8 s. III. 221. — **Reuss, P.** Totalexstirpation des Uterus wegen Carcinom; Drainage; Heilung. *Arch. f. Gynaek. Berl.* XVII. 116-121. — **Rubio, F.** Fibromas telangiectásicos de la matriz y a-citis; laparotomia y extirpacion de la matriz; muerte al onzavo dia. *Siglo Med. Madrid*. XXVII.

22-27. — **Ruggi, G.** Di un nuovo processo per l'estirpazione totale dell' utero dalla sua sede naturale; nota preventiva. *Boll. d. Sc. Med. di Bologna*. 6 s. VII. 19-26. 1 pl. — **Ruggi, G.** Nuovo processo per la estirpazione totale dell' utero. *Salute: Italia Med. Genova*. 2 s. XV. 180. — **Rydygier**. Drugi przypadek voyciecia catlej macicy wraz jajnikami sposobem Freund-Rydygiera. *Wyzdrow.* [Second case of removal of entire uterus with ovaries.] *Przeegl. lek. Kraków*. XX. 145-147. — **Rydygier**. Zwei Fälle totaler Uterusexstirpation nach Freund-Rydygier'schen Methode. *Deutsche Ztschr. f. Chir. Leipz.* XV. 280-285. — **Sanger**. Exstirpation der baarmoeier van uit de scheede. *Nederl. Tijdschr. v. Geneesk. Amst.* XVII. 261-263. — **Schröder, K.** Ueber die theilweise und vollständige Ausschneidung der carcinomatösen Gebärmutter. *Ztschr. f. Geburtsh. u. Gynaek. Stuttg.* VI. 213-230. — **Schwarz, C.** Noch ein Wort zur Behandlung des Stumpfes bei der Amputatio uteri supravaginalis. *Centralbl. f. Gynaek. Leipz.* V. 291-295. — **Taylor, I. E.** Porro's operation. *Am. J. Obst. N. Y.* XIV. 421-425. — **Terrier, F.** Hystérectomie pour une tumeur fibro-sarcomateuse et kystique de l'utérus; guérison. *Bull. Acad. de méd. Par.* 2 s. X. 373. *Also*, *Rev. de chir. Par.* I. 402-409. — **Thomas, T. G.** Extirpation of the uterus. *N. York M. J.* XXXIII. 694. — **Weinlechner**. Supravaginale Amputation des Uterus wegen eines 2 Kilo 85 Gramm schweren Fibroms, erschwert durch innige Adhäsion mit der nach aufwärts gezogenen Blase; Tod 36 Stunden nach der Operation; mässige Nachblutung und beginnende Peritonitis. *Ber. d. k. k. Krankenanst. Rudolph-Stiftung in Wien* (1880). 294-296. — **Weinlechner**. Uterusfibroide mit heftiger Metrorrhagie; Laparotomie; trichterförmige Amputation des Uterus mit dem Messer oder dem in der Höhe des Orificium intern. angelegten Écraseur; Vernähung der thermokauterisch verschorften Wundflächen. Entfernung beider cystösen Ovarien; der Uterusstumpf musste sammt der Kette versenkt werden, weil beim Versuche, letztere zu entfernen eine heftige Blutung aus der Schnürfurche auftrat; Tod durch Septicämie 39 Stunden nach der Operation. *Ber. d. k. k. Krankenanst. Rudolph-Stiftung in Wien*. (1880). 296. — **Wölfler**. Zur Frage von der Exstirpation des Uterus. *Verhandl. d. deutsch. Gessellsch. f. Chir.* 1880. *Berl.* IX. 86-91.

#### UTERUS, Exploration of the.

**Cameron, M.** The uterine sound. *Glasgow M. J.* XV. 205-208. — **Duke, A.** New uterometer. *Brit. M. J. Lond.* I. 89. — **Erich, A. F.** An improved self-retaining rectal and vaginal speculum. *Obst. Gaz. Cincin.* 1880-81. III. 393-398. — **Hamilton, H.** The gynapod. *Med. Rec. N. Y.* XIX. 137. — **Trojan, D. A.** Izmierenija dlinnika matki gisterometrome ve poslierozdovome periodie. [Measuring length of uterus by the hysterometer after parturition.] *Vrach. St. Petersb.* II. 545-548.



**UTERUS, Foreign Body in the.**

**Matsushima Shinzo.** [Case of foreign body in uterus.] *Tokai Zasshi. Osaka.* Jan. 25.

**UTERUS, Gangrene of the. See Labor, Sequelæ of.****UTERUS, GRAVID.**

**Saenger, M.** Der Grenzstreit zwischen Cervix und Corpus uteri während Schwangerschaft, Geburt und Wochenbett. *Deutsche med. Wchnschr. Berl.* VII. 426-428.

**UTERUS, GRAVID, Displacement of the.**

**CHANTREUIL, G.** Rétroflexion de l'utérus gravide; trois leçons. [From: France méd.] *In his: Clin. d'accouch.* 8° *Paris.* 1-31.

**Bouilly, G.** Rétention d'urine au troisième mois de la grossesse; rétroflexion de l'utérus; deux cathétérismes; réduction de l'organe; guérison rapide. *Gaz. méd. de Par.* 6 s. III. 755. — **Bunge.** Ueber Retroflexio uteri gravidi. *Berl. klin. Wchnschr.* XVIII. 333. — **Charles, N.** Des déplacements de la matrice en arrière pendant la grossesse. *J. d'accouch. Liège.* II. 1, 9, 29, 49, 69. — **Fischel, W.** Ueber ein bisher noch nicht beobachtetes Phänomen bei Deflexionslagen. *Prag. med. Wchnschr.* VI. 113, 125. — **Hamilton, I. S.** Retroversion of the gravid uterus, complicated by a diseased condition of the neck of the uterus, mistaken for epithelioma. *West. M. Reporter. Chicago.* 1881-82. III. 237-240. — **Massart.** Rétroversion utérine à trois mois et demi de grossesse; reduction; accouchement à terme. *Assoc. franç. pour l'avance. d. sc. Compt.-rend.* 1877. *Par.* 1878. VI. 807-813. — **Pasquali.** Un caso di retroversione dell' utero durante la gravidanza. *Atti. Accad. Med. di Roma.* 1880. V. Fasc. 3. 218-234. — **Spanken, F. A.** Fall von Prolapsus uteri gravidi, gefolgt von eigenthümlicher Einklemmung eines nach dem Puerperium angewandten Hysterophors. *Arch. f. Gynaek. Berl.* XVII. 125-133. — **Stille, G.** Ein Fall von Retroflexio uteri gravidi. *Memorabilien. Heilbr.* N. F. I. 279-285.

**UTERUS, GRAVID, Occlusion of the.**

**Eve, J. A.** Occlusion of the gravid uterus. *Tr. Am. Gynec. Soc.* 1880. *Bost.* V. 167-174.

**UTERUS, Inertia of the.**

**RUET, A.** Recherches sur l'inertie utérine pendant l'accouchement. *Lyon.* 4°

**UTERUS, Inflammation of the.**

**BERNIER DE BOURNONVILLE.** Maladies des femmes. De la métrite, son traitement rapide par les scarifications avec le chalumeau-cautère. *Paris.* 8°

**BYFORD, W. H.** On the Chronic Inflammation and Displacement of

the Unimpregnated Uterus. *New ed. Philadelphia.* 8°

**CARON, PAUL-EDMOND.** \*Traitement de la métrite parenchymateuse chronique, étudié surtout au point de vue de l'ignipuncture. *Paris.* 56 pp. 4°

**DUFRAISSE, JULES.** \*De la métrite chronique parenchymateuse et de son traitement par les saignées locales. *Paris.* 80 pp. 4°

**LAMBERT, VICTOR.** \*Étude sur le traitement de l'endométrite granulofongueuse hémorrhagique par la cauterisation intra-utérine au cautère actuel. *Paris.* 28 pp. 4°

