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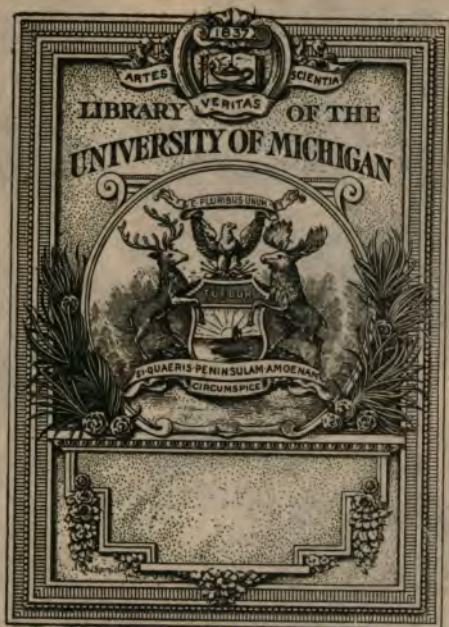
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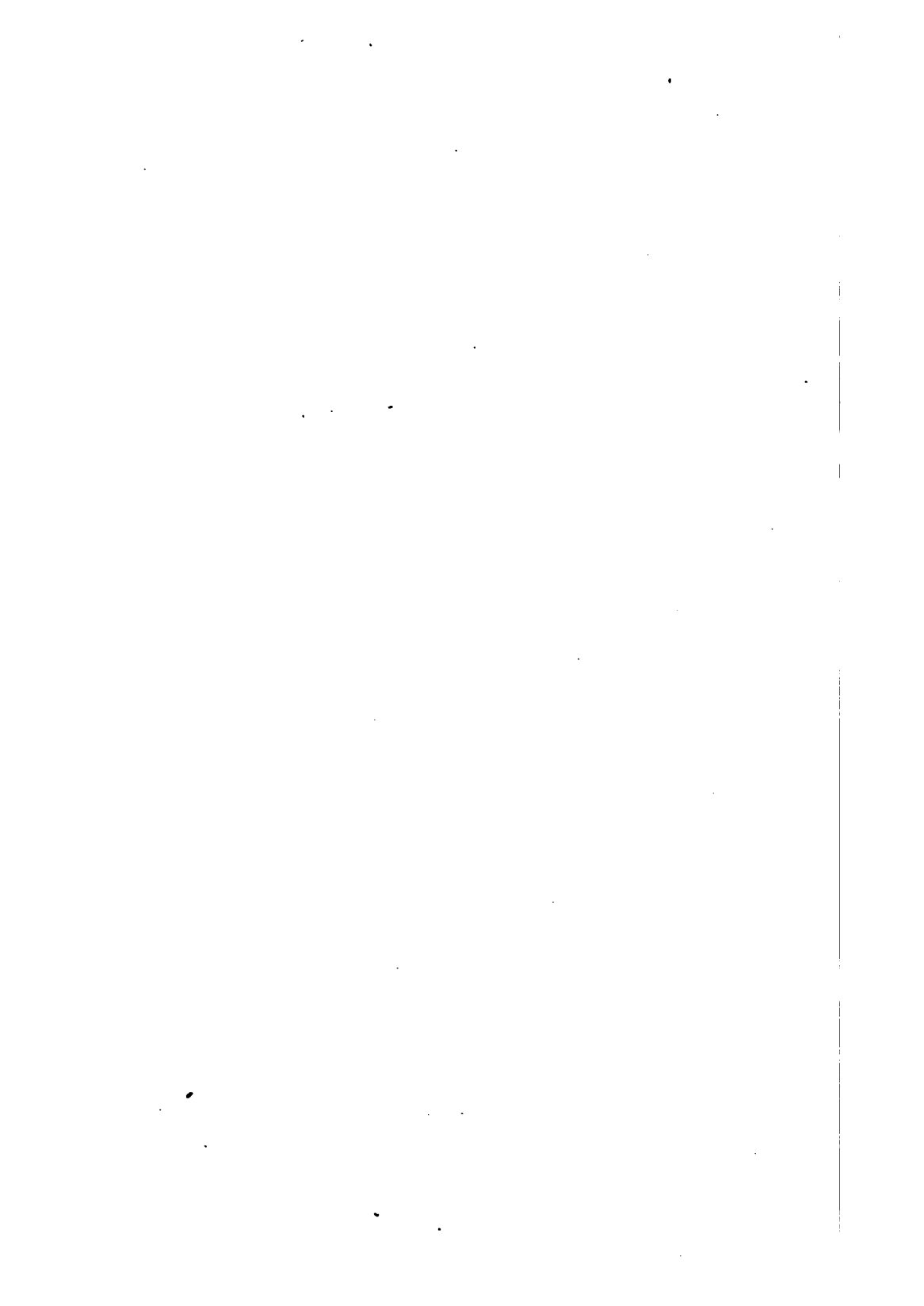




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THE
BRITISH JOURNAL
OF
HOMŒOPATHY.

(WITH WHICH THE ANNALS OF THE BRITISH HOMŒOPATHIC SOCIETY AND THE ANNALS OF
THE LONDON HOMŒOPATHIC HOSPITAL ARE INCORPORATED.)

EDITED BY

J. J. DRYSDALE, M.D., R. E. DUDGEON, M.D.,

AND

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VOL. XXVIII.



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CONTENTS OF No. CXI.

	PAGE
ON IPECACUANHA, BY DR. IMBERT-GOURBEYRE	1
THE SWIMMING BATHS OF LONDON, BY DR. DUDGEON	25
ON SOME OF THE MEDICAL DISEASES OF THE BLADDER. BY ROBERT T. COOPER	58
RHEUMATISM. BY DR. VAUGHAN-HUGHES	103
REMARKS ON THE INTRODUCTORY LECTURES DELIVERED AT THE DIP- FERENT MEDICAL SCHOOLS IN OCTOBER, 1869, BY DR. C. B. KER	118
ON CHOREA, BY GEORGE M. CARFRAE	131
ON THE SURGICAL TREATMENT OF ENLARGED TONSILS, BY GEO. MOORE	137
CASE OF IRITIS, BY DR. LEADAM	144
ON CIMICIFUGA RACEMOSA, BY DR. H. WARNER BUBB	157
PELVIC CELLULITIS, BY DR. J. L. NEWTON	161
CASES TREATED IN THE LONDON HOMŒOPATHIC HOSPITAL, BY DR. DRURY	171

REVIEWS.

FIVE YEARS' PRACTICAL INVESTIGATION OF HOMŒOPATHY AT THE CAVALRY DEPOT, AND H.M. RIDING ESTABLISHMENT, BY W. C. LORD	176
ON PARALYSIS IN INFANCY, CHILDHOOD, AND YOUTH, AND ON THE PRE- VENTION AND TREATMENT OF PARALYTIC DEFORMITIES, BY DR. ROTH. LEGITIMATE MEDICINE, WHAT IS IT? BY GEORGE MOORE	177
HORSES AND STABLES, BY COLONEL F. FITZWYGRAM	177
REMARKS ON MEDICAL CHARITIES, ETC., BY J. PENN HARRIS	181
PROCESSES FOR MAKING TINCTURES FOR HOMŒOPATHIC USE, AS DECIDED UPON BY THE PHARMACY COMMITTEE APPOINTED BY THE BRITISH HOMŒOPATHIC SOCIETY, OCTOBER, 1869	184
EPITOME OF HOMŒOPATHIC MEDICINES, BY WM. J. BREYFOGLE	187
CHARACTERISTIC MATERIA MEDICA, BY W. H. BURT	187
SULPHUR AS A REMEDY FOR NEURALGIA AND INTERMITTENT FEVER, BY ROBERT T. COOPER	193

MISCELLANEOUS.

Carbolic Acid in Surgery, 196.—How far can Fluids be injected into the Intestinal Canal per Anum? by Dr. Trautwetter, 198.—Resemblance to Cholera in the Symptoms of Arsenic Poisoning, by Professor Rudolf Virchow, 202.—On the alleged Glycogenic Power of Aspara- gus, by Edward T. Blake, 206.

Books Received, 207.

CONTENTS OF No. CXII.

NOTES ON THE CLIMATE OF SEVERAL WINTER STATIONS IN THE SOUTH OF FRANCE, AND THEIR ADAPTABILITY TO DIFFERENT INDIVIDUAL TEMPERAMENTS SUFFERING FROM DISEASES OF THE RESPIRATORY ORGANS AND LUNGS, BY JOHN N. CASANOVA	209
A (SUPPOSED) DECISIVE EXPERIMENT ON THE PATHOGENESY OF CARBO- VEGETABILIS, BY DR. FAIVRE	232
POST-PARTUM AFFECTIONS, BY J. LAWRENCE NEWTON	236
FORCE, PROTOPLASM, AND STIMULUS, BY DR. DRYSDALE	252
THE PRACTITIONER AND HOMŒOPATHY	323
THE CONTAGIOUS DISEASES ACTS, BY DR. C. B. KER	330
CASES WITH OBSERVATIONS ON THE DRIFT OF MODERN HOMŒOPATHY, BY R. DOUGLAS HALE	353
OUT-PATIENT CASES TREATED AT THE LONDON HOMŒOPATHIC HOSPITAL, BY DR. DIXON	369

REVIEWS.

ON THE PRESENT STATE OF THERAPEUTICS: WITH SOME SUGGESTIONS FOR PLACING IT UPON A MORE SCIENTIFIC BASIS, BY JAMES ROGERS	392
THE CLINICAL GUIDE, OR POCKET REPERTORY FOR THE TREATMENT OF ACUTE AND CHRONIC DISEASES, BY DR. G. H. G. JAHR	402
CLINICAL RECORD	403

MISCELLANEOUS.

A liberal opponent, 407.—Poisoning by Phosphorus? by Prof. Buhl, 409.—Professor Tardieu on Coralline Sock Poisoning, 411.—Allopathic Homœopathy, 413.

OBITUARY: Dr. C. G. Helbig, 414.—Dr. G. E. Allshorn, 414.—Dr. Arnaud, 415.—Dr. S. T. Partridge, 415.

Books Received, 415.

CONTENTS OF No. CXIII.

	PAGE
ON SOME OF THE MEDICAL DISEASES OF THE BLADDER, BY ROBERT T. COOPER	417
NOTES ON THE CLIMATE OF SEVERAL WINTER STATIONS IN THE SOUTH OF FRANCE, AND THEIR ADAPTABILITY TO DIFFERENT INDIVIDUAL TEMPERAMENTS SUFFERING FROM DISEASES OF THE RESPIRATORY ORGANS AND LUNGS, BY JOHN N. CASANOVA	432
REPORT FOR 1869 OF THE HOMŒOPATHIC HOSPITAL OF THE SISTERS OF MERCY, AT GUMPENDORF, VIENNA, UNDER THE DIRECTION OF THE PRINCIPAL, DR. A. BÖTHANSEL, BY THE ASSISTANT-PHYSICIAN, DR. SUM	468
ON SILICATED WATER, BY DR. BECKER	471
THE CONTAGIOUS DISEASES ACTS, BY DR. ACWORTH	481
FORCE, PROTOPLASM, AND STIMULUS, BY DR. DRYSDALE	523
GOUT, BY DR. VAUGHAN-HUGHES	587
HÆMORRHAGE FROM THE STOMACH AND BOWELS, BY DR. SHULDHAM	555
TWENTIETH ANNUAL REPORT OF LONDON HOMŒOPATHIC HOSPITAL	568

REVIEWS.

A TREATISE ON DISEASES OF THE EYE: FOR THE USE OF GENERAL PRACTITIONERS, BY H. C. ANGELL	590
BRITISH HOMŒOPATHIC PHARMACOPEIA	602
THE SCIENCE OF THERAPEUTICS, ACCORDING TO THE PRINCIPLES OF HOMŒOPATHY, BY BERNARD BAEHR	607
CLINICAL RECORD	619

MISCELLANEOUS.

Note to the Swimming Baths of London, by Dr. Dudgeon, 631.

Books Received, 624.

CONTENTS OF No. CXIV.

FORCE, PROTOPLASM, AND STIMULUS, BY DR. DRYSDALE	635
IS APOCYNUM CANNABINUM HOMŒOPATHIC TO DROPSY? BY E. M. HALE	655
ON SOME OF THE MEDICAL DISEASES OF THE BLADDER, BY ROBERT T. COOPER	657
DUPRESNOY ON RHUS	664
AN ACCOUNT OF COUNT MATTEI'S MARVELLOUS MEDICINES, BY DR. ACWORTH	675
ON THE TRUE PLACE OF REPERTORIES IN HOMŒOPATHIC PRACTICE, BY DR. HENRY R. MADDEN	710
AN ACCOUNT OF FIFTY CASES OF DIPHTHERIA, BY DR. RICHARD HUGHES	730
ON THE RULE OF DOSE, BY DR. YELDHAM	745
CASES OF ACUTE RHEUMATISM TREATED AT THE LONDON HOMŒOPATHIC HOSPITAL, BY DR. J. HAMILTON MACRECHNIE	764

REVIEWS.

THERAPEUTIC GUIDE; THE MOST IMPORTANT RESULTS OF MORE THAN FORTY YEARS' PRACTICE, WITH PERSONAL OBSERVATIONS REGARDING THE TRULY-RELIABLE AND PRACTICALLY-VERIFIED CURATIVE INDICATIONS IN ACTUAL CASES OF DISEASE, BY DR. G. H. G. JAHR	773
THE OLD VEGETABLE NARCOTICS; HEMLOCK, OPIUM, BELLADONNA, AND HENBANE: THEIR PHYSIOLOGICAL ACTION AND THERAPEUTIC USE ALONE AND IN COMBINATION, BY JOHN HARLEY	777
TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK FOR THE YEAR 1869. TRANSACTIONS OF THE HOMŒOPATHIC MEDICAL SOCIETY OF THE STATE OF NEW YORK FOR THE YEAR 1869	781
JOSEPH BONJEAN'S ELIXIR OF HEALTH AGAINST DIGESTIVE DISORDERS	795
A MANUAL OF PHARMACODYNAMICS: BEING PART I OF A MANUAL OF HOMŒOPATHIC PRACTICE FOR STUDENTS AND BEGINNERS, BY R. HUGHES	796
CLINICAL RECORD	787

MISCELLANEOUS.

Bromide of Potassium and Acne, 807.—On the Effects of Arsenic in Phthisis, by Dr. Isnard, 807.—Homœopathic Hospital of Colombia, 809.—Laying of the Corner Stone of the New Hahnemann College Hospital, at Chicago, Ill., U.S.A., 811.—Homœopathic Hospital in New York, 814.—The Effect of Powerful Magnets on Man and the Lower Animals and Plants, by John Vannant, 815.—Poisonous Envelopes, 817.—Causes of the Antipyretic Action of Quinine, 818.—One word more on London Swimming Baths, by Dr. Dudgeon, 820.

Books Received, 822.

THE
BRITISH JOURNAL
OF
HOMŒOPATHY.

ON IPECACUANHA.

By Dr. IMBERT-GOURBEYRE.

(Concluded from Vol. XXVII, p. 636.)

V.—ACTION OF IPECACUANHA IN FEVERS.

IN both schools *Ipec.* has often been employed as an intercurrent remedy, especially at the commencement of continued and eruptive fevers, on the appearance of gastric symptoms. Whilst, for instance, M. Foucart* recommends *Ipec.* at the outset of miliary fever, Hartmann had already specially indicated it in such cases. Bönninghausen, also, puts miliary fever at the head of the list. Trinks advises *Ipec.* in scarlatina when the eruption is difficult and tardy, with oppression and anxiety.

It is particularly in intermittent fever that *Ipec.* has been used with most precision and success, as we shall explain at some length, adding puerperal fever.

Intermittent fevers.—Fever running a typical course are often complicated, from the first, with the saburral condition or gastric catarrh, which the Germans call gastrostis. From this, to the administration of a vomipurgative in

* Foucart, *De la Snette miliarye*, Paris, 1854.

order, as they call it, to attack the malady at head-quarters, there was but a single step, and from the very first *Ipec.* has been prescribed in such cases. The first who, to my knowledge, spoke of it was Hermann, then the school of Stahl and Barbeyrac. Next, in 1732, Vater published a dissertation *De Ipecacuanhæ virtute febrifugâ atque anti-dysentericâ*, and extolled the remedy in fevers originating "*ex colluvie primarum viarum*;" but the one who has drawn special attention to the use of *Ipec.* in intermittent fever is Gianella, whose thesis Haller has preserved in his dissertation: *Caroli Gianella de admirabili Ipecacuanhæ virtute in curandis febribus tum autumnalibus, tum lentis sive continuis, sive intermittentibus, sedem in primis viis habentibus*" Patavii, 1754.

The author acknowledges that *Ipec.* had been given by others before him, both in continuous or intermittent fevers, and in putrid fevers with exanthemata, but he claims to himself the novelty of treating such cases by *Ipec.* exclusively, only following it up with *Rhubarb* where the fever had not yielded; the first remedy he gives after the Brazilian method. This thesis is full of explanations of the pathology of fevers, but the only notable passage is the following:—"We declare solemnly and sincerely that we have cured innumerable fevers by the sole use of this root, and never had a relapse, such as often occur in cases treated with *Peruvian bark*."

Wichmann, a German physician, has insisted much on the treatment of intermittent fever with *Ipec.* He always employed it with the poor, on account of the costliness of *Cinchona*, a grain every three hours, with a scruple of sugar or magnesia, in chamomile tea. Two scruples of *Ipec.* sufficed to cut short the fever, though there were no evacuations, either up or down; a third scruple was given a week after the fever had ceased. When needful, an ounce of *Cinchona* was added as a tonic. By this method Wichmann obtained great success in the great epidemics of ague in 1777 and 1779.

Dehaën declares he succeeded under the same conditions; he cites one observation of his own, adding another case of Wichmann's.

OBSERVATION XVII.—A man, aged 20, was suffering long

from irregular intermittent fever. His pale face, with the whole body already leucophlegmatic, left little hope of recovery. Meanwhile I prescribed two grains *Ipec. root* with half a drachm of *Magnesia*, every three hours. There were no sensible excretions; no vomiting occurred, and, in fourteen days, the fever was quite conquered; for the next week no medicine at all, according to the method of Werlhof, who employed the bark of *Ipec.* in intermittent cases: at the end of that time the *Ipec. root* was again given for a week in the same way. As an auxiliary the patient drank chamomile tea; chamomile flowers *taken solid*, have a certain power as a febrifuge, but seldom when merely infused; so that the credit is due rather to the *Ipec.*

Out of very many cases which Wichmann communicated to me quite worthy of mention the following stands by no means last. A man, aged 50, after struggling for some months with a tertian ague, and having recourse sometimes to domestic and sometimes to more suitable remedies, including *Peruvian bark*, presently had a relapse and became emaciated, with a night cough, which simulated incipient phthisis. At last he implored the aid of the observer, from whom he took some *Ipec.* in the above manner; and this carried off the palm even from the bark, by rescuing the patient from imminent danger. After the fever was banished he took bark, merely as a tonic.

In England, Grainger and Lind, in Germany, Hermann and Meyer, have adduced fresh facts in favour of this medicine. Then from that time some few authors on *Materia Medica* refer to the labours of their predecessors.—“Amongst us,” says the Dictionary in sixty volumes, “no particular power over intermittent fevers has been recognised in *Ipec.*”

MM. Trousseau and Pidoux have forgotten to copy Murray on this point, and are silent on the subject.

In 1859, Sauret, editor of the *Revue thérapeutique du Midi*, published almost as a novelty a case of obstinate marsh ague in a man, aged 20, which had resisted *Quinine*, *Arsenic*, and *Apiol*, cured in a week by thirty centigrammes of *Ipec.* each morning (without, observe, either vomiting or

nausea); *apropos* to this observation Dr. Roux, of Cette, wrote, in Dr. Sauret's *Revue*, that such facts were long since known to the school of Hahnemann, which leads us to repeat what he says on this point.

"It is annoying," says Hahnemann, "that we do not know why, of all the supposed intermittent fevers where *Cinchona* failed, seven-fifteenths required as follows in order to be cured: three *Nux vom.* or bitter almonds: two, *Opium*; one, bloodletting; one, *Ipec.* in weak doses (*Essay on a new principle*, 1796)." Twenty years later, he said, in his *Materia Medica Pura*:—

"There are some intermittent fevers of which *Ipec.* is the proper remedy, as appears from the symptoms of that drug, which are more homœopathic to the symptoms of that disorder than other medicines. Even when the choice is not suitable, *Ipec.* leaves the fever in a state where *China*, *Ignatia*, or *Cocculus* easily subdue it."

Let us now see how the indications of *Ipec.* in such fevers have been formulated by the Hahnemann school. The observers have been many; I sum up the results.

Most homœopaths have agreed on the importance of *Ipec.* in this disorder (Lobethal, Escallier, Wurmb and Caspar, &c.).

Ipec. suits fevers of miasmatic origin, those developed through defective hygiene; in infants and young persons; at the outset of most fevers, by removing the gastric complications, in the mild form, without deep alterations of the vegetative life; in gastric symptoms, where the fever is complicated with bilio-mucous vomitings; and when, besides gastric symptoms, there occur thoracic symptoms, pressure, constriction and tightness of the chest with spasmodic cough.

"*Ipec.*," says Hencke, "is indicated in intermittent fever distinguished by little or no thirst, especially in the period of shivering; when cold predominates, with special irritation of the upper part of the spinal cord, betraying itself by occipital pain, pressure and tension of the nape, dyspnœa, and spasmodic cough, &c.; in fevers, in the stage of short heat, which is mainly external with coldness of the extremities; or when there is heat of the head and face, without thirst; in fever where perspiration is wanting or

partial, or only at midnight, with acrid odour; lastly, where the urine is notably diminished, red, and turbid. Besides, in the apyrexia, the following symptoms are established: pale face, herpes labialis, anorexia, taste of insipid water, salivation, sense of emptiness and weakness of the stomach, nausea, loose stools, bruised feeling of the limbs, restless sleep, difficulty in collecting one's ideas, sadness, &c."—*Allg. hom. Zeit. Bd. 52, 1856.*

"*Ipec.* is indicated," says Jousset, "when the cold is preceded by a period of nausea with slight cold perspiration on the forehead; when the stages are quite disproportionate to each other; when, during the apyrexia, there is want of appetite, with nausea, vomiting, and diarrhœa. The dose is the sixth or twelfth dilution, given at the decline of the fit, and on the intercalary day, a spoonful every six hours."—*loc. cit.*

We have seen above (par. III) that Schneider has entered under the primary form of the *Ipec.* disease "intermittent fever with predominance of gastrosis."

If *Ipec.* is suitable, under certain conditions, to intermittent fever, if it is really *typifuge*, it ought also to be *typigenic*, by the law of similitude. In practice, next to *Cinchona* and *Arsenic*, the Brazilian root holds a notable place as a remedy for fevers and other disorders that are intermittent. It is easy to prove that *Cinch.* is *febrigenic*, in spite of the denial of allopaths. On the other hand, I have satisfactorily proved the same thing of *Arsen.* (*Memoire sur l'arsenic febrigene, Art medical, 1863*). It remains to prove it for *Ipec.*

I have already cited Hahnemann. Schneider, who has completed the pathogenesis of *Ipec.*, remarks that a great number of its symptoms appear by fits, and under the quotidian type. Cold in general, and in certain parts, is a frequent symptom in *Ipec.* Bönninghausen and Schneider notice a fever compounded of chills, heats, and perspiration.

Bönninghausen especially notes *periodic* sufferings. In the first observation of this memoir (by Scott) symptoms of the typical form were noticed appearing very clearly; and this was the first fact which drew the attention of homœo-

paths to the typigenic properties of *Ipec.* The sufferings occurred especially in the *evening*; and since then various homœopathic observers have noticed these "*vespertine exacerbations.*" Bönninghausen points out *evening* for the period of *Ipec.* Schneider, *evening* and *night*.*

In speaking of its action on the eyes I shall cite an observation of Dr. Tamhayn, where its febrigenic power is plainly alleged.