**Bernier de Bournonville.** De la métrite; son traitement par les scarifications avec le chalumeau-cautère. *Médecin. Par.* VII. Nos. 8, 9, 10. — **Bontardelli, E.** Tre mesi di anuria in donna affetta da metrite. *Gazz. Med. Ital. Lomb. Milano.* 8 s. III. 131-134. — **Caspari.** Ueber Moorbänder bei chronischer Metritis. *Deutsche med. Wchnschr. Berl.* VII. 189. — **Courty, A.** De l'ignipuncture du col utérin dans le traitement de la métrite chronique. *Assoc. franç. pour l'avance. d. sc. Compt.-rend.* 1876. *Par.* 1877. V. 680-685. — **Fauquez, R.** Métrite chronique ancienne; polyypes utéro-folliculaires. *Rev. méd.-chir. d. mal. d. femmes.* *Par.* III. 375-378. — **Fauquez, R.** Métrite chronique en rapport avec une régression incomplète de l'utérus après les accouchements; endométrite. *Rev. méd.-chir. d. mal. d. femmes.* *Par.* III. 430-433. — **Fauquez, R.** Métrite parenchymateuse chronique datant d'avant le mariage et s'étant manifestée immédiatement après; forme de métrite qu'on est convenu d'appeler "métrite virginale." *Rev. méd.-chir. d. mal. d. femmes.* *Par.* III. 624-629. — **Fauquez, R.** Métrite parenchymateuse chronique et rétroflexion. *Rev. méd.-chir. d. mal. d. femmes.* *Par.* III. 371-373. — **Fauquez, R.** Métrite parenchymateuse chronique par arrêt de régression après l'accouchement; rétroflexion du corps de l'utérus; commencement d'ulcération du col. *Rev. méd.-chir. d. mal. d. femmes.* *Par.* III. 620-624. — **Fauquez, R.** Métrite chronique; ulcération ancienne du col traitée par des cautérisations qui ont amené un commencement d'atésie de l'orifice externe du canal cervical. *Rev. méd.-chir. d. mal. d. femmes.* *Par.* III. 500-504. — **Folli-nen, F.** Intorno un caso di metrite da sifilide. *Giôr. Internaz. d. Sc. Med. Napoli.* N. s. III. 849-861. — **Gallard, T.** Traitement de la métrite chronique. [From: Bull. gén. de thérap., etc. *Par.*] *Abeille méd. Montréal.* 1880. II. *Pas-sim* 1881. III. 9. — **Gregorio, A.** Metritis parenquimatosa crónica con absceso; abertura y salida de su contenido por la vegiga de la orina; curacion con las aguas de Jaraba. *An. Soc. Españ. de Hidrol. Méd. Madrid.* 1881-82. IV. 325-334. — **Leblond, A.** De l'amputation du col de l'utérus dans la métrite chro-

niqne. Ann. de gynéc. *Par.* XVI. 193-202. — **Pacifico Pereira, A.** A endometrite fungosa e a mediação intra-uterina. *Gaz. Med. da Bahia.* 1880-81. 2 s. V. 389-396. — **Rosborg, C. A.** Metritis chron. catarrhais et parenchymatosa; graviditas mens. 3-4 (etsi nec observata, nec probabilis putata) c. abortu arte (et ex errore diagnoses) provocato; retentio placentæ; endometritis; anæmia. *Helsa. Eira. Göteborg.* V. 719-726. — **Syromjatnikoff, S.** Die ersten zwei Fälle von dissezierender Gebärmutterentzündung (Metritis disseicans). *Arch. f. Gynaek. Berl.* XVIII. 156-174. — **Vedeler.** Endometritis corporis uteri acuta (Retroflexio uteri hos Uni- & Multiparæ). *Norsk Mag. f. Lægevidensk. Kristiania.* XI. 177-205. — **Warren, J. H.** Acute metritis. *Virginia M. Month. Richmond.* 1880-81. V. 757-759.

#### UTERUS, Inversion of the.

**AUDIGÉ, M.** \*Contribution à l'étude du traitement de l'inversion utérine chronique; des différentes méthodes actuellement employées. *Paris.* 66 pp. 4°

**CORNAZ.** Reduction d'une inversion de matrice au moyen d'un ballon de caoutchouc. 8° *Neuchâtel.* 1879.

**Arles, F.** Du traitement de l'inversion utérine irréductible par la ligature élastique. *Assoc. franç. pour l'avance. d. sc. Compt.-rend.* 1876. *Par.* 1877. V. 763-769. — **Atthill, L.** On inversion of the uterus. *Dublin J. M. Sc.* 3 s. LXXII. 68-75. — **Adjoined** discussion on Dr. Atthill's paper on "inversion of the uterus." *Dublin J. M. Sc.* 3 s. LXXI. 156-166. — **Bakewell, R. H.** Inversion of uterus; impending death from shock and hæmorrhage; faradisation; recovery. *Lancet.* *Lond.* II. 664. —

**Braun, G.** Fall von Inversion des Uterus, eingetreten unmittelbar nach der Geburt. *Anz. d. k. k. Gesellsch. d. Aerzte in Wien.* 11. — **Breuss.** Fall von spontaner Inversion des puerperalen Uterus. *Wien. med. Bl.* IV. 1364-1366. —

**Chenantaïs.** Corps fibreux ayant entraîné une inversion complète de l'utérus; ablation du corps fibreux; guérison. *France méd.* *Par.* XXVIII. 232. — **Courty, A.** Deux observations d'ablation de l'utérus inversé par la ligature élastique. (Extr.) *Assoc. franç. pour l'avance. d. sc. Compt.-rend.* 1876. *Par.* 1877. V. 762. —

**Crummer, B. F.** Acute spontaneous inversion of the uterus occurring after abortion. *St. Louis M. & S. J.* XLI. 17-19. — **Dougall, J.** Complete inversion of uterus during labour. *Glasgow M. J.* XVI. 28-31. — **Howitz, F.** Inversio uteri completa, 18 Monate alt; Reposition. *Centralbl. f. Gynäk. Leipz.* V. 121-125. — *Also, Hosp.-Tid. Köpenh.* 2 R. VIII. 261-268. — **Kocks, J.** Inversio uteri chronica completa; Reversio nach fast 16 monatlichem Bestehen; erfolglose Braun'sche Colpeurese; Heilung mittelst des hier abgebildeten Tampons. *Berl. klin. Wchnschr.* XVIII. 470-473.

— **Leach, J. C.** Case of shortened cord producing inversion of the uterus. *Lancet.* *Lond.* II. 1109. — **Macdonald, A.** Two cases of chronic inversion of the uterus. *Tr. Edinb. Obst. Soc.* VI. 170-186. *Also, Edinb. M. J.* 1881-82. XXVII. 193-209. — **Mendenhall, M. C.** A case of inversio uteri. *Cincin. Lancet & Clinic.* N. s. VII. 91. — **Mohedano Escalano, P.** Proccidencia e inversion del útero con gangrena; uterotomia; curacion. *Andalucía Méd. Córdoba.* VI. 232-239. — **Olive.** Corps fibreux ayant entraîné une inversion complète de l'utérus; ablation du corps fibreux; guérison. *Arch. de tocol. Par.* VIII. 175-177. — **Perier.** Rapport sur une observation d'inversion utérine de M. Chavernac. *Bull. et mém. Soc. de chir. de Par.* N. s. VII. 840-843. — **Polk, W. M.** Spontaneous inversion of the uterus in a virgin. *Am. J. Obst. N. Y.* XIV. 877. — **Reamy.** Inversion of the womb. *Cincin. Lancet & Clinic.* N. s. VII. 469. — **Reiche, P. H.** A case of complete inversion of the uterus occurring immediately after the second stage of parturition. *Med. Rec. N. Y.* XX. 91-94. — **Rosenthal, J.** Wyciowanie macicy (inversio uteri), odprawadzenie, peknięcie pochwy, wyzdrowienie. *Gaz. lek. Warszawa.* 2 s. I. 841-844. — **Shiland.** Inversion of the uterus [2 cases]. *Med. Ann. Albany.* II. (Tr. M. Soc. County Albany. 175.) — **Shiland, A.** Inversion of the uterus [case]. *Med. Ann. Albany.* II. 65-68. — **Sympson.** Partial inversion of the uterus; treatment by almost continuous pressure; recovery; discoloration of the skin by nitrate of silver. *Brit. M. J. Lond.* I. 121. — **Viguiet** et **Fleury.** Observation d'inversion utérine et vaginale totale. *Ann. Soc. de méd. de St. Etienne et de la Loire* (1880). VII. 609-615. — **White, J. P.** Report of a case of inversion of the uterus successfully reduced after six months, with remarks on reduction in chronic inversion. *Buffalo M. & S. J.* 1881-82. XXI. 145-156. \*

#### UTERUS, Involution of the.

**MILSOM, C.** Contributions cliniques à l'étude de l'involution utérine. *Lyon.* 4°

#### UTERUS, Medication of the.

**DE FOURCAULD, V.** Étude sur les pulvérisations intra-utérines. *Paris.* 8°

**WILSON, H. P. C.** Uterine Dilatation, with a New Instrument. *New York.* Wm. Wood & Co. 9 pp. 8° [Repr. from: *Am. J. Obst.* 1881.]