I have said above that *Ipec.* as a febrigenic, and, consequently, as a febrifuge, would rank alongside of *Cinchona* and *Arsenic.* Now, here are three similar medicines which are antagonists even by virtue of their similarity.† One need not be surprised, from this point of view, that the homœopathic school has recognised in *Ipec.* the power of being an antidote to *Cinchona* on the same ground as *Arsenic*; a great many of them have indicated it for the abuse of *Quinine* or "quininic cachexy" (Muhlenbein, Sodenberg, Bönninghausen, Jahr, &c.). Hahnemann was the first to notice this property, as he also recommended *Ipec.* in *Opium* poisoning, in doses of thirty, forty, to sixty drops of concentrated tincture, probably after the facts cited by Murray.

Puerperal fever.—This is the purulent diathesis of lying-in women, with principal and sometimes exclusive localisation in the peritoneum, peritonitis, or metro-peritonitis. Doucet and Doublet in 1782 declared they had succeeded remarkably with *Ipec.* in an epidemic of puerperal fever. This was the application of the evacuant method to a morbid condition (*espèce*), as since applied for a long time to many other maladies. As established in the report to the Royal Society of Medicine, 1783, Doucet's method was by no means new in the history of puerperal fever, but had been employed by many accoucheurs. Even fifty years before, Gohlius

* It is remarkable that Sachs and Dulk, in their *Dict. de Matière médicale*, 1833, indicate *Ipec.* for periodic maladies recurring at night; for nocturnal epilepsy and diarrhœa; and also for intermittent fevers, especially in infants. This is borrowed from homœopathy, or at least a confirmation of the same facts by the allopathic school.

† See my *Lectures publiques sur l'homœopathie*, p. 43.

prescribed *Ipec.* in symptomatic diarrhœa, and in that of *smallpox patients, and lying-in women.*

In 1828 Desormeaux must needs repeat these experiments at the Maternité de Paris in similar circumstances; and reports success, only remarking that *Ipec.* was less efficacious in winter. "Experience demonstrates," say MM. Trousseau and Pidoux, "that almost all the evils which accompany accouchements are banished by *Ipec.*; and here we speak not on the authority of books, but from what we have seen and done. During five years' attendance at the beds of sixty women at the Hôtel Dieu, Paris, where we received a great number of patients, we never failed to administer *Ipec.* to patients recently brought to bed, whatever local affection otherwise existed; and never, we can affirm, have we seen the smallest evil result from this practice. On the contrary, in most of the cases, we obtained either a cure or notable amendment. This method, which we have seen followed by M. Recamier, has been employed at the Hôtel Dieu during nearly forty years by that excellent physician." (*Traité de Therapeutique.*)

All the affirmations of these united authors are singularly weakened by their own avowal, because they confess, a few lines below, that *Ipec.* hardly ever arrests accidents in inflammation of the uterine sinuses, general phlebitis, serious peritonitis, very intense pneumonia, &c.; that it fails in general when the inflammation of the peritoneum is very intense and has lasted for more than one day. The same must be said of the experiments of Doucet and Doublet in 1782; since in their hands the remedy only succeeded if administered from the very first day. What is the value of a medicinal agent which, after twenty-four hours, has no power to banish the disease? What confidence can we have in any of these results, where the physicians have neglected to distinguish the forms of what they term "puerperal fever?" On the other hand, do we not know that *Ipec.* has been far from successful in the hands of numerous physicians who chose to follow Doucet's plan? *Aconite* and *Arsenic*, says Jousset, are with *Sulph. of Quinine* the three chief remedies of the purulent diathesis.

VI.—IPECACUANHA IN CONVULSIVE MALADIES.

Ever since the appearance of *Ipec.* it has been classed (thanks to the method of generic medication!) amongst astringents, from the dysenteric point of view; amongst emetics, from its vomipurgative properties; as also of late it has been made an incisive and an expectorant; classifications which are ridiculous, or insufficient to direct therapeutic application and to arrive at the special action of the remedy.

Ipec. had been known to succeed in certain forms of neuroses, as epilepsy, hysteria, and spasmodic asthma; and so they made an antispasmodic of it. The success of Akenside in nervous asthma had especially contributed to accredit this property. Let us recount these several applications. Of asthma we have already spoken.

In the *Ephémérides des curieux de la Nature*, decade 3, I see cited by Plouquet a case of epilepsy where *Ipec.* was given daily. There was probably a cure, but unfortunately I cannot verify this, not having that ancient collection at hand.

Epilepsy has often been treated by emetics; thanks to dominant humoral theories. Thus since 1735, in an old thesis by Karcher propounded at Strasburg, *Ipec.* figures amongst the vomitive remedies to be employed in epilepsy.

Fred. Hoffmann had said as much of it. "When epilepsy occurs in definite periods, or at the quarters of the moon, the seat of the malady should be sought, for the most part, in the stomach, or rather in the duodenum and neighbouring parts, *e. g.* in the biliary ducts, or the pancreas itself; and then it is advisable some days before the stated period to give a clyster and induce evacuation upwards, which is calculated to clear these passages. Now, the most efficacious and secure emetic is half a drachm of the root of *Ipec.*, recently pulverized, dissolved in a decoction of raisins. After which the specifics that are superadded will act far better." (*Opera.*, t. iii, p. 15.)

Gohl, above cited, reports the following fact:—"An

epileptic soldier being seized with retching after the fits, I gave him *Ipec.* with the tops of *Euphoria*" (*cum summa Euphoria*). *Query.* Did he cure the epilepsy, or rather the symptomatic nausea? *This* is what the author ought to have told us! Richter also prescribed *Ipec.* for epilepsy; observing that he knew no medicine so powerful in preventing the fits when given an hour beforehand. In nocturnal epilepsy he used to give a dose of it before bedtime. Tissot records several cures due to vomiting.

We have ourselves, says M. Delasiauve, tried emetics, with some benefit and no danger. Some others, still more fortunate, declare they have effected remarkable cures. Thus Dr. Ferrara, and after him Dr. Gaetano Allegretti, cured epileptic patients, two and three respectively, by moderate doses of *Ipec.* In one of Dr. Ferrara's cases the patient was supposed to have venereal affections. Previous to administering the *Mercury* the doctor thought he ought to prescribe an emetic. A fit which came on during the operation proved abortive. Here was a discovery; and, *Ipec.* being continued, the fits, growing less frequent and weaker, yielded completely at the end of the year. In another patient, aged four, the epilepsy was congenital. As for the cures of Dr. Allegretti they were the result of four trials, of which three are said to have been successful. (*Traité de l'épilepsie*, 1854.)

We have seen above how Sachs and Dulk recommend *Ipec.* for nocturnal epilepsy. The following are documents borrowed from the homœopathic school:—

"*Ipec.*," says Rummel, "has an unmistakeable relation to the voluntary muscles. In every kind of convulsions in infants, in tonic, and especially in clonic, convulsions, from those of the face, eyes, or thumb to the most terrible epileptic fits, I have seen *Ipec.* act remarkably, especially in cases of nausea (but even without that), and I prefer it, in that case, even to *Ignatia* and *Cham.*, because its aid is more prompt, *i. e.* supposing the other symptoms do not agree with these latter remedies."

Tietzer, the author of a good article on the treatment of epilepsy, advises *Ipec.* in infancy, for secondary epilepsy

when its starting point is the pneumogastric nerve. The gastric conditions which result from it are less intense, and short; so that the rest of the organism is less affected. [I here translate the German author word for word, which does not make the meaning clearer.] According to him, *Ipec.* acts all the better, under those circumstances, the sooner it is employed (*Allg. Hom. Zeit.*, Bd. li, 1855).

Bönninghausen gives, as a leading characteristic, epilepsy with stiffness of the limbs and convulsive movements.

Taking a hint from the antispasmodic properties of *Ipec.* in asthma (Akenside), in hysteria (Michaelis), in whooping-cough (Colombier) Plenck had a mind to try it in eclampsia; and on trying it for the first time with an eclamptic patient to combat the bilious impurities, the convulsions soon ceased. To this effect he published a memoir, in 1787, on the convulsions of pregnant women, in *Acts of the Josephine Academy, Vienna*. In support of his views, he cites some cases where the remedy seemed to succeed.

Old Chomel says he has seen paralysis in the inferior extremities in consequence of convulsions cured by the continued use of Spanish wine with half an ounce of *Ipec.* infused, one spoonful every morning fasting.

Jousset prescribes *Ipec.* for eclampsia. The following observation of Rummel is interesting on a case of convulsion in an infant.

OBSERVATION XVIII.—I was summoned in a hurry, at 8 a.m., to see a child of four or five, who one hour and a half previously had been seized with eclampsia, most frightful spasms affecting the whole of the left side. It was not strange that the child was set to rights in a few hours, the wonderful part of the case is, that the child at about 9.30 presented the most perfect image of the last agony, and yet got well. Paralysis of the convulsed side supervened; the eyes were fixed and turned aside to the right; pupils much dilated, and quite insensible; the lids opened and shut frequently and tranquilly, as often happens some time before death from convulsions. From time to time we saw slight contractions of the right commissure of the

mouth. Sometimes he executed regular movements with his right arm and hand, as in typhoid delirium. The pulse continued frequent but feeble; there was a tracheal râle, as in paralysis of the lungs, hardly interrupted on one occasion by a faint effort at coughing; a brownish mucus issued once from the mouth, indicating an accumulation of it in the bronchi; respiration irregular; the inspirations short, followed by a slow sighing expiration, as if each would be the last; skin hot, but the right ear cold. My colleagues and myself had prepared the parents for the coming blow.

However, I did not give up the case; and more by way of experiment than in hopes of a definite result, I popped one globule of *Ipec.* 30 between the little patient's lips. I went home about 10, and on returning in an hour, found the patient had quite recovered consciousness, with tranquil breathing, normal pulse, and only complained of a little emptiness of the head. In the afternoon he was quite cured (*Allg. Hom. Zeit.*, Bd. xlvi).

Ipec. has also been employed in tetanus and trismus. This application seemed important since Schneider, on physiological grounds, makes tetanus the sixth and last form of *Ipec.* disease. Hahnemann had already indicated it in some forms of that affection, resting on several tetanic symptoms of its pathogenesis.

Before him, Latham (*Medical Transactions*, t. iv) had cited some cases of tetanus cured by *Ipec.* in large and repeated doses. Ackerman (1797) and Vogel (1805) published some cases of trismus cured by this medicine.

In 1778, Michaëlis in his monograph on *Angina polyposa* has eulogised the marvellous virtues of *Ipec.* in hysteria. He considers it in such cases as one of the first anti-spasmodics, preferable to *Opium*. Dehaën quotes from him two cases, one of cardialgia, and the other of hysterical cough. Henning (1789) also prescribed it in hysteria, and many other authors of treatises on *Materia Medica* have repeated the same thing.

Ipec., says the Homœopath Rummel, is a remedy for hysteria from which we may expect an evident good result oftener than from any other medicine. Attomyr has

quoted, in the German *Archives of Homæopathy*, a case of hysterics which had lasted for several days, cured by a single dose of *Ipec*. It is to be regretted that there are not a greater number of observations on this treatment, which seems to be of great importance.

A great many authors on *Materia Medica* have recommended *Ipec*. in a general way for spasmodic diseases; as Carminati, Mellin, Gesenius, Bertele, Jahn, Voigtel, and Vogt; an important fact, whether they had themselves seen cases in support of it, or had been otherwise informed of them. Finally, in considering *Ipec*. generally in its physiological action, one cannot but approve of what Schneider says, as follows. The striking facts in the totality of the *Ipec*. symptoms are—1, a special hyperærethism of the spinal cord, particularly its upper portion; 2, a painful condition and tensive pressure on the occiput and nape, evidently indicating the part principally affected; 3, a convulsive suffocating cough with tickling and contraction of the larynx; 4, spasmodic asthma, tetanic symptoms, and palpitations. On the other hand, there is a hyperærethism of the ganglionic system in the abdomen and chest, betraying itself by abundant mucous secretion from the stomach, intestines, and bronchi: and by hæmorrhage from various openings of the body.

VII.—ACTION OF IPECACUANHA ON THE EYES.

In the physiological point of view, this action is remarkable, as the following will prove.

Ever since the introduction of this drug into Europe it was noticed that those employed in pounding it suffered from their eyes, which caused Geoffroy to say, in summing up the facts already known that, under the influence of pulverization, we often see, amongst other symptoms, swelling and inflammation of the organs of sight. James also speaks of their swelling.