**Bomplani, A.** La irrigazione intra-uterine continua nella endometrite settica e il trattamento chirurgico della metropertoneo puerperale. *Ann. di Ostet. Milano.* III. 133-143. — *Also,* [Transl. from the Italian by R. Fauquez.] *Rev. méd. chir. d. mal. d. femmes. Par.* III. 312-323. — **Campbell, W. M.** On cases of dangerous symptoms following the use of the uterine sound. [Abstr.] *Liverpool M-*

Chir. J. I. 67-71.—**Chamberlain.** The dangers of vaginal injections. N. York M. J. XXXIII. 457. *Also*, Am. J. Obst. N. Y. XIV. 879-881.—**Cowan, G.** Martin's rubber bandage as a utero-abdominal supporter. Am. J. Obst. N. Y. XIV. 871-873.—**Kocks, J.** Ueber ein verbessertes Mutterrohr und die Vaginaldouche während der Menstruation. Centralbl. f. Gynäk. Leipzig. V. 449-452.—**Lemmon, J. M.** Death from vaginal injection. Louisville M. News. XI. 280.—**Mann, J. D.** Uterine electro-therapeutics. Lancet. Lond. II. 43, 129.—**Martin, A.** Zur intra-uterinen Behandlung. Ztschr. f. Geburtsh. u. Gynäk. Stuttgart. VII. 1-13.—**Morales Perez, A.** Porta-cásticos para la cavidad del cuello uterino. Gac. Méd. Catal. Barcel. I. 341.—**Opie, T.** Notes on twenty-seven cases, in which the intra-uterine douche was given in the Maternity Hospital, Baltimore. Maryland M. J. Balt. 1881-82. VIII. 176, 196.—**P.** De l'emploi du coaltar saponiné dans la thérapeutique utérine. Progrès méd. Par. IX. 549. *Also*, Union méd. Par. 3 s. XXXI. 545.—**Picard, G. H.** Vaginal irrigation. Kansas M. Index, Fort Scott. II. 287-296.—**Prochownik, L.** Ueber die Auskratzung der Gebärmutter. Samml. klin. Vortr. no. 193. Leipzig. (Gynaek. No. 57. Pp. 1511-1530.)—**Schiffers.** Médication intra-utérine; sa valeur en ce qui concerne l'emploi des médicaments liquides sous forme d'injections. J. d'accouch. Liège. II. 51, 63.—**Smith, J. V.** On the use of Jenkinson's tube. Boston M. & S. J. CV. 84.—**Stucky, J. N.** Dangers attending the use of vaginal injections. Louisville M. News, XI. 230-232.—**Von Teutleben.** Eine neue Methode der intrauterinen Applikation des Eisenchlorid. Centralbl. f. Gynäk. Leipzig. V. 569.—**Thomas, C. H.** Mechanical dilators in gynecological practice. Phila. M. Times. 1881-82. XII. 431-433.—**Walton.** Du cathétérisme utérin ou hystérométrie au point de vue médico-légal. Ann. Soc. de med. de Gand. LIX. 117-122.

#### UTERUS, Mucous Membrane of the.

**Paladino, G.** Della caducità del parenchima ovarico e del rinnovamento totale dello stesso mercè ripetizione del processo di primordiale produzione. Gior. Internaz. d. Sc. Med. Napoli. N. s. III. 785-795.—**Planteau, H.** Recherches sur la muqueuse utérine de quelques animaux à placenta diffus. J. de l'anat. et physiol., etc. Par. XVII. 253-282. 2 pl.

#### UTERUS, Prolapse of the.

**HERBST, PHILIPP.** \*Historisch-kritische Darstellung der Operationen des Prolapsus uteri. Halle. E. Karras. 32 pp. 8°

**SIGNORET, S.** \*Du traitement du prolapsus utérin par les appareils contentifs. Paris. 48 pp. 4° No. 391.

**Berlin, Fanny.** Three cases of complete prolapsus uteri operated upon according to the method of Léon Le Fort. Am. J. Obst. N. Y. XIV. 866-870.—**Boyd, J. P.** A clinical study of prolapsus uteri. Med. Ann. Albany. II. 89-95.—**Campá.** Descenso brusco y retroversion del útero por causa accidental; oscuridad de los síntomas; parálisis de la vejiga; retención de orina; curación. Cron. Méd. Valencia. 1880-81. IV. 289-295.—**Faucon, A.** Traitement de la chute de l'utérus; (amputation au col de la matrice par le thermo-cautére, combinée avec le cloisonnement du vagin selon le procédé du professeur L. Le Fort). Arch. de tocol. Par. VIII. 265-279. *Also*, J. d. sc. méd. de Lille. III. 649-663. *Also*, Reprint.—**Fauquez, R.** Chute complète de l'utérus. Rev. méd.-chir. d. mal. d. femmes. Par. III. 433-436.—**Galabin, A. L.** Multiple vesical calculi the sequel of prolapsus uteri. Tr. Obst. Soc. Lond. (1880). XXII. 106-108.—**Gomez Torres, A.** Tratamiento del descenso uterino. Génio Méd.-chir. Madrid. XXVII. 217, 245, 260.—**Guéniot.** Rapport sur un travail de M. Eustache, intitulé: Du traitement de la chute de matrice par le cloisonnement du vagin; modification au procédé du professeur Le Fort. Bull. et mém. Soc. de chir. de Par. N. s. VII. 826-828.—**House, A. F.** The operative treatment of prolapse of the vagina and uterus. Am. J. M. Sc. Phila. N. s. LXXXII. 39-50.—**Levy, F.** Den operative Behandlung af Prolapsus uteri. Gynaek. og. obst. Medd. Kjöbenhavn. III. Pt. 2. 7-53.—**Neugebauer, L. A.** Einige Worte über die medicane Vaginalnaht als Mittel zur Beseitigung des Gebärmuttervorfalls. Centralbl. f. Gynäk. Leipzig. V. 3, 25.—**Wallace, J.** On the radical cure of prolapse of the uterus. Liverpool M.-Chir. J. I. 30-43.—**Weinlechner.** Hochgradiger Vorfal der vorderen und hinteren Schidenwand und des Uterus, welcher durch die Colporrhaphia anterior und posterior nach Hegar und durch die Amputation der Vaginalportion geheilt wurde. Ber. d. k. k. Krankenanst. Rudolph-Stiftung in Wien (1880). 417-419.—**Wolfe, S.** A complicated case of prolapsus uteri. Med. & Surg. Reporter. Phila. XLIV. 220.

#### UTERUS, Retroflexion of the.

**DUBOIS, A.** \*De la rétroflexion dans ses rapports avec l'arrêt d'invololution de l'utérus après l'accouchement et l'avortement. Paris. 50 pp. 4° No. 433.

**Alberts, O.** Zur Retroflexio uteri. Berl. klin. Wchnschr. XVIII. 712-714.—**Courty, A.** Traitement de la rétroflexion de l'utérus. J. de thérap. Par. VIII. 281, 327. *Also*, Reprint.—**Vedeler.** Retroflexio uteri hos Diegivende. Norsk. Mag. f. Lægevidensk. Christiania. XI. 669-685.