In OBS. I of the present memoir the eyes were red and a little inflamed (Scott). In OBS. III they were injected

(Bullock). The same fact in another observation given me by a medical student. In the observation of Dr. Rosenthal, "a fixed stare."

Hahnemann in his pathogenesy, has quoted Geoffroy and Scott, besides Langhammer, who, in his memoir, mentions, as a physiological effect, the dilatation of the pupil and accumulation of inspissated mucus in external angles. The only symptom which Hahnemann gives on his own part is dilatation of the pupils.

Trousseau has cited the physiological experiments of Bretonneau, according to which a pinch of the powder blown into a dog's eye causes such intense phlegmasia that the cornea is sometimes perforated.

The most important observation is that which Tamhayn has published in the *Journal für Pharmacodynamik, Toxicologie und Therapie*, Halle, 1857. It has been translated in the *Art Medical*, t. 6, p. 205. I reproduce it here. It is in itself a complete pathogenesy in the ocular department.

OBSERVATION XIX.—"June 20, last year," says Dr. T—, "I was asked early one morning to visit B— as soon as possible. He was employed in pounding at one of the city druggist's, and had suddenly lost his sight, with horrible pain in the eyes. The patient was thirty, with a pretty strong constitution; he had served his time in the army, and had never been seriously ill, except thirteen weeks of intermittent fever in 1851. On my arrival I found him on a sofa uttering loud cries from pain and the loss of his sight. He said he had gone to bed quite well, and slept till 3 a.m.; he was then awakened by a dreadful pain in both eyes, especially the right. He did not sleep again, the pillow was soaked with incessant lacrymation, and when daylight appeared he perceived, to his horror, he was blind. This state continued up to my arrival.

"*Present condition.*—Features expressing pain; eyes closed, with the lids slightly swollen, especially the right. He complains of acute tearing pains, which especially occupy the right eye, and hardly reach the forehead. On separating the right eyelid, which was slightly swollen, a

gush of tears escaped. The conjunctiva of the eyeball is injected all round, bright red and infiltrated. So is that of the eyelid, but in a less degree. The tunica vaginalis is swollen; the cornea dull and infiltrated, on closer examination are seen a number of little thickened patches, as if, at those points, the denser tissues could not be reached by the serosity. The iris seemed to me dull and softened; the pupil was contracted and reacted little, if at all; but it was of a pure black and without any trace of obstacle to light; the sight was quite gone. The left eye presented the same symptoms, but in a far less degree; the sight was little affected and the lesions here seemed merely secondary. At first the patient had suffered chills followed by heat, and, at last, perspiration, after the pains had raged for some time. No suffering in any other organs.

“*Diagnosis.*—All the circumstances indicated that this was a case of neuralgia, beyond doubt; but it was important to discover the cause. The patient had pounded *Ipec.* the evening before; but I confess I was not disposed to establish any relation between that fact and the malady; the phenomena produced by the dust of *Ipec.* in all the cases I had known were quite different. There were here neither nausea, vomituration, nor asthmatic sufferings; the injection of the conjunctiva might well be considered as a concomitant of neuralgia; in short, whilst I took a note of the fact, I did not consider it as the determining cause of the malady.

“The patient denied having been exposed to a draught, to a sudden chill, or any other accidental cause, and, as intermittent fever was prevalent at the time, and several well marked cases had occurred in our practice, the absence of every external agent and the presence of the three stages of chill, heat, and sweat, led me to consider the disorder as the *debut* of a disguised fever. I ought, in order to decide my diagnosis, to have waited for a second fit, but the distressing suffering of the patient and his anxiety about his blindness induced me to discard that scientific scruple and to act with energy. I prescribed a mustard foot-bath, a blister on the nape, rubbing in ointment *Nap. Cin.* with *Extr.*

Bell. on the region of the eyebrow, and a purge of *Calomel* and *Jalap*.

“I saw him every two hours; the symptoms diminished gradually; the pains first abated, next the sight returned; before noon he could see and count my fingers held before his right eye; in the afternoon he distinguished the hands on a timepiece; the swelling and redness continued some time longer. In the evening his condition was endurable. *Dover's powder*. He slept well. Next morning *Chinin. hydrochlorat.* 10 centigr. and *Extr. gentian rubr.* to be taken during the day. The cure proceeded, and it was complete by June 24th.

“About eight weeks after this I was called up for the same cause; the same phenomena had reappeared, only this time it was the *left eye* that was worse, besides which there was nausea and vomituration. He had himself put a blister on the nape, but could assign no cause for the attack. The evening before he had been pounding *Ipec.* and went to bed well. This time the *Ipec.* seemed to merit more serious attention, and I made more exact inquiries. He had only pounded *Ipec.* once since June 19th, and that was early in January the same year; before the *Ipec.*, he had pounded sugar. He remembered having then experienced the same symptoms, which had settled particularly on the right eye, and were ascribed to the entrance of a foreign body; on that supposition they had introduced *crab's eyes*, which only aggravated the ailments. As a last resort they applied leeches. On June 19th he pounded *Ipec.* as above for the second time; just before that he had pounded *Peruvian bark*, and the last time, August 16th, he had pounded the root of *Althæa* before the *Ipec.* Each night he had gone to bed quite well, had been awakened in the night by violent pains, had found the pillow wet with tears, and seen the above symptoms developed. Though the third attack failed to convince me that I had to deal with a special property of *Ipec.*, yet it shook my confidence in the justice of my previous diagnosis, and I resolved to give no more *Quinine*. On the ground of a turgid condition of the superior passages, I gave an emetic, prescribing absolute

rest; the symptoms diminished regularly and without trouble, and he resumed his work.

“I was very impatient for an opportunity to make a fourth observation; for M. Pabst, the druggist, had with his usual kindness promised to make B— pound *Ipec.* once more, in order to attain certainty on the point. I had to wait long, for it was not till March 2nd, this year, that I saw B— coming very early with his right eye bandaged. The day before, at noon, he had come to give me notice that he had just been pounding *Carb. potass.*, and was going to set about the *Ipec.*; both his eyes were free from any trace of lesion. This time I was enabled to follow precisely the progress of this ailment. The patient said that half an hour after the pounding he felt a pricking and pressive pain in his eyes; at night he could not read because the light blinded him; he saw flames before his eyes five or six times, whilst the pains kept increasing. On the previous occasions he had not remarked these symptoms, but this time he had for his own sake become more attentive. The conjunctiva began to redden, but the congestion was hardly perceptible. He went to bed at his usual hour and slept quietly till 2, when he awoke in violent pain with the pillow quite wet. At 3 he could no longer stay in bed. The right eye was the worst, being quite blind; with the left he often saw rings of fire, iridescent; the pain was incessant, and aggravated every instant by bright light. Other symptoms as previously described. Just to appear to be doing something we rubbed in *Ungent. Nap.* and *extr. Bell.* [This was truly doing something!] The malady proceeded as usual. On March 6th the patient, a martyr to science, was cured, and they gave him no more *Ipec.* to pound.

Without being a partizan of the maxim *post hoc, ergo propter hoc*, one can hardly refuse to admit that this neuralgia was due to the action of the *Ipec.* powder. In the several cases sugar, *Peruvian bark*, *Carb. potass.* and *Althæa* had been pounded before the *Ipec.*, but one cannot suspect them, as they had often been pounded without inconvenience. On the contrary, after the *Ipec.*, in all four cases, he was seized with the same symptoms almost at the same hour of the

night. It must, however, be asked whether it acted merely by contact with the surface of the eye, or by an action proceeding from the stomach or lungs; I do not see why one should admit this circuitous course. Bullock (*London Medic. Gaz.*, vol. xix, p. 711) has observed reddening of the eyes, with intense dyspnoea, a convulsive cough, and sense of tightness in the chest, &c. In our case we must surely admit an absorption of the powder into the conjunctiva, which, perhaps, acted like *Atropine* through the medium of the aqueous humour on the sensitive branches of the nerve, only it is not easy to explain the different intensity of its action on the two eyes; for the right eye twice, and the left eye once, was *especially* affected. However this be, I leave the scientific explanation to *savants*; I am contented to establish the fact. I do not consider myself a *savant*, still I wish to utter my opinion on the subject, abstracting the symptoms of intermittent fever, which, as established by experience clinical as well as physiological, do belong pathogenetically to *Ipec.* This particular affection of the eye ought to be ascribed to the special action of that drug, and we venture to reproduce the symptoms furnished by the above observation to complete our *Materia Medica*:—Chill, followed by heat and then by sweat; features expressive of suffering; eyelids closed, slightly puffed, especially the right; smarting, pressive pain in the eyes; tearing pains especially in the right eye, but sometimes radiating towards the forehead; the pain, aggravated by bright light, drives him out of bed; on opening the right eyelid he sees a wave of tears; the lachrymation is so profuse that it goes through the pillow; the conjunctiva of the eyeball is injected all round, red, and infiltrated, that of the eyelid less so; the tunica vaginalis is puffed; cornea dull, as if infiltrated, presents little thickened patches; iris dull and softened; pupil contracted, reacting little if at all; a candle blinds him, the light appears six or seven fold; red and iridescent rings in the eye; total loss of sight; the affection manifests itself oftener on the right side.

Such are the physiological facts which demonstrate the elective action of *Ipec.* on the nerves.

So we have here an *à priori* which is fruitful in therapeutic applications, but, unfortunately, very few experiments have been made in that direction. Outside of the homœopathic school, Bertele, a German author of a treatise on *Materia Medica*, 1805, says that black cataract (*i. e.* amaurosis) may be treated with benefit by *Ipec.* So says Arnemann (1819). I could not find on what observations they supported their assertions. Perhaps they had in view one by Michaelis on the use of *Ipec.* in amaurosis, reproduced in Richter's *Bibliothèque Chirurgicale*, which I have not been able to verify.

Guided by the good pathogenetic observation by Tamhayn, Dr. Hermel published the following observation in the *Art Médical*, October, 1858:—

OBSERVATION XX. *Choroiditis, cure by Ipec.*—January 15th, 1858.—Mad. Leroy, aged 47, came to the dispensary. She had suffered for six weeks excessively painful shootings in the eyeballs; she could not gaze on any object without copious lacrymation, and in looking at a light she saw a blue and red halo around the flame. Her eyes at first sight presented no alteration: the pupil was neither contracted nor dilated, and capable of all its movements; the vessels of the conjunctiva of the lid alone were so slightly injected that this could not occasion the pain, whilst that of the eyeball and the cornea itself seemed intact. She could not ascribe the coloured haloes to any cause, nor could we connect them with any present or past malady. In other respects she was in perfect health. The symptoms were so strikingly like those produced by the dust of *Ipec.* on a man employed in pounding at a druggist's (see above), that, after the law of similitude, we resolved to try that remedy. *Ipec.* 12, 2 globules in 200 grammes of water, a spoonful three times a day for six days.

22nd.—She suffered much less, could discern objects better, and the halo was less apparent. Stool, which was habitually difficult, had become easy. *Ipec.* 6, 2 globules.

29th.—The improvement had gone on. She could read and work in the day, after long inability, but at night she could not resume her occupation. From time to time she

still felt slight shooting, in the left eye particularly, which had been first affected. Almost every morning instead of the previous hard stools she had a lax one. *Ipec.* 12, 2 globules.

We have not seen her since, but, after this steady amendment and from what we learnt indirectly, we have reason to believe she is cured.

“In scrofulous ophthalmia,” says Jousset, “when there is *keratitis* (corneitis) with ulcer or infiltration of the cornea, *Ipec.*, *Apis*, and *Aur. muriat.*, suffice. When, however, the inflammation is very acute, *Bell.* is sometimes needful. I most frequently prescribe *Ipec.* It is indicated by redness of the eye, pain, with extreme photophobia in the temples and forehead, and ulceration of the cornea. I employ it in pretty strong doses; trit. 1 dec., 25 centigrammes in 200 grammes of water, a spoonful every two, three, or four hours” (*loc. cit.*).

Such are the documents existing up to this time on the question. The physiology of the medicine seems to promise great things; it remains to confirm, by a larger experience, the assertions of Hermel and Jousset.

I have to add that the oculists are quite silent, both in France and elsewhere, about this application of *Ipec.*, and it will be an honour to homœopathy to have once more derived from physiology a therapeutic application which is equally positive and fruitful in results, thanks to its fundamental law.