#### UTERUS, Retroversion of the.

**COÛETOUX, LÉONCE.** \*De la rétroversion utérine à l'état de va-

cuité, son traitement mécanique.

*Paris.* 38 pp. 4°

**Banning, E. F., Sr.** Retroversion, with utero-rectal adhesions, successfully treated. *N. York M. Times.* 1881-82. IX. 147. — **Leonard, C. H.** An interesting case of backward displacement of the womb and a new instrument for its replacement. *Tr. M. Soc. Mich. Lansing.* VIII. No. 1. Pp. 48-55. — **Sabin, R. H.** Retroversion of the uterus. *Med. Ann. Albany.* II. 150-154.

#### UTERUS, Rupture of the.

**Ames, R. P. M.** Rupture of the uterus. *Am. J. Obst. N. Y.* XIV. 361-395. — **Dunlop, W. M.** A case of rupture of the uterus. *Lancet. Lond.* II. 135. — **Dougall, J.** Rigid cervix, proclivencia, and rupture of uterus during labour. *Glasgow M. J.* XVI. 23-25. — **Ermolaeff, A. S.** Sluchai razriva matki ote rodove, vizdovlenie [rupture of uterus in labor]. *Ejend. klin. gaz. St. Petersburg.* I. 366-368. — **Felsenreich, T.** Beitrag zur Behandlung der Uterusrupture durch Drainage. *Wien. med. Wchnschr.* XXXI. 579, 583. — **Felsenreich, T.** Beitrag zur Therapie der Uterusruptur. *Arch. f. Gynäk. Berl.* XVII. 490-501. — **Felsenreich, T.** Ueber einen Fall von spontan geheilter Uterusruptur. *Wien. med. Presse.* XXII. 82. — **Garrigues.** Complicated rupture of the uterus. *Med. Rec. N. Y.* XIX. 634. — **Garrigues, H. J.** Rupture of the uterus. [Case.] *Med. Rec. N. Y.* XIX. 351. — **Von Hecker, C.** Ueber einen Fall von spontaner kompletter Uterusruptur mit Ausgang in Genesung durch Drainage. *Centr. bl. f. Gynäk. Leipz.* V. 225-228. — **Hofmeier, M.** Zur Aetiologie der Uterusrupturen. *Centr. bl. f. Gynäk. Leipz.* V. 619-623. — **Howard, W. T.** Three fatal cases of rupture of the uterus, with laparotomy. *Tr. Am. Gynec. Soc.* 1880. *Bost.* V. 145-166. *Also*, translation in *Arch. de tocol. Par.* VIII. 577-594. — **Kucher, J.** How to prevent rupture of the parturient uterus. *Am. J. Obst. N. Y.* XIV. 627-644. — **Mann, J.** Beitrag zur Behandlung der Uterusruptur durch Drainage. *Centr. bl. f. Gynäk. Leipz.* V. 377-380. — **Moore, D. W.** Rupture of the uterus [a second time; recovery]. *Tr. M. Soc. Wisconsin. Milwaukee.* XV. 128. — **Mundé, P. F.** Case of rupture of the parturient uterus. *Am. J. Obst. N. Y.* XIV. 401-408. — **Mundé, P. F.** Rupture of the uterus. *N. York M. J.* XXXIII. 458. — **Ramsaur, G. A.** A deceptive pregnancy. *Med. Bull. Phila.* III. 37. — **Richardson, W. C.** A case of rupture of the uterus. *Homœop. Cour. St. Louis.* I. 294-296. — **Tchernovoi-Popovoi.** Polnii razriva matki. [Case of rupture of uterus.] *Vrach. St. Petersburg.* II. 477. — **Thompson, J. H.** A case of rupture of the uterus. *N. Eng. M. Gaz. Bost.* XVI. 365-367. — **Von Weber.** Zwei Uterus - Rupturen. *Prag. med. Wchnschr.* VI. 373, 384. — **Willett, E. M.** Rupture of uterus; gastrostomy and recovery. *Mississippi Valley M. Month. Memphis.* I. 5-10.

#### UTERUS, Subinvolution of the.

**Alcorn, E.** Uterine sub-involution; its pathology and treatment. *Obst. Gaz. Cincin.* IV. 61-64. — **Chalot.** Indication de l'ergot de seigle dans la sub-involution utérine après l'accouchement. *Gaz. hebdom. d. sc. méd. de Montpel.* III. 38-40. — **Fauquez, R.** Métrite parenchymateuse chronique consécutive à l'arrêt de régression de l'utérus après l'accouchement et la fausse couche, compliquée d'endométrite avec ulcération du col. *Rev. méd.-chir. d. mal. d. femmes. Par.* III. 673-678. — **Fauquez, R.** Métrite parenchymateuse chronique par arrêt de régression de l'utérus après les accouchements; endométrite limitée au canal cervical avec hypertrophie de la muqueuse. *Rev. méd.-chir. d. mal. d. femmes. Par.* III. 439-441. — **Fauquez, R.** Métrite parenchymateuse chronique par arrêt de régression de l'utérus après les accouchements, à la phase congestive de la première période; œufs de Naboth. *Rev. méd.-chir. d. mal. d. femmes. Par.* III. 490-493. — **Fauquez, R.** Métrite parenchymateuse chronique par arrêt de régression de l'utérus après les accouchements; endométrite de la muqueuse du corps de l'utérus. *Rev. méd.-chir. d. mal. d. femmes. Par.* III. 497-500. — **Fauquez, R.** Métrite parenchymateuse chronique par arrêt de régression après l'accouchement et la fausse couche, suivie d'antéflexion. *Rev. méd.-chir. d. mal. d. femmes. Par.* III. 659-671. — **Frommel.** Ueber puerperal Uterusatrophie. *Berl. klin. Wchnschr.* XVIII. 701. — **Greene, J. S.** Sub-involution of the uterus and neurasthenia. *Boston M. & S. J. CV.* 121-124. *Also*, Report.

#### UTERUS, Superinvolution of the.

**Coles, W.** Post-partum atrophy of the uterus. *St. Louis Cour. Med.* VI. 110-119. Discussion. 176-178. *Also*, Reprint.

#### UTERUS, Syphilis of the.

**FOULQUIER, JULES.** \*De la syphilis utérine secondaire. *Paris.* 41 pp. 4°

#### UTERUS, Tumors of the.

**BROWKILLO, J.** \*De l'extirpation partielle des polypes utérins volumineux à large pédicule. *Paris.* 39 pp. 4°

**CANEVA, G.** La trementina; sua azione nella cura del cancro uterino. *Milano.* 8°

**CHOTIN, L. L. D. J.** Du cancer de l'utérus et particulièrement de l'anatomie pathologique et des complications de cette affection. *Lille.* 4°

**FABRI, E. F.** Estirpazione di un mioma intra-uterino per mezzo dell'ansa galvanocautica. *Bologna.* 4° [Repr. from; *Mem. d. Accad. d. sc. d. Ist. di Bologna.*]

**FRANK, E.** \*Ueber die Operation complicirter Fibromyome des Uterus, insbesondere über die Entwicklung von Hautemphysem nach der Operation. 8° *Mainz*. 1880.

**MERKEL, G. H.** Fibroid Tumors of the Uterus and Ovaries. *Boston*. 8°

**OHMS, EDMUND.** \*Zur Casuistik, Diagnose und operativen Therapie der festen Uterustumoren. *Dorpat*. Schakenburg, 86 pp. 8°

**PEGOUD, ALBERT.** \*De la valeur des courants continus dans le traitement des tumeurs fibreuses de l'utérus. *Paris*. 43 pp. 4°

**SCHWARZENHÖLZER, A.** Zur Ergotinbehandlung der Myofibrome des Uterus. *Tübing*. 8°

**Allende Padin, R.** Polipo uterino voluminoso. *Rev. Méd. de Chile. Sant. de Chile*. 1878-79. VII. 363-370. 1 pl.

— **Amand.** Fibrome intra-utérine; extraction; guérison. *J. d. sc. méd. de Louvain*. VI. 417-419. — **Bar, P.** Observations pour servir à l'histoire de l'évolution des tumeurs pendant la grossesse. *Par.* 8° [Repr. from: *Ann. de gynec.*]

— **Babes, V.** Hamuykepletek méhizomdagokban. [Fibromyomata of fundus of uterus.] *Orvosi hetil. Budapest*. XXV. 1205-1210.