We do, however, find *Ipec.* indicated in the *Materia Medica* of Pereira and of Esterlen, as an emetic in ophthalmia generally, on the same ground as in a great number of inflammatory diseases, *at the commencement.*

VIII. MISCELLANEOUS.

I conclude this memoir by noticing some therapeutic applications of *Ipec.* which are traditionary and deserve to be brought into view, and shall also finish, on some points, what I commenced above.

Attention has not been paid to the effect of this medicine on the respiratory passages. To begin with, however, we find there a remarkable physiological action.

Hahnemann has noticed in its pathogenesis dry coryza and cold in the head, adding, after Lehmann, *sneezing*, for which he must also have cited Berguis. Schneider repeats Hahnemann. We see again "constant or frequent sneezing" in OBS. III and IV of this memoir, and in one which I quoted myself in Section 1, OBS. IV. There was also a profuse discharge of clear limpid mucus from the nose. Dr. Massina, the subject of that observation, actually thought he was seized with bronchitis and coryza.

From these few facts we may infer a special elective action of *Ipec.* on the mucous membrane of the nose, to which the epistaxis also points, and therefore we must deduce a positive therapeutic application in coryza, which has been seldom made, though indicated by some authors. Jahr, after clinical experience, notes coryza with stoppage of the nose. Whilst Jousset is silent on the point, Kafka, in Germany, speaks of it as a valuable remedy in dry febrile coryza accompanied with bronchial affections, tickling cough without cessation, and often proceeding to vomiting, blueness of the lips and nails, and cold extremities.

Bigel has given, in the homœopathic *Archives*, an instance of chronic coryza cured by *Ipec.*

From coryza I proceed *per saltum* to leucorrhœa. In perusing all that has been said from the first about *Ipec.* I was surprised to see it often recommended for this last disease. It was first Frederic Hoffmann, and then Gohlius, who did not hesitate to proclaim this medicine as a specific in such cases. Mead used to cry up *Ipec.* wine in leucorrhœa. The root has also been recommended for the same purpose in *Ephemerides des curieux de la nature*, decade 3, and in *Medic. Wochenblatt.*, 1784. Linnæus only indicates it for *fluor albus* and dysentery. Afterwards Desbois, Bertele, and some rare authors on *Materia Medica* repeated their predecessors.

Induced by these various authorities I wished, this very year, to verify this property of *Ipec.*, and though my experi-

ments are but four or five, it seemed to me to have a very positive effect on leucorrhœa and uterine catarrh.

We have already seen numerous applications of it in metrorrhagia. I also tried it in a good many cases of blennorrhagia in man without obtaining important results, although it was formerly prescribed for gonorrhœa.

The action of *Ipec.* on the outer skin has been too little studied. Bretonneau had proved that the powder, placed in contact with skin deprived of its epidermis, excited a most energetic local inflammation. After this Hannay, an English physician, made experiments to substitute *Ipec.* ointment for antimonial ointment, the effects of which are sometimes disastrous. According to him, in about thirty six hours, there were developed little papulæ and vesicles in great number, irregular and dull red at the base; these soon widened, to assume a pustular character, and many were confluent, and the part hot and itching without pain. The eruption remains active only three days, when the pustules are covered with scabs which fall and leave no marks. They never become the seat of gangrene, as happens with antimony. The author declares that he cured by this sole means a chronic hydrocephalus, retrocessions of exanthemata, and a chronic synovitis of the knee.

Hahnemann's and Schneider's pathogenesies also give some eruptive symptoms. Sachs and Dulk prescribe *Ipec.* for impetigo.

It has also been credited with anthelmintic properties. Gohlius cites a very curious fact to the point: "The fact of its expelling tapeworm I observed by accident. I gave it to a woman subject to hysterical epilepsy to empty her stomach when free from (*extrà*) paroxysm; not long after, at stool, she perceived something hanging from the anus, and in great alarm, taking it for prolapsus, she tried to replace it, but it broke. When she consulted me and related the above, I pronounced it to be a tapeworm, which she ought rather to have drawn out entire. After a time she again took one dose of the powder, and not long after the rest of the worm passed, whereupon the patient began to be free from convulsions and to resume a

healthy condition." Besides this we read, in the *Amenitates academicae*, the following passage on *Ipec.* as an anthelmintic in Wichmann's thesis, *De Viola Ipecacuanha*, under the presidency of Linnæus, Upsaliæ, 1774:

"Infants are generally infested with worms. The very severe symptoms which accompany them cause no small anxiety to the physician, especially if convulsions are present. Of all the remedies in use I hardly know of any safer or more efficacious than an emetic of *Ipec.* which often stops the pains instantly. Though this disease is not radically cured by emetics, yet they give the physician time for employing more powerful anthelmintics. It has often been noticed that worms have been compelled, by the emetic spasm, to quit the stomach and lesser intestines, and sometimes, being enfeebled by *this poison which is destructive to them*, they have been passed by stool. *Vide* Vogelii, *Diss. de usu ad expellendos vermes*, Gottingæ, 1765."

M. Coste, one of the writers in *Matière médicale indigène* asserts that *Ipec.* is a good vermifuge, and that he expelled tapeworm with it. It is probably to its purgative action that the success is due. I believe no other physician has used it with the same view, and as he has not published any of his results, they were probably not ultimately satisfactory (*Dict. en* 60). These are all the documents we possess on the vermifuge properties of *Ipec.*

In parag. III of this memoir I have spoken of *Ipec.* in epistaxis; here follows a new fact. "In a serious case of epistaxis, where a child's nose bled five times the same day, we administered, to diminish vascular action, some highly diluted doses of *Ipec.* powder in a ptisan with the happiest result. The remedy was continued for two days." (*Annales de Therapeutique*, by Rognetta, 1848.)

There has been a question about *Ipec.* in various kinds of dyspepsia. According to Richard Hughes, of Brighton, one or two drops of the mother tincture is an excellent and safe means of restoring appetite (*Brit. Journ. of Hom.*, 1865). Haubold has also used it in a case of chlorosis with great success (*Allg. Hom. Zeit.*, Bd. lix).

There is no doubt that, considering its pathogenesis, it

ought to cure that disease. More than sixty years ago Bertele indicated it for both chlorosis and leucorrhœa.

I conclude this memoir with an extract from a German thesis on *Ipec.* :

“ The power of *Ipec.* on the body is very important, and if it be taken internally, more symptoms come into view, every one of which gives superabundant testimony that it especially affects the nerves, and above all, the par vagum and sympathetic, since the gastric plexus is wonderfully disturbed by it, and this irritation passes to the thoracic plexus, and to the nerves of the larger vessels.

“ We owe to Hahnemann and his disciples (*Fragmenta de viribus medic. posit.*, Lipsiæ, 1805) a longer list of the symptoms which ordinarily follow the use of *Ipec.*, but as the experiments instituted in favour of homœopathy are not such as to enrich the stock of rational medicine, I would not waste time in repeating them. *For not only are they partly questionable, because the provers leaned to preconceived opinions, and were hardly all of them skilled in that most difficult art—observation ; but since we are not acquainted with their constitution and habits, nor with the dose, or the time when the said symptoms appeared and disappeared, these experiments hardly, if at all, suffice to bring to light the powers of any medicine.*”

These reproaches against Hahnemann on the imperfections of his method of experimenting are not devoid of justice, and have been often repeated since then. If, however, our master has not attended to all the rigorous details, he has nevertheless given a summary of all the facts which he was able to observe in detail. Has that dry list of symptoms any value? Who would dare to say nay when all the symptoms of his *Fragmenta* agree perfectly with all the symptoms since brought to light by other experiments? and one may say the same of a host of medicines studied by Hahnemann after his method. Let us read the articles *Aconite* and *Arsenic* in our large dictionaries in course of publication, and we shall see that they serve on many points to confirm that long dry list of Hahnemann's symptoms. If those who throw stones at the founder of homœopathy

would but try to do *better* what he has done, we should applaud their labours.

After all, Herzog (the author of the above thesis), after declining to waste his time by reproducing the *Fragmenta*, contradicts himself by the physiological table of *Ipec.* which he gives, and which is in full accordance with Hahnemann's pathogenesis, even as to the *moral* symptoms. "Vomiting shortly follows a full dose. But a minute dose generally exhibits the following series of symptoms, which alternate more or less, *pro re nata*. Eructation commences, then nausea, with a sense of fulness in the stomach and tense abdomen. Pain is felt in the umbilical and hypochondriac regions, sometimes with traces of colic and tympanitis; stools nearly normal, the fæces tinged with yellow and green; the respiratory organs are equally affected; tickling and dryness in the trachea, a slight cough is heard and sometimes a slight asthmatic affection seems to be present; the heart palpitates and congestion takes place in the upward direction. The head is soon implicated; a sort of beclouding comes on, with severe headache (cephalgia?), appetite (cænesthesia?) is disturbed, *the mind is depressed, and a singular moroseness comes on*. At the same time there is an alternation of shivering (*horror*) with heat (*cum calore*). Perspiration comes on, which, if the dose is increased, is considerable. The effects of *Ipec.* last for hours, and are scarcely gone on the following day."—Herzog, *Dissert. inaug. Medica de Ipec.*, Lipsiæ, 1826.

On reading attentively this abridged table, we find in it the confirmation of the various effects of *Ipec.* we have been discussing in this memoir, where I have noticed many uses of this substance; some common, others but little known. Its history has many desiderata, especially as to physiology. And so of a host of other remedies in daily use; what little advances have we made in their physiology, to say nothing of the clinical department! The gradual augmentation of our pharmacodynamic riches is a question of time, and, considering the difficulty, must needs be slow. I have contributed a stone, but the edifice is far from being completed.

[In the postscript to a reprint of the above article the author alludes to the successful treatment of purulent meningitis by Dr. Bechet, chiefly by the administration of *Ipecacuanha*; as we have already given a full account of Dr. Bechet's admirable work in our 11th vol., p. 305, we must refer our readers to it.

Dr. I. Gourbeyre is satisfied that *Ipec.* is the true homœopathic remedy to the disease in question from his study of its pathogenesis.]

THE SWIMMING BATHS OF LONDON.

By Dr. DUDGEON.

SWIMMING is an exercise at once healthful, pleasant, and useful. The full hygienic effects of swimming can only be obtained when it is practised in the open air, and in unpolluted water of a natural temperature. In a close, more or less imperfectly ventilated room, and in water artificially heated, from which, consequently, the air has been partially expelled, swimming, while still retaining its characters of pleasantness and utility, ceases to be a hygienic agent of any considerable power. Every town which aspires to be considered at all perfect in its sanitary arrangements should possess ample swimming baths of pure water in the open air. The seaside towns of this seagirt land are provided by nature with a most exquisite description of swimming bath in the ever-changing, ever-fresh sea—ever-fresh, that is, when not polluted by the drainage of the town, as often happens. But our inland towns are not so well off, and unless in the neighbourhood of a lake or a river, they must construct artificial baths or do without them. Even when they have a lake or a river they too often allow it to be so polluted by sewage as to render it unfit for bathing purposes; and when they have neither lake nor river, they too often neglect to provide artificial substitutes, thus

depriving themselves of a powerful hygienic agent, a pleasant recreation, and a useful accomplishment.

The healthful effects of swimming in cold water in the open air result from the peculiar exercise, the temperature of the surrounding mediums, and the exhilaration of the spirits it causes. Before entering the water, and each time of leaving it, we enjoy an air-bath, the beneficial effects of which are not solely or chiefly dependent on the temperature, but are mainly owing to the actual impact of the atmospherical gases, and of the light, and possibly the direct rays of the sun upon the skin. In the water, if it be considerably colder than the ordinary summer air, say 50° to 60°, there is a rapid abstraction of heat from the surface, causing contraction of the cutaneous blood-vessels, and expulsion of their blood, which sometimes produces an almost painful sensation. If we then get out of the water at once, there is a rapid reaction and an intense glow, often so intense as to cause tingling over the whole surface, accompanied with visible redness owing to the sudden reflux of the blood into the cutaneous vessels. If, however, we remain in the water in spite of the painful sensation caused by the first action of the cold, this gradually subsides, and if the water be not very cold, and our reactive powers good, and we keep ourselves always moving, the blood gradually returns towards the cutaneous surface, and we thus become accustomed to the low temperature, and can remain a considerable time in the water that seemed at first too chilly to be borne. When we then come out of the water we do not perceive any sudden reaction, but unless we have remained too long in the water, we only feel refreshed and invigorated.

The exercise in swimming is quite peculiar. The body and limbs being completely supported by the medium in which they are immersed, the muscles are not employed in supporting their weight, consequently their movements have a freedom not enjoyed in any other exercise, and are attended with little or no fatigue. This is, however, only the case with experienced and confident swimmers, swimming deliberately and at their ease. The inexperienced swimmer

finds the exercise very fatiguing. This, I believe, is chiefly owing to his unconscious efforts to keep more of his body out of the water than would be effected by its own natural buoyancy. The experienced swimmer lets the water do all the supporting business, and consequently swims deeper than the tyro. Very rapid swimming, of course, will soon exhaust even the most experienced swimmer, just as any other violent exercise will exhaust. The quickest swimmers show very little above the water when swimming a race. Most swimmers when making a spurt throw themselves on one side. If on the right side, they make a downward stroke with their right arm, then a horizontal stroke with their left, and lastly the legs are forcibly extended, during which last movement their right arm is stretched in front as a cutwater, and the nose and mouth brought to the surface for respiration. Swimming on the left side is done in the same way, *mutatis mutandis*. In this kind of swimming the only parts of the body visible above water are a small portion of the face, and that only for a short time, and occasionally the left shoulder and arm to the elbow. It has a very ridiculous appearance, and as the swimmer from his position cannot see in front of him, it often happens that two competitors in the races that take place in our short swimming baths will, when swimming in opposite directions, run their heads full tilt against one another to their mutual discomfiture. But it is not this sort of swimming I mean, when speaking of swimming as a hygienic agent, a pleasant recreation, or a useful art. It so happens that swimming competitions are confined almost entirely to rapidity of swimming, and everything is sacrificed by competitors to quickness. The kind of swimming cultivated by our swimming athletes, whether amateur or professional, is neither graceful nor salubrious, and its utility, except for gaining cups and medals, is very doubtful. The secret of the hygienic effects of swimming in sea, lake, or river, is gentle exercise in a medium whose temperature excites the system to vigorous reaction. I do not attach much importance to swimming in cold water as a means of cleansing the body. There is no doubt that it does wash

off the grosser impurities that accumulate about the skin, but it cannot be considered as a substitute for the daily tub with plenty of soap, by means of which only can the skin be kept perfectly clean and wholesome.

The pleasures of natation need not be dwelt on. To feel oneself completely at home in a new element, to lose the sense of ponderosity, to be able to move one's limbs in any direction through an unresisting medium, is to enjoy, for the moment, the pleasures of existence of a different order of animals. To feel not the weight of the flesh which we often find "too, too solid" on terra firma; to dart hither and thither at will, roll over on side or back, or dive into the depths beneath us, is little short of ecstasy; we are no longer a terrestrial animal, we have entered a new phase of existence, we are a fish, our limbs are fins, and the water is our element. He who passes through life without learning to swim misses one of the purest pleasures life affords, and deserves to be drowned in a six-foot pond.

The uses of swimming are obvious. To be drowned by the upsetting of a pleasure boat within a few yards of the shore—can anything be more pitiful? To see our friend, perhaps our child, perish because we cannot swim a few yards to save him—can anything be more painful? Think of the number of lives that have been lost by inability to swim, of the number of lives that have been saved by the possession of this faculty. He who cannot swim is as far from being perfectly educated as he who cannot walk.

But, it will be alleged, there are dangers connected with swimming. And so there are dangers connected with walking, riding, driving, railways, steamboats; but these dangers do not deter us from making use of these means of locomotion. But let us see what these dangers are. In learning to swim you may get out of your depth and be drowned:—Then learn to swim in shallow water. The cold water may give you a chill:—Not much fear of that unless you are very imprudent, but to avoid that insignificant risk you can learn to swim in tepid water. There are plenty of such baths in London and most large towns. There is the risk of cramp overtaking the most practised

swimmer and sinking him suddenly to the bottom :—Swimmers do sometimes sink suddenly in deep water and so get drowned, but I doubt if they are often good swimmers, and I doubt if it is cramp that sends them to the bottom. The *Lancet* lately alluded to this subject, and suggested that it might be a sort of spasm of the respiratory muscles, whereby the air was suddenly expelled from the lungs, and the specific levity of the body being thus lost, the swimmer sank like a stone. That may be partly true, but I am convinced it is not the whole truth, nor does it explain how the catastrophe is caused. I believe the so-called cramp to be a spasm of the heart and respiratory organs, and that it is produced in this way. The swimmer may be accustomed to swimming, but he has never thoroughly mastered the indispensable first step in swimming, of committing the support of his body entirely to the water. He exhausts himself in efforts to elevate his head and shoulders above the water. As he gets into deep water these efforts, which are of the nature of nervousness, are increased; the cold of the water (to which perhaps he is unused from having hitherto practised swimming chiefly in tepid water) sends the blood in upon the heart, he feels choking, throws up his arms with a loud cry, and goes to the bottom at once. The cause of the phenomenon I believe to be a compound of nervous exhaustion, anxiety, and cold. It is extraordinary the difference that prevails in regard to the power of resisting cold. I have seen a man shivering and blue after five minutes in one of the tepid swimming baths, while others can remain an hour or longer in the sea and come out warm and comfortable. A dip in cold water, even a cold sponging bath, will cause some men's extremities to die away and remain apparently devoid of circulation for hours. We can then easily imagine that the cold of the sea, or of a lake or river, may in an individual so sensitive to its effects cause such an accumulation of the blood about the heart and lungs as to produce all the phenomena observed in drowning by so-called cramp. That a certain degree of fear or anxiety is one of the causal elements is, I think, sufficiently proved by this, that the phenomena of so-called cramp never occur

in shallow water. That it is not cramp of the voluntary muscles is, I think, evident from the fact that many people do get cramp in their legs when swimming, and this, though painful, is not dangerous, for we can always throw ourselves on our back or swim in spite of the pain. I have actually plunged into deep water with a slight attack of cramp in one of my legs, but found no difficulty in keeping myself afloat until the cramp subsided. Although, until its nature is precisely understood, there will always remain some risk of accident from so-called cramp, still I believe the risk would be reduced to insignificance if those who chill rapidly, whom swimming fatigues, or who become nervous in deep water, would refrain from venturing beyond their depth until they have conquered these failings, which habit will soon enable them to do.

But the slight risks attending swimming in cold water should not deter a community from providing itself with open-air swimming places. The risk from drowning will be entirely obviated by artificial constructions on a lake or river, such as are to be found in almost every continental town. English towns are for the most part entirely destitute of open-air swimming baths, and if they have suitable rivers or lakes near them it is rare, indeed, to see any portion of them inclosed for bathing purposes. London itself, with a population of three millions, is now without any regular open-air swimming bath. A noble river runs through it, but in spite of the gigantic works for intercepting and carrying off the sewage, the Thames is still such a polluted stream that no one with all his senses entire—especially those of sight, smell, and taste—would venture to bathe in it below Teddington Lock. It is true that one sees in summer many boys disporting themselves on its grimy bosom between the bridges, and I have even seen some enjoying a douche at the outfall of a sewer, but such feats will be more admired for their temerity than imitated for their propriety; and the Thames from Richmond downwards must still be considered as unsuitable for bathing. London has many lakes of more or less clear water admirably adapted for swimming purposes, but bathing is forbidden in

all these with the exception of three, and in these it is only allowed at such inconvenient hours as practically to exclude all but a few from using them. London has many canals, but bathing is forbidden in them, and though it is impossible to keep the boys out of them, they bathe in peril of being seized by some policeman and of being fined by some magistrate for "indecent exposure of the person."

In the absence or dearth of open-air swimming baths London is pretty well supplied with covered swimming baths, mostly tepid, but some few cold. With only one exception (and that because it was closed) I have inspected, and with six exceptions (four of these because there was no water in them at my visit, two, because they were so repulsively dirty) I have bathed in all these baths, so that I can describe them from personal experience.

I shall begin with the cold baths, these being entitled to the first place by reason of their antiquity. And here let me pay a tribute of regret to the memory of the only open-air swimming bath London ever possessed, specially constructed for that purpose and available at all hours of the day—I mean the ancient *Peerless Pool* in Baldwin Street, City Road. It measured fifty yards by thirty, was built of stone, and several flights of steps led down to its bottom. It was amply provided with open bathing boxes, and was a secluded spot in a densely populous neighbourhood. Its water was clear and cold, and it was large enough and deep enough for swimming purposes. Its site is going to be built over, the more's the pity, as London is now absolutely without a real open-air swimming bath.

Old Roman Bath, Strand Lane, Strand.—The ancient Roman bath which gives its name to this bath is not the place used for bathing. It is where the spring rises. It is in a cellar, is built of brick, and is about 3 yards long by 1½ wide. It is said to be near 2000 years old. The water, which rises at the rate of 10 tons per diem, from a spring at one end, is cold and as clear as crystal; it overflows through a pipe into the more modern bath, which is in an adjoining cellar, low-roofed, whitewashed, and obscurely lighted by a dimmed glass window. This bath is said to

have been built by the Earl of Essex in Queen Elizabeth's time. It is a basin 4 yards long by 2½ wide; sides and bottom of marble slabs; steps leading down to it at one corner; depth about 4 feet 6 inches. Flags of sandstone surround the bath. There are seven boxes for bathers in the passage leading to the bath. The water is delightfully clear, cool, and refreshing, but the atmosphere of the apartment is rather musty and cellar-like, and the size hardly admits of anything in the way of swimming except mere paddling about.

Old Royal Bath, Bath Street, Newgate Street.—This is a very remarkable bath. It is said to have been built for Charles II, and it still bears traces of royal magnificence. The floor of the apartment is of marble, and the bath itself, which is 7 yards long by 3 wide, is made of black and white marble slabs, forming a pleasing pattern. The depth is 4 feet 6 inches, and in the middle of the bath floor is a depression or trough, making the water 5 feet deep there. In the sides of the bath are six niches faced with Dutch tiles, in which the water agitated by the bather makes a curious noise. On either side of the bath the marble floor is raised a few inches. The walls of the bath room to the height of 9 feet are covered with quaint Dutch tiles, with 4 niches for statuary on either side, also faced with tiles. Above the tiles on both sides of the room is a sort of balcony with a railing, but with no visible access to it. Higher up is an octagonal cornice, from which springs the dome-shaped roof, richly ornamented with carved stone or stucco garlands, whitewashed over and terminating in a round skylight. There is another window at the lower part of the dome. It is on the whole rather dimly lighted. The water is clear and cold and is derived from a spring. At one end of the bath steps cut in the marble floor lead to the bottom of the water. The boxes for bathers run along one side of the room, and a quaint little pyramidal mirror apparently as old as the bath serves for toilet purposes. The ventilation is good and the bath very refreshing, but not large enough for vigorous swimming.

Coldbath, Coldbath Square, Clerkenwell.—This bath, whence the name of Coldbath Fields comes, is upwards of 200 years old. Access is obtained to it by a steep narrow and dark staircase, that descends to a considerable depth below the level of the ground. The present bath was originally two baths, one for ladies, the other for gentlemen. They have been thrown into one,

which is 7 yards square, lined with marble, $4\frac{1}{2}$ feet deep, with a deeper longitudinal depression in the centre of what was formerly the men's bath, making the depth there 5 feet, just as in the old Royal Bath. Above the marble, for about 3 feet, the wall is faced with Dutch tiles. Above this, on two sides, rises a whitewashed wall. On the other two sides runs a platform, with a railing at the edge next the bath. At the angle formed by the platform the railing is pierced to allow access down to the bath by means of marble steps. The ceiling is of wood, whitewashed, and is low. Two dim windows afford scanty illumination. There are two or three bathing boxes in the bath room, and there is a dressing room up a few steps, with benches to lay the clothes on. The water is very clear and cold, and is said to possess medicinal qualities from mineral impregnation. It is derived from a spring, and is constantly running into the bath from a lion's head in clay. It is delightfully fresh and cold, but hardly large enough for swimming comfortably in, and its underground situation is a great drawback.