— **Benicke.** Uterus mit einem in Verjauchung begriffenen Myomrest und mit multiplen Eiterherden in der Umgebung. *Ztschr. f. Geburtsh. u. Gynäk. Stuttg.* VI. 414. — **Berthault.** Myome hydrorrhéque de l'utérus, ablation d'un polype utérin; péritonite purulente; mort; autopsie. *Bull. Soc. anat. de Par.* 1880. LV. 318-322. — **Boisliniere.** Uterine polypus. *St. Louis Cour. Med. V.* 237. — **Börner, E.** Ueber das subseröse Uterus-Fibroid. *Samml. klin. Vortr.* No. 202. *Leipz.* (Gynäk. No. 58, 1531-1566).

— **Bricchetti, L.** Di un voluminoso mioma uterino. *Osservatore. Torino*. XVII. 81-86. — **Chambers, T.** Fibro-cystic disease of the uterus. *Tr. Obst. Soc. Lond.* (1880). XXII. 159. 1 pl.

— **Clark, C. S.** A case of uterine polypus complicating pregnancy. *Am. M. Bi-Weekly. N. Y.* XIII. 217. — **Colomiatti, V.** Contribuzione allo studio dei tumori dell' utero. *Salute: Italia Med. Genova*. 2 s. XV. 105. *Also*, *Arch. per le Sc. Med. Torino*. V. 1-23. 1 pl.

— **Czerny, V.** Ueber die Enukleation subperitonealer Fibrome der Gebärmutter durch das Scheidengewölbe; vaginale Myotomie. *Wien. med. Wchnschr.* XXXI. 501, 525. — **Davezac, J.** Sarcome utérin; métrorrhagie constante; péritonite tuberculeuse; mort; autopsie. *J. de méd. de Bordeaux*. 1881-82. XI. 34-36.

— **Davis, H.** Intra-uterine fibroid tumor, sessile; its entire discharge by exfoliation promoted by incisions of graduated depth into the growth. *Lancet. Lond.* I. 866.

— **Davy, R. B.** Subperitoneal fibro-cystic tumor of the uterus. *Cincin. Lancet & Clinic. N. s.* VII. 94-96. — **Dav-**

**son, B. F.** Uterine fibroid removed by the galvano-cautery. *Am. J. Obst. N. Y.* XIV. 421. — **Després.** Polypes utérins; corps fibreux pédiculés. *Union méd. Par.* 3 s. XXXII. 109-114. — **Després.** Tumeur fibreuse volumineuse de l'utérus, enlevée à l'aide de l'écraseur linéaire segmenté. *Bull. Acad. de méd. Par.* 2 s. X. 1376. — **Dubruel, A.** Note sur la thérapeutique des polypes fibreux de l'utérus. *Gaz. hebdom. d. sc. méd. de Montpel.* III. 529. — **Eddowes, A.** Fibro-cystic tumour of the uterus; operation; death. *Lancet. Lond.* I. 212. — **Emmet, T. A.** Submucous uterine fibroid. *N. York M. J.* XXXIV. 176.

— **Eulberg.** Ueber die Indicationen zur Myotomie nach Martin. *Prakt. Arzt. Wetzlar*. XXII. 28, 49-53, 97, 121, 146, 169.

— **Exstirpatio** fibromatis uteri. *Aerztl. Ber. d. k. k. allg. Krankenh. zu Prag.* (1878). 1880. 264. — **Fauquez, R.** Polype fibreux sous-muqueux engagé entre les levres du col; amputation par la ligature élastique. *Rev. méd.-chir. d. mal. d. femmes. Par.* III. 436-439. — **Formad, H. F.** Soft fibroma of uterus. *Phila. M. Times*. 1880-81. XI. 316. — **Fort.** Enorme tumeur fibreuse de l'utérus; opération; guérison. *Rev. méd.-chir. d. mal. d. femmes. Par.* III. 561-564. — **Godson, C.** Removal of fibrous outgrowth from the fundus uteri; recovery. *Tr. Obst. Soc. Lond.* (1880). XXII. 111-114. — **Goodell, W.** Intramural uterine fibroid. *Tr. Phila. Obst. Soc.* (1880). 14. — **Gorvits, M. I.** Nagnoenie stenok kistom jaichnika s klinicheskoj tochki zrenija [Suppuration of cystoma of uterus]. *Vrach. St. Petersb.* II. 661, 681, 698. — **Grammatikati, J.** Ein Myoma cervicis uteri cavernosum. *Arch. f. Gynaek. Berl.* XVII. 139-143. 1 pl. — **Grant, J. A.** Case of uterine fibrous polypus. *Canada Lancet. Toronto*. 1880-81. XIII. 107. — **Guéniot.** Méthodes opératoires applicables à l'ablation des polypes de l'utérus; procédé d'excision à l'aide du constricteur ou serre-nœud. *Bull. Acad. de méd. Par.* 2 s. X. 1248-1259. *Also*, *Thérap. contemp. Par.* I. 689-697. *Also*, *Ann. de gynec. Par.* XVI. 331-349. — **Hanahan, R. B.** The successful removal of a sub-peritoneal fibroid of the uterus, with remarks. *Med. Rec. N. Y.* XX. 710. — **Hanks.** Uterine fibroid. *N. York M. J.* XXXIV. 68. — **Hicks, J. B.** On uterine contractions. *Lancet. Lond.* II. 568. — **Hovitz, F.** Tre Tilfælde af Laparotomi for fibrose Svulster. *Gynaek. og obst. Medd. Kjöbenhavn*. III. Pt. 2. 57-72. — **Hubert, E.** Des polypes de la matrice. *J. d. sc. méd. de Louvain*. VI. 161-168.

— **Hue, J.** Présentation d'un myome utérin détaché spontanément et en état de décomposition putride. *Union méd. de la Seine-Inf. Rouen*. XX. 45-50. — **Jacubasch.** Ueber Uterus-Fibrome. *Charité-Ann.* 1879. *Berl.* VI. 320-341. — **Jacubasch.** Vier Fälle von Uterus-sarcom. *Ztschr. f. Geburtsh. u. Gynäk. Stuttg.* VII. 53-69. 1 pl. — **Janvrik.** Fibroid tumor of the uterus. *N. York M. J.* XXXIV. 60. — **Kohn, M.** Polip