Camden Swimming Bath, Hampshire Grove, Torriano Avenue.—This bath is about 20 yards long by 5 wide. It is lined throughout with plaster, and is accessible only from one end, where there are wooden steps down to the bottom. The walls, whitewashed, run sheer up from the bath on either side and at the other end. The depth is about five feet. At the entrance end is a platform and six quite open boxes like square church pews. The ceiling is on the double slope, whitewashed, and pierced by seven small skylights, which illuminate the bath but dimly.

These are all the cold plunge baths London possesses. The three first are too small for swimming purposes, and the last, though long enough, is very narrow and decidedly mean in appearance. Being all under cover and some of them quite subterranean, the air feels chilly and cellar-like, and the great charm that all swimming in cold water should possess, namely, the accompaniments of pure fresh open air and sun's light, are sadly conspicuous by their absence in them all. All except the Camden bath are open all the year.

I shall now pass on to a description of the tepid swimming baths of London, but, before doing so, I will first make a

few remarks on tepid swimming baths in general. If the water be but moderately heated, say not above 70°, and frequently renewed, and if the ventilation of the bath be good, swimming in it would be refreshing and salubrious, and if not possessing all the charm or all the hygienic power of open-air bathing, it may still be a health-giving exercise not altogether despicable. But if, as often happens, the water is too warm, say about 80°, seldom renewed, and the ventilation bad, in all or either of such conditions swimming, in place of being a healthy exercise, becomes just the reverse. On coming out of such a bath we feel no refreshment, but, on the contrary, we feel limp and exhausted from the heat of the sodden water which has lost all its vivifying air, and from the confined atmosphere of the bathing room, tainted with the exhalations from the bodies of the bathers. The temperature in these baths, even of the same bath at different times, is very unequal. Sometimes they are fresh and cool and apparently unmixed with warm water. I found this to be the case in one of the best of these baths one Sunday morning. I asked the attendant how it happened that the bath was so pleasantly cool, and he informed me that it was often so on a Sunday morning, as so many people came there for warm baths that there was no warm water to spare for the swimming bath. However, he added a piece of information not altogether so agreeable, to the effect that when it was deemed necessary to heat the swimming bath under these circumstances, this was often done by letting into it the water that had already been used in the warm baths. If this little manoeuvre, so naïvely revealed to me by this bath attendant, often takes place, it will fully account for the flat "wersh" feel of the water of so many of the swimming baths. But, without supposing anything so nasty, the water will readily acquire this unrefreshing character, with a number of persons bathing in it, if it be not frequently renewed. In some of the swimming baths the water is allowed to flow off every night and fresh water admitted in the morning, and in them a certain amount of freshness is always perceptible. But in many baths this excellent

plan is not adopted, and the water is either very seldom allowed to flow off entirely, or the dribbling inflow from a meagre jet and a corresponding outflow are considered sufficient. Swimming in baths of this character is neither refreshing nor wholesome. Imperfect ventilation is not such a common occurrence in the metropolitan swimming baths, for they have mostly lofty roofs and plenty of open windows. However, some of them are defective on this point, and all swimming in such a tainted atmosphere must be more prejudicial than beneficial. On the whole, however, a careful examination of the London swimming baths has convinced me that, as a rule, they are highly creditable to the parochial authorities by whom they have mostly been erected. If not equal in hygienic influence to open-air swimming baths, they are, at all events, excellent swimming schools, and, as they are to be found in every quarter of the town, and their price is extremely moderate, it is the fault of the Londoners themselves if they do not learn to swim. The art acquired even in a tepid swimming bath will be serviceable under all other circumstances; and though the *habitué* of these artificially warmed shallow pools may at first feel not altogether at his ease in cold deep water, yet the power of swimming will not forsake him under these novel conditions, and familiarity will soon enable him thoroughly to enjoy a swim in river, lake or sea, and lead him to despise the languid joys of the tepid tank.

In the absence of any better classification I shall describe the swimming baths of London in alphabetical order.

Albany Swimming Bath, York Road, Lambeth.—Length of bath 17 yards; breadth 12; depth from 3 to 5 feet. 50 boxes with half doors along 3 sides of the bath. A footway all round the bath; a rude spring-board at the deeper end. The ceiling is traversed by great beams; is dark coloured and pierced by few windows. The water is of a yellowish colour, and so opaque that no part of a body immersed in it is visible. This peculiar appearance, I was told, was owing to the quantity of iron it contains. "Highly recommended by the faculty for its strengthening effects," I was informed. It would need to have some great medicinal virtues, for its appearance is not very inviting.

Alexandra Swimming Bath, Bennett Park, Blackheath.—This bath is 18 yards long by 8 wide. Sides and bottom faced with white porcelain tiles. Depth from 3 ft. 6 in. to 5 ft. 6 in. Ceiling low, whitewashed. The lighting is effected by 4 dimmed windows in a recess at the shallow end, and 6 windows at one side, 5 of which open on to large square bathing boxes under a glazed roof capable of accommodating each three or four bathers. A gallery runs along the windows projecting over the bath, and opposite this is another elevated gallery or platform, on which stand 13 other bathing boxes of unequal sizes, with curtains in place of doors. Few of the boxes are provided with mirrors. There is a spring-board at the deep end, and "headers" may be taken from the platform on which stand the bathing boxes. The water is clear, but the ventilation seemed to me not very perfect, and the illumination very indifferent, for though the bath has, apparently, plenty of windows, 5 of these windows do not admit the direct light of heaven, but only the light reflected from the walls of the bathing boxes, and the other windows are dimmed and unfavorably placed for illuminating purposes. Bathing drawers are required to be worn and are supplied by the establishment.

Bermondsey Swimming Baths, Spa Road, Bermondsey.—This bath is 13 yards long by 9 wide. The sides are of white porcelain tiles, the top row having an ornamental blue pattern. Bottom of white glazed bricks. Depth from 3 ft. 6 in. to 5 ft. 6 in. The ceiling, of tasteful iron work, nicely painted, forms a double slope, in which there is plenty of glass to illuminate the bath well. The bathing boxes, 34 in number, are at both ends of the bath, 18 at the deep end, in two tiers, 14 at the shallow end similarly arranged. They are roomy, neatly painted, and are provided with mirrors and curtains in place of doors. There is a broad footway in front of the boxes, and a gangway across the water at one side, leading from one end to the other, and which, being about 5 feet above the water, may be used as a spring-board. Walls painted in oil colour rise from the water on both sides. The water is quite clear. There is a second class bath precisely the same in dimensions, the only difference being that the boxes are not painted nor furnished with mirrors or curtains, and that there is no ornamental border round the top of the bath.

City of London Swimming Baths, Golden Lane, Barbican.—

These baths are situated in a squalid district, the teeming population of which seem not to avail themselves to any great extent of the facilities for ablution the establishment affords. The first class swimming bath is underground, dimly lighted by grimy windows at both ends and one side, which derive their light at second hand from other windows rising from the level of the pavement. It is about 30 yards long by 11 wide; is deepest (5 ft. 6 in.) in the centre, and shallow (3 ft. 6 in.) at either end. The sides and a few feet of the bottom at one end are paved with white porcelain tiles, the rest of the bottom with reddish tiles. The water is clear. There is no visible out-and-in flow. The bathing boxes, 20 in number, are sufficiently roomy. They seem originally to have had half doors, but only two or three of these remain. These boxes stand upon a sort of platform overhanging the bath on one side. On the opposite side is a spring-board, and another at one end. At the other end a sort of Chinese bridge without a parapet crosses the water. The ceiling is of moderate height, and consists of boards, through which project clusters of iron pipes, evidently connected with the bath and laundry arrangements above. The sides of the walls are painted over with pious texts, with which the language of the bathers at my visit did not correspond. There was a close smell about the place, which must be much intensified when the bath is full. Although the size of the bath is great, and the water clear, and at my visit not too warm, this bath is not very inviting, it being dark, ugly, and ill-ventilated. There is a second class bath here of somewhat smaller dimensions.

Greenwich Swimming Baths.—The first class bath is 17 yards long by 6 wide. Depth from 3ft. 6 in. to 5 ft. 6 in. Sides and bottom covered with a sort of asphalte painted white. Fourteen open bathing boxes painted light blue, with curtains and mirrors, along one side of the bath. Footway in front of the boxes of slate. A narrow stone ledge at deep end, and in front of it a plank across the bath for a spring board. Walls of brick, whitewashed, rise directly from the bath at the shallow end and the side opposite the boxes. Ceiling, of iron work, double slope, with glass let in at the top. Ventilation and lighting good. The second class bath is almost precisely the same, differing only in the colour of the boxes, and there being no curtains to them.

Hammersmith Swimming Bath, Bridge street, Hammersmith.—

This bath is 20 yards long by 7 wide. The sides are of white porcelain tiles with round black spots at the angles, the top row having a blue flower pattern. The bottom of white and black glazed bricks forming a pattern. Depth from 3 ft. 6 in. to 5 ft. 6 in.; 22 bathing boxes, painted drab and blue, with small mirrors and half doors, run along one side and the shallow end. The footway in front of the boxes and at the deep end is of wood, and projects over the water. A narrow stone ledge runs along the opposite side. The walls are sized stone colour. The ceiling is moderately lofty, arched, and whitewashed. Gaseliers depend from it. Day-light is admitted by two large windows in the side wall, and three semicircular windows at each end. Panes of thick unpolished glass are let into the roof all down the side where the boxes are. The illumination is good. There is a spring board at the deep end. The warm water is admitted at the surface of the water at one corner of the bath, whereby the heat is very unequally distributed. At my visit the top of the water in many parts was quite warm, while the depths of the bath were very cold. The water is clear. This bath is first class on Mondays, Wednesdays and Fridays, and second class on the other days of the week. It is an excellent bath, of good size, well lighted and ventilated, and very clean—perhaps because it is new, and the only fault to be found with it is in regard to the heating of the water, which would be better if the warm water were admitted at the bottom of the bath about its middle, in place of at the surface of the water at one end.

Kensington Swimming Bath, High Street, Kensington.—This little bath is about 10 yards long by 7 wide. It is lined, sides and bottom, with cement painted white. Depth from 3 to 5 feet. The walls, which rise straight up from the bath on three sides, are painted in imitation of stone, and are festooned all round with chains for the bathers to lay hold of. The ceiling, not very lofty, is of wood, whitewashed, pierced by six windows, which admit a good quantity of light. Four chains hang from the ceiling to near the surface of the water. The water is very clear and fresh. There are 8 boxes for bathers, entered at the back by doors, and with half doors facing the water. Stone steps lead down to the bottom of the water from these boxes, which occupy the whole of the shallow end of the bath, are rather narrow, but clean and neat, with mirrors. At one side

of the bath is a short footway projecting about 10 feet over the water. A spring-board in the middle of the deep end, and at the corners ladders for diving from. This bath, though small, is clean, well ventilated, and select.

Lambeth Swimming Baths, Westminster Bridge Road.—The first class bath is 41 yards by 15. Depth from 3 to 5 feet. The sides of the bath have a row of white porcelain tiles above, the rest of the sides and the bottom are lined with dusky tiles. The water tolerably clear. An elegant fountain in the centre admits the warm water. An aquarium at the shallow end. A lofty spring-board at the deep end, a lower one at one side. Eighty roomy boxes for bathers with half doors, running along each side of the bath. Above these, on each side, is a gallery supported on light iron pillars, with 16 superior rooms for bathers. Ceiling lofty, double slope, pierced with numerous windows, which light the bath well. A broad paved space between the boxes and the water. This is the largest first class bath in London, and is much used for swimming matches. It is well lighted and ventilated. There is a second class bath nearly as large, 38 yards by 17.