żozyskowy. *Przyczynek kazuist. do roz-*

- poznawania i lecz. krwotoków macicznych. [Polypus and hemorrhage of uterus.] Przegł. lek. *Kraków*. XX. 533, 550.—**Krasinói, T. M.** Sluchai samorodnago obratnogo razvitiia fibromiomy matki poslie rodove. [Case of myoma of uterus, returning after delivery.] Vrach. *St. Petersburg*. II. 361.—**Labat.** Observation de fibrome utérin dont la lente élimination, en accumulant les produits septiques dans la cavité utérine, amena une péritonite mortelle. [Rap. par Bazy.] Bull. Soc. anat. de Par. 1880. LV. 345-348.—**Labbé, L.** Traitement des polypes fibro-utérins. Bull. Acad. de méd. *Par.* 2 s. X. 1289-1301.—**Lecoq.** Tumeur utéro-ovarienne; hernie ombilicale étranglée; rupture transversale de l'intestin; opération; anus contre nature; mort; autopsie. Bull. Soc. anat. de Par. LVI. 119-122.—**Lussana, F.** Il metodo della escissione dei polipi uterini del dott Giovanni Comi. Gazz. Med. Ital., Prov. Venete. *Padova*. XXIV. 203.—**Martin, H. N.** Hydatis of the uterus. Homœop. J. Obst. *N. Y.* 1881-82. III. 29-31.—**Maslovski, V.** Ke ucheniou o slizistich polipach polisti matki. [On the mucous polypi of the uterus.] Vrach. Vaidom. *St. Petersburg*. VI. 2321, 2337.—**Maslovsky, W.** On the development of malignant from non-malignant tumours of the uterus. *Edinb. M. J.* 1881-82. XXVII. 588-594. 2 pl.—**Mays, W. H.** Recurrent fibroid, or sarcoma of the uterus. *West. Lancet. San Fran.* 1881-82. X. 6-9.—**Meredith, W. A.** Large multilocular fibrocystic tumour of uterus. *Tr. Path. Soc. Lond.* XXXII. 145-147.—**Miliken, F. H.** Fibroid tumor of uterus; hypodermic injections of ergotin; cure. *Phila. M. Times.* 1881-82. XII. 304.—**Montgomery, E. E.** Multiple uterine fibroid partially calcified. *Tr. Phila. Obst. Soc.* (1880). 29-32.—**Morris, H.** Abstract of a clinical lecture on a case of intramural fibroid tumour of the uterus; causing intermittent retention of urine, and leading to suppuration in the left ovary and along both Fallopian tubes, to dilatation of uterus, acute double nephritis, and purulent peritonitis and death. *Brit. M. J. Lond.* I. 793.—**Mudd.** Case of extensive fibroid of the uterus. *St. Louis M. & S. J.* XL. 588-590.—**Neville.** Auscultatory signs in uterine tumours. *Dublin J. M. Sc.* 3 s. LXXI. 353-362.—**Nicaise.** Coincidence rare de deux tumeurs fibreuses du corps de l'utérus et d'un cancer végétant du col. *Gaz. d. hôp. Par.* LIV. 1017.—**Nicaise.** Sarcome de l'utérus. *Ann. de gynéc. Par.* XV. 437-444.—**Oettinger** et **Teissier.** Sarcome du corps de l'utérus. *Progrès méd. Par.* IX. 522-524. *Also*, Bull. Soc. anat. de Par. LVI. 16-21.—**Palfrey.** Case of fibrous polypus uteri complicated with epithelial carcinoma of the cervix; excision; hæmorrhage. *Students' J. & Hosp. Gaz. Lond.* IX. 42.—**Palmer, C. D.** Case and operation of submucous interstitial fibroid tumor of the uterus. *Cincin. Lancet & Clinic.* N. s. VI. 172-177.—**Pirovano, I.** Cinco casos de polipos uterinos operados y curados sin accidentes. *Rev. Méd.-Quir. Buenos Aires.* 1881-82. XVIII. 84.—**Polk, W. M.** Result of operation for uterine polypus; subperitoneal fibroid of the uterus; diagnosis of pregnancy; cracked nipple. *Virginia M. Month. Richmond.* 1881-82. VIII. 725-742.—**Polk.** Diagnosis of sarcoma of the uterus. *N. York M. J.* XXXIV. 180. *Also*, *Am. J. Obst. N. Y.* 1882. XV. Suppl. 17.—**Polk, W. M.** Removal of a sarcomatous growth from the lining membrane of the uterus. *Nashville J. M. & S. N. s.* XXVII. 145-148.—**Reber, C. T.** The influence of sub-mucous fibroids on gestation and parturition. *St. Louis M. & S. J.* XLI. 293.—**De los Rios, J. M.** Caso de tumor fibroso uterino curado por inyecciones hipodérmicas de extracto liquido de corneuzelo de centeno. *Union Méd. Caracas.* I. 41.—**Roehrig, A.** Die Behandlung der Uterusfibromyome, nach eigenen Erfahrungen. *Arch. f. path. Anat., etc. Berl.* LXXXIII. 393-460.—**Romero y Linares, A.** Nuevos métodos de talla perineal y de ligadura de los pólipos de la matriz. *Corresp. Med. Barcel.* 1880. XV. *Passin: contin. in* XVI. 2, 18, 26, 34, 54.—**Roustan.** Fibrome intra-utérin; ligature élastique appliquée dans la cavité de la matrice; guérison. *Montpel. méd.* XLVI. 239-244.—**Schwarz, E.** Glückliche Exstirpation eines 45 Pfund schweren cystischen Uterusmyoms unter Anwendung der elastischen Ligatur. [Nebst Bemerkungen von R. Olshausen.] *Arch. f. Gynaek. Berl.* XVII. 424-443.—**Stillwell, W. C.** A case of fibroid tumor of the uterus. *Phila. M. Times.* 1881-82. XII. 71.—**Stoker, M. T.** Remarks on a case of fibromyxoma. *Med. Press & Circ. Lond.* N. s. XXXI. 133-136.—**Tait, L.** On the relative merits of the treatment of uterine myoma by enucleation, hysterotomy, and ovariectomy. *Ann. Anat. & Surg. Brooklyn, N. Y.* III. 251-258.—**Tauszky, R.** Fibro-myoma of the uterus. *Bull. N. York Path. Soc.* 2 s. I. 53.—**Teissier** et **Oettinger.** Fibrome du corps de l'utérus; cancer du col ayant envahi les os du bassin. *Progrès méd. Par.* IX. 741.—**Thomas, T. G.** Clinical lecture on subperitoneal uterine fibroids. *Boston M. & S. J.* CIV. 433.—**Thomas, T. G.** Fibro-cystic tumor; laparotomy; recovery. *Am. J. Obst. N. Y.* XIV. 875.—**Thornton, J. K.** Removal of uterine fibroids by laparotomy. *Tr. Obst. Soc. Lond.* (1880). XXII. 114-129.—**Upshur, J. N.** A case of calcified fibroid of the uterus, with remarks. *Am. J. Obst. N. Y.* XIV. 108-111.—**Vidal Solares, F.** Tumor fibroso del útero, de veintidos kilogramos de peso, tomado por un quiste del ovario derecho; gastrotomía; estrangulacion parcial del tumor por medio de dos ligadores de Cintrac; muerte cincuenta y seis horas despues de la operacion. *An. de Obst., Ginep. y Pediat. Madrid.* 2 ép. I. 361-369.—**Wales, P. S.** A case of uterine myoma; thirty-nine inches in circumference and weighing seventeen and one-half pounds; removed by laparotomy. *Med. Rec. N. Y.* XX. 315.—**Ward, C. S.** Fibroma of the body and carcinoma of the cervix of the uterus. *Am. J. Obst. N. Y.* XIV. 891.—**Warren, J. H.** Fibroid tumors of

the uterus. Virginia M. Month. *Richmond*. 1881-82. VIII. 73-86. — **Was-seige**. Ablation d'une tumeur kystique, d'une partie de l'utérus et de l'ovaire gauche; opération très compliquée; guérison. Bull. Acad. roy. de méd. de Belg. *Brux.* 3 s. XV. 394-409. — **Weber, F.** Ueber den Einfluss der Badekur in Staraja Russa auf die fibrösen Geschwülste der Gebärmutter. St. Petersburg. med. Wchnschr. VI. 367-369. — **Wells, T. S.** Observations on recent improvements in the mode of removing uterine tumours. Brit. M. J. *Lond.* I. 909. — **Williams, A. W.** Case of a fibro-cystic subperitoneal tumour of the uterus cured by the actual cautery. Brit. M. J. *Lond.* I. 384.

#### VAGINA, Abnormities of the.

**Heustis, J. F.** Occlusion and absence of vagina. Tr. M. Ass. Alabama. *Montgomery*. XXXIV. 499. — **Von Weber**. Doppelte Vagina, zwei Vaginaltheile der Cervix, ohne Septum des Uterus. Prag. med. Wchnschr. VI. 433-435.

#### VAGINA, Atresia of the. See, also, Hematometra and Hymen.

**Allan, W.** A case of atresia vaginae of seventeen years' duration. Dublin J. M. Sc. 3 s. LXXII. 28t. — **Brosseau, A. T.** Anomalies des organes génitaux de la femme. Union méd. du Canada. *Montréal*. X. 481-489. — **Cody, T.** Traumatic atresia of vagina following parturition; operation; cure. *Lancet*. *Lond.* II. 666. — **Earnest, J. G.** A case of occlusion of the vagina. Atlanta M. & S. J. 1880-81. XVIII. 722-724. — **Earnest, J. G.** Occlusion of the vagina. Atlanta M. Reg. 1881-82. I. 139-142. — **Greene, J. M.** Case of atresia vaginae following labor and causing retention of menstrual fluid for eighteen months. Tr. Mississippi M. Ass. *Jackson*. XIV. 133-136. — **Larivière**. Occlusion vaginale consécutive à une parturition; rétention du flux menstruel sans dilatation de la cavité utérine; opération. [From: *Lyon méd.*] Arch. de tocol. *Par.* VIII. 112-116. — **Manlius**. Mechanical atresia vaginae. [Cicatrix from impalement.] Boston M. & S. J. CIV. 277. — **Minton, H.** Atresia of the vagina. *Homœop. J. Obst.* N. Y. 1881-82. III. 20-29. — **Quackenbush**. Atresia vaginae. *Med. Ann. Albany*. II. (Tr. M. Soc. County Albany. 207-209.) — **Riggs, C. E.** Atresia of female genital tract. South. Clinic. *Richmond*. IV. 489-495.

#### VAGINA, Cancer of the.

**Bruckner, C.** Der primäre Scheidenkrebs und seine Behandlung. Ztschr. f. Geburtsh. u. Gynäk. *Stuttg.* VI. 110-125.

#### VAGINA, Dilatation of the.

**Pfannkuch**. Zur Aetiologie der temporären Erweiterung des Scheidengewölbes. Arch. f. Gynaek. *Berl.* XVIII. 150-155.

#### VAGINA, Foreign Body in the.

**Athill, L.** Hair-pin removed from

the vagina after it had lain there for upwards of sixteen years and had caused a vesico-vaginal fistula. Med. Press & Circ. *Lond.* N. s. XXXI. 291. — **Carter, C. H.** Foreign body in the vagina, removal after four years, and after-results. Tr. Obst. Soc. Lond. (1880). XXII. 34-38. — **Piece, A.** of sponge retained in the vagina causing suspicion of cancer. Boston M. & S. J. CV. 254.

#### VAGINA, Gangrene of the. See Labor, Sequelæ of.

#### VAGINA, Inflammation of the.

**Liandier**. Note sur deux cas de phagédénisme traités avec succès par les émoullients, et sur le traitement de la vaginite par le tamponnement. *Gaz. méd. de Par.* 6 s. III. 312, 327. — **Terrillon et Auward**. Modifications nouvelles dans le traitement de la vaginite. Bull. gén. de thérap., etc. *Par.* C. 193-199. — **Zweifel, F.** Ueber Vaginitis emphysematosa und den Nachweis des Trime-thylamins in der Vagina. Arch. f. Gynaek. *Berl.* XVIII. 359-366.

#### VAGINA, Medication of the.

**Bentcke, F.** Heisse Scheidenirrigationen bei Frauenkrankheiten. *Berl. klin. Wchnschr.* XVIII. 353-355. — **Benicke**. Heisse Scheidenirrigationen bei Frauenkrankheiten. Ztschr. f. Geburtsh. u. Gynäk. *Stuttg.* VI. 411. — **Garrigues, H. J.** A vaginal depressor. *Med. Rec. N. Y.* XX. 698. — **Steinschneider**. Die permanente Irrigation der Vagina und ihre Anwendung in Franzensbad. Wien. med. Presse. XXII. 207, 239.

#### VAGINA, Prolapse of the.

**Kraus, Franz**. \*Ein Fall von totem Vaginalprolaps während der Schwangerschaft und Geburt. *Greifswald*. 1880. C. Sell. 24 pp. 80

**Fritsch**. Partielle Scheidenresektion als Scheidenprolapsoperation. Centralbl. f. Gynäk. *Leipz.* V. 425-429. — **Weinlechner**. Befund einer Colporaphia posterior nach 1½ Jahren; Prolapsus ani durch Anwendung der Glühitze am Afterende und an der umgebenden Haut (Dieffenbach); geheilt. Ber. d. k. k. Krankenanst. Rudolph-Stiftung in Wien (1880). 399.

#### VAGINA, Rupture of the.

**Williams, J.** Rupture of vagina into Douglas' pouch; peritonitis; recovery. Brit. M. J. *Lond.* I. 231.

#### VAGINA, Stenosis of the.

**Meyer, J.** Zur Casuistik der narbigen Verengerungen der Vagina. St. Petersburg. med. Wchnschr. VI. 428.

#### VAGINA, Thrombus of the.

**Stocker, S.** Thrombus vaginae. Cor. Bl. f. schweiz. Aerzte. *Basel*. XI. 411.

#### VAGINA, Tumors of the.

**Collardot**. \*Des kystes du vagin. *Paris*. 47 pp. 40

HEINELT, FRANZ. \*Zur Casuistik, Symptomatologie und Therapie der Scheidentumoren. *Greifswald*. 1880. C. Sell. 37 pp. 8°

**Lebedeff, A.** Ueber die Gascysten der Scheide. Arch. f. Gynaek. *Berl.* XVIII. 132-149. 1 pl. — **Macan.** Fibrous tumour of the vagina. Dublin J. M. Sc. 3 s. LXXI. 156. — **Soltmann, O.** Primäres Schleimhautsarcom der vorderen Scheidenwand mit secundärem Bläsensarcom. Jahrb. f. Kinderh. *Leipz.* 1880-81. XVI. 418-424. — **Watts, R.** Cyst of anterior vaginal wall; developed from Gartner's canal. Am. J. Obst. *N. Y.* XIV. 848-852.

#### VAGINISMUS.

**Catrin.** Observations du vulvisme. France méd. *Par.* II. 421. — **Duncan, M.** A case of vaginismus from vascular caruncle, treated with the ether cauterly. Med. Press & Circ. *Lond.* N. s. XXXII. 101. — **Engström, O.** Några anmärkningar öfver Vaginismus. Gynaek. og obst. Medd. *Kjöbenh.* III. 3 Hft. 21-28. — **Lougee, W. H.** Vaginismus. Am. Homoeop. *N. Y.* VII. 229-231. — **Martineau.** Du vulvisme. France méd. *Par.* II. 241, 253, 268, 277. — **Vaginisme (Le)** supérieur. Gaz. d. hôp. *Par.* LIV. 625. — **Wyman, H. C.** Operation for cure of vaginismus. Detroit Lancet. 1881-82. N. s. V. 281.

#### VARIOLOID in Pregnancy.

**Marx, E.** Observation de varioloïde communiquée à une femme enceinte par son enfant de deux ans; accouchement gémellaire survenu entre les prodromes fébriles et l'apparition de l'éruption; mort rapide des deux enfans; guérison de la mère. J. de méd. de Bordeaux. 1881-82. XI. 228.

#### VARIX in Pregnancy.

**CAZIN, H.** Des varices pendant la grossesse et l'accouchement. *Paris.* 8°

**Queirel.** Des varices pendant la grossesse et l'accouchement. Marseille méd. XVIII. 195, 237, 325. Also, Ann. de gynéc. *Par.* XV. 275-294, 338-354.

#### VERSION. See, also, Evolution, Spontaneous.

**GRASSI, E.** Sostituzione d'una presentazione del tronco a quella originaria delle natiche avvenuta dopo la rottura del sacco. *Firenze.* 8° [Repr. from: *Imparziale.*]

**Blanco y Santana, J.** Caso notable de distocia; version podálica, embarazo doble. Gac. Méd. de Sevilla. III. 3-5. — **Gay, C. C. F.** Pelvic version; report of cases, with remarks. Buffalo M. & S. J. 1881-82. XXI. 215-218. — **Hanawalt, H. O.** A case of version in prolapsed funis. Kansas M. Index. *Fort Scott.* II. 215. — **Hauenstein, J.** Cephalic version in the postural position [*sic*]. Buffalo M. & S. J. 1881-82. XXI. 289-293. — **Labat, L.** Note sur la version

par manœuvres externes pendant le travail. Ann. de gynéc. *Par.* XV. 37-44. — **Lee, W. H.** Spontaneous version and involution in a shoulder and arm presentation. Tr. M. Ass. Missouri. *St. Louis.* XXIV. 96-101. — **Negri, P.** Del complemento artificiale della evoluzione spontanea mediante l'uncino acuto. Ann. di Ostet. *Milano.* III. 154-170. Also, Reprint. — **D'Orsonnens, T. E. D'O.** Un cas de version pelvienne spontanée. Abeille méd. *Montréal.* III. 388-390. — **Pietri.** De la version céfalica por maniobras externas. Gac. Cient. de Venezuela. *Caracas.* 1881-82. IV. 113, 131. — **Secondipare** à 7 mois de grossesse; insertion centrale du placenta; présentation de l'épaule droite en 1<sup>re</sup> position; hémorrhagie abondante exigeant une terminaison rapide; version podalique; suites de couches heureuses. J. d'accouch. *Litge.* II. 141-143. Also, Arch. de tocol. *Par.* VIII. 668-672. — **Stringari, F.** Caso di versione spontanea céfalica dodici ore dopo sciolte le acque e pronta azione del bisolfato di chinino sulle contrazioni nervose. Indipendente. *Torino.* XXXII. 103-107. — **Stuart, J. A. E.** Twins; double version. Edinb. M. J. 1881-82. XXVII. 503. — **Taylor, I. E.** Spontaneous version and evolution of the fetus in shoulder and arm presentations, and the management of such cases without the sacrifice of the child. Am. J. Obst. *N. Y.* XIV. 525-551.

#### VIBURNUM PRUNIFOLIUM.

**Coleman, W. L.** Abortion shortly after conception, and its prevention by viburnum prunifolium. Therap. Gaz. *Detroit.* N. s. II. 249-251.

#### VIRGINITY.

**Burroughs, S. R.** Post-mortem evidences of virginity. Texas M. & S. Rec. *Galveston.* I. 102-108.

#### VULVA, Abscess of the.

**Gosselin.** Traitement des abcès de la vulve. Praticien. *Par.* IV. 161.

#### VULVA, Cancer of the.

**LEHMANN, E.** \*Ueber Entwicklung, Verlauf und Behandlung der Carcinome an der Vulva. 8° *Halle.* 1880.

**Küstner, O.** Zur Pathologie und Therapie des Vulva-Carcinoms. Ztschr. f. Geburtsh. u. Gynäk. *Stuttg.* VII. 70-83. 1 pl.

#### VULVA, Edema of the.

**GAULARD.** Quelques considérations sur l'œdème vulvaire chez la femme enceinte et en travail. *Lille.* 8°

#### VULVA, Inflammation of the.

**Parrot, J.** La vulvite aphteuse et la gangrène de la vulve chez les enfans. Rev. de méd. *Par.* I. 177-191.

#### VULVA, Lupus of the.

**Cayla.** Esthiomène de la vulve (forme tuberculo-ulcéreuse). Progrès méd. *Par.* IX. 648.



**VULVA, Pruritus of the.**

**Bryson.** Pruritus vulvæ relieved by iodide of potassium. St. Louis Cour. Med. V. 150-152. — **Wiltshire, A.** Clinical remarks on the diagnosis and treatment of pruritus vulvæ. Brit. M. J. Lond. I. 327-329.

**WATERS, Mineral.**

**CAULET.** Du traitement thermal sulfuré des phlegmasies péri-uté-

rines. Paris. 8° [Repr. from: Ann. Soc. d'hydrol. méd. de Par.]

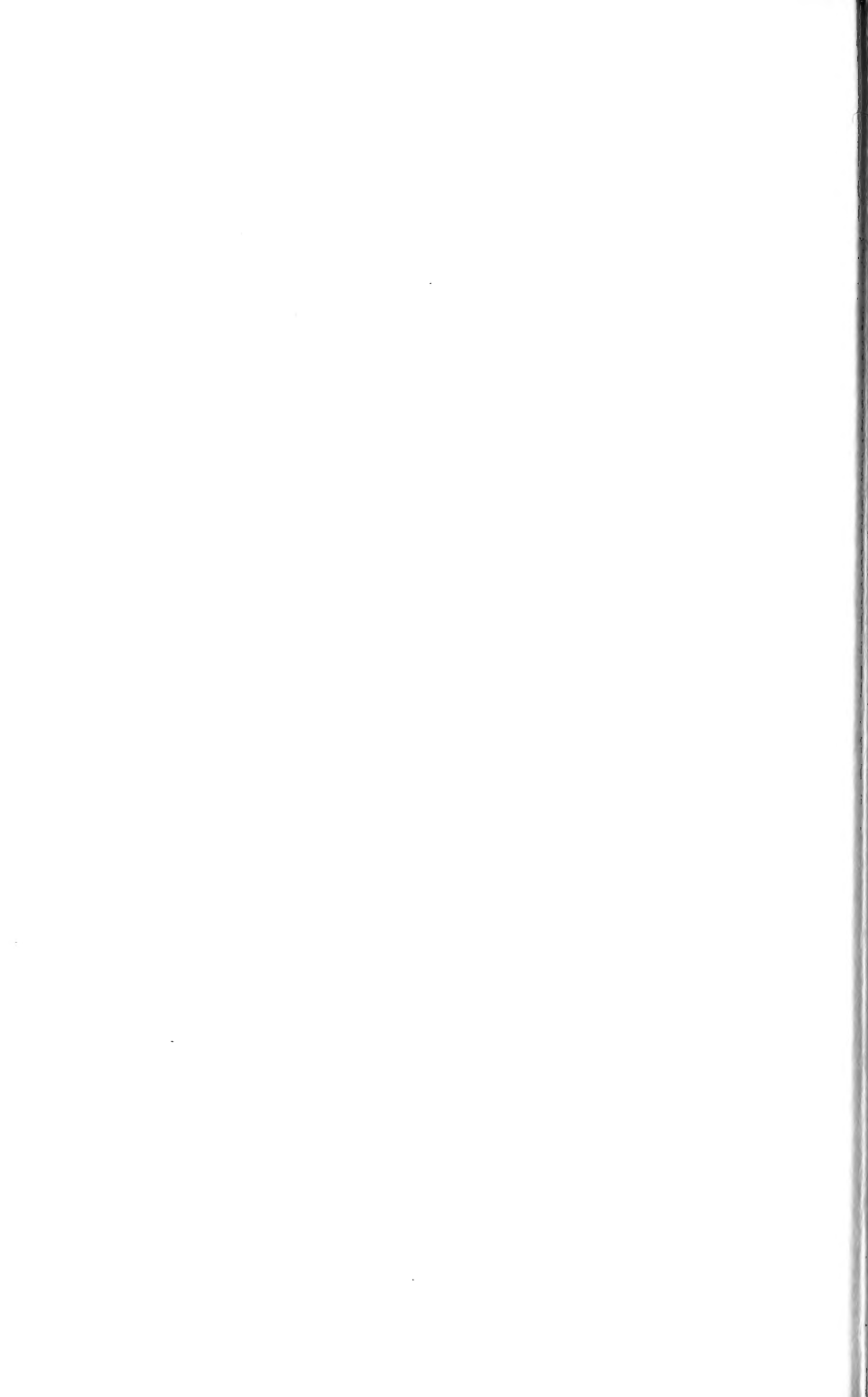
**Morisani, O.** Le acque carbonico-ferrate del Chiatamone in ginecologia Gior. Internaz. d. Sc. Med. Napoli. III. 603-608. — **Seebohn, A.** Zur Behandlung der chronischen weiblichen Sexual-Erkrankungen mit den Kurmitteln Pyromonts. Deutsche med. Wchnschr. Berl. VII. 268, 285.











RG American Gynecological  
1 Society  
A55 Transactions  
v.7

Biological  
& Medical  
Serials

PLEASE DO NOT REMOVE  
CARDS OR SLIPS FROM THIS POCKET

---

UNIVERSITY OF TORONTO LIBRARY

---

STORAGE