Marylebone Swimming Baths, Marylebone Road.—The first class bath is 15 yards by 8. Depth from 3 ft. 6 in. to 5 ft. 6 in. It is paved with blue and white porcelain tiles arranged in a pattern. The sides are of slate slabs, with an elegant border at the top, of blue and white pattern, in porcelain tiles. The boxes, 10 in number, and provided with a complete door that closes with a spring lock, which can be opened on the inside by a handle, but on the outside only by a key, are roomy, clean, and provided with mirrors. They run along one side of the bath only, and in front of them is a footway of slate. The walls rise from the water on the other sides, and are painted imitation stone. A spring-board passes across the deep end of the bath. At the shallow end is a shell fountain, whence fresh water is always flowing into the bath with a pleasant sound. The ceiling is lofty, ridge and furrow, with many lights. This is a little gem of a bath, the water is generally fresh and clear, the lighting and ventilation excellent. It is open on Wednesdays till 2 o'clock for ladies. There are also a second and a third class bath below the level of the street, each 23 yards long, lined with blue and white porcelain tiles, well lighted by glass roofs, clean and tasteful. Accommodating respectively 30 and 40 bathers in neat, open, varnished wooden boxes.

Metropolitan Swimming Baths, Ashley Crescent, City Road.—This bath is 33 yards long by 11 wide. Depth from 3 ft. 10 in. to 5 ft. There is also a smaller bath 16 yards long by 9 wide, of a uniform depth of 5 feet. The large bath is lined with reddish bricks, and a row of white porcelain tiles runs round the top. The boxes, 47 in number, run down both sides and along the shallow end. They are placed two and two between pillars supporting arches. They are roomy, and are entered by a door leading from a corridor at the back. A half door opens on to the water, down to which there are wooden steps in front of each box. The boxes have no mirrors. The corridor extends all round the boxes, which are between it and the bath, so that the bath can only be entered through the boxes or at the deep end of the bath, where there is a platform and spring-board, beneath which the water is admitted, when required, in a large cascade. Ornamental colouring is applied to the pillars and arches supporting the ceiling, which is moderately lofty, flat, and whitewashed, with two circular skylights. The bath is further lighted by 22 windows looking into the corridor, placed just below the ceiling. The lighting is not so good as might be expected from the number of windows, as they are unfortunately placed. The water is clear, and the ventilation good.

The smaller bath is lined with cement painted. It is surrounded by 48 boxes with half doors placed against the wall, and there is a broad footway betwixt the boxes and the bath. Some of the boxes are in a recess at the head of the bath. There is a spring-board at one end. The water is clear, and apparently kept somewhat cooler than that in the large bath.

The Wenlock Swimming Bath, Wenlock Road, is the second class bath to the Metropolitan. It is 60 yards long and 10 wide. It can accommodate a vast number of bathers in boxes with half doors on either side and at the top, and an unlimited number of spectators in galleries above the boxes. This bath being the longest in London is much used for swimming matches. The water is very far from clear, and the arrangements are altogether very second class.

North London Swimming Baths, Pentonville Road.—The first class bath is 18 yards by 7. Depth from 3 to 4 feet; deepest in the middle. The sides are lined with white porcelain tiles with ornamented top row, the bottom paved with red tiles. There are 24 roomy bathing boxes, with mirrors, running along one

side and one end. Above these is a gallery which will accommodate bathers or spectators. A flagged footway runs in front of the boxes. At the end and side not occupied by the boxes, a spring-board runs along the whole length, and there is another spring-board near the middle of the opposite side. Three trapezes hang from the ceiling for the daring flights of amphibious Leotards. The ceiling is lofty, of dark stained wood, and glass in sufficient quantity to light the bath well. The side walls are of bare yellow brick. The water is clear, the lighting and ventilation good, but the depth of the bath is quite insufficient, and in plunging from the spring-board one must take care of one's head against the bottom. There is a second class bath somewhat smaller.

Poplar Swimming Baths, East India Dock Road.—There are two baths, first and second class, of similar dimensions, 15 yards by 9. I was unable to inspect them, as the baths close at the end of September, and my visit was made during the first days of October, when the baths were locked up, and the man who had the key was absent. They were described to me by an intelligent policeman as very nice baths—I presume of the usual character of parochial baths, of which I have examined and described so many.

Royal York Swimming Baths, York Terrace, Regent's Park.—There are two swimming baths, one for gentlemen, the other for ladies.

The gentlemen's bath is of an irregular shape, about 22 yards long by 7 wide. Depth from 3 to 5 feet. A spring-board at each end. The bath is floored with tiles of a dusky reddish-brown colour, the sides of white bricks. The bathing boxes, 20 in number, very narrow, with half doors, run along the top and down a part of one side. The walls, whitewashed, support a low ridge and furrow ceiling, with dimmed panes of glass let into it. A narrow ledge runs along one side of the bath. Small jets of water run in at one end. At my visit the plaster was peeling off the walls in patches, and green mould was creeping up the walls. This, with the low ceiling, the dim illumination, and the dismal colour of the material of which the bath is constructed, gave a gloomy and uninviting aspect to the place. Still, I am bound to say, the water was clear and pleasant.

The ladies' bath is smaller, 10 yards by 7. Depth 4 ft. 6 in.

Lined with white porcelain tiles. Platform and 6 boxes with curtains at one end. The walls, whitewashed, rise up from the bath at the other three sides, and support a not very lofty ridge and furrow ceiling pierced with a few windows. This bath, which is the only one I know of in London exclusively devoted to ladies, deserves attention on that account. It is far from being everything that is desirable, but the water is clear, and there is just room enough to learn swimming.

St. George's Swimming Bath, Davies Street, Berkeley Square.—This bath is 14 yards by 8. Depth 3 ft. 6 in. to 5 ft. 6 in. Sides paved with white porcelain tiles with black spots at angles; a top row with Greek pattern in blue, bottom of white glazed bricks. Open boxes with mirrors and half curtains, 42 in number, all round the bath. A sloppy, slippery wooden footway in front of boxes. Spring-board at deep end. Wooden steps down to the bath at the middle of one side and at one corner. Ceiling, supported on iron pillars, of painted iron work. The light comes from a large skylight at the top of a high narrow funnel with painted iron sides, and from 7 small windows over the top of the boxes on one side. The water is clear, but the lighting is very indifferent, and the ventilation decidedly defective. The wringing machine belonging to the laundry keeps up an almost incessant and very lugubrious noise. This bath is first class on Mondays, Wednesdays, and Fridays, and second class on the other days of the week. It is under the same management as the

St. George's Swimming Bath, Buckingham Palace Road.—This bath is 20 yards by 8. Depth from 3 ft. 4 in. to 5 ft. 4 in. Sides of white porcelain tiles with black spots at angles, and a Greek pattern in blue along the top row. Bottom of white glazed bricks. Forty-six open boxes, with half curtains and mirrors, on three sides of the bath. Wooden footway all round. Ceiling, of iron work, lofty, supported on painted iron pillars all round the bath. Lighted by a large glass roof. Spring-board at deep end. This bath is much superior in size, lighting, and ventilation, to the establishment in Davies Street. Like the latter, it is first class on Mondays, Wednesdays, and Fridays, and second class on other days. It closes the end of October, but the bath in Davies Street is open all the year.

St. Giles' and St. George's, Bloomsbury, Swimming Baths, Endell Street.—The first class bath has an oblong shape, broader at one

end than the other. Its length is 12 yards by 10 at the deep end, tapering off to 8 at the shallow end. Depth from 4 ft. to 6 ft. Sides lined with white porcelain tiles with round black spots at angles, a blue pattern on top row. Bottom of white glazed bricks. Twenty-three open boxes, with mirrors and curtains, on one side and along the shallow end. A wide footway of slate on three sides of the bath. A spring-board at deep end. Pillars, of painted iron, round three sides of the bath, supporting the roof. A painted screen about 12 feet high separates this from the second class bath, which is in all respects the same as the first class, except that the boxes are not painted and have neither mirrors nor curtains. The two baths have a common roof of glass, very lofty, and with elegant iron-work supports. The water is clear and fresh, the ventilation and lighting excellent. This and the Tower Hamlets bath are the only ones in London where a middle-sized man can get out of his depth, which is a great charm to the practised swimmer.

St. James' Swimming Bath, Marshall Street, Golden Square.—You mount up a flight of steps to get to this bath. It is about 13 yards by 9. Depth from 3 to 5 feet. Sides of bath slate, bottom plaster. Eighteen open boxes. A lofty ceiling, well lighted. The water is dirty looking, and the whole arrangements very inferior, and altogether second class.

St. Margaret's and St. John's Swimming Baths, Great Smith Street, Westminster.—The first class bath is 12 yards by 10. It is lined throughout, and for 3 feet above the water, with white glazed bricks. Depth from 3 ft. to 5 ft. 6 in. Boxes 16, open, with mirrors, in two tiers at the shallow end. A footway 6 feet broad in front of boxes, about 3 feet above the water, to which two flights of wooden steps lead down. A narrow gangway, about 6 feet above the water, leads to a door opening on to the second class bath, which is very similar to this, only 3 feet longer, and with double the number of boxes arranged similarly at either end. The walls, whitewashed, rise from the water on three sides. They support a lofty double sloped ceiling of painted wood, with glass let in along each slope. The water is clear, and the bath is tolerably well lighted and ventilated, but as it is deficient in everything ornamental, it has rather a mean appearance.

St. Pancras Swimming Baths, King Street, Camden Town.—The first class bath is 19 yards by 8. The corners of the bath

are rounded. The sides of white porcelain tiles, the top row ornamented with blue dolphins. The bottom is of glazed black and white bricks arranged in a pattern. Depth from 3 ft. 4 in. to 5 ft. 5 in. A spring-board at deep end. The boxes, 25 in number, with mirrors and half doors, run down one side and along deep end. At the shallow end, and in front of the boxes, a footway of stone flags. At the other side runs a screen about 10 feet high, separating it from the second class bath, which is identical with it in all respects save the mirrors and dolphins. The two baths are covered, to the extent of one half, by a very lofty glass dome. The other half of the bath is overhung by a not very lofty ceiling of plaster and ironwork, with sundry round holes in it, displaying intricate conglomerations of iron pipes. The water is beautifully clear, and the lighting and ventilation good. It is one of the most recent of the parochial baths, and does great credit to the much-reviled St. Pancras Board of Guardians.

Tower Hamlets Swimming Baths, Church Street, Mile End New Town.—First class bath 23 yards by 10. Depth from 5 to 6 feet. The sides and bottom of bath of cement painted white. Forty-two unnumbered boxes, with doors which do not lock, and are cut away slightly at top to admit light, run along the two ends and one side of the bath. Above them is a gallery with seats, where more bathers or spectators can be accommodated. On the opposite side runs a gangway over the water, which can be used as a spring-board. The footway in front of the boxes is of stone flags. The walls, of brick, are whitewashed on the three sides where the boxes are, with some attempt at colour near the top, and a gorgeous Royal Arms at one end. The other side is of wood painted, forming the partition between this and the second class bath. The roof is on the double slope, of wood, dark and grimy. Glass is let in at the top on both sides. The illumination is indifferent, the boxes rather rickety, and, on the whole, the bath, though extent and depth of water are satisfactory, is decidedly shabby. The second class bath is the same as the first, except that the boxes are open, 26 in number, and so much larger, that each box will accommodate on an emergency ten bathers. The proprietor informed me that he has seen 1200 bathers together in this bath, 500 or 600 in the water at one time. There is no attempt at colouring on the whitewashed walls, and the water is not so deep as that in the first class bath by half a foot.

Some of the above tepid swimming baths are open all the year round. Some, where there are first and second class baths, close one of these during the winter and strike an average of the prices of admission. Some close at the end of September, others at the end of October, to reopen in April. The prices of the swimming baths connected with the parochial baths and washhouses are usually *4d.* for the 1st class and *2d.* for the 2nd class. A few charge *6d.* 1st class, some *3d.* 2nd class, and one, the Marylebone, charges *8d.* 1st, *4d.* 2nd, and *2d.* 3rd class. The private swimming baths, Kensington and Blackheath, are *1s.* each.

Almost all the swimming baths are the head quarters of one or more swimming clubs, which generally have one night a week for their meetings and practisings. With few exceptions they have all attached to them a professional swimmer, in most cases one of the bath attendants, who teaches swimming to beginners and coaches aspirants after prizes in that extraordinary mode of rapid swimming adopted by the London aquatic athletes, in plunging, in picking up eggs from the bottom of the bath, and other equally useless feats. The shallowness of the baths prevents all practice of the really useful accomplishment of diving deep in water from a height or while swimming; and I am not aware of any instruction being given in the very difficult art of rescuing a drowning person. I need not say that this is a dangerous and difficult operation as long as the person to be rescued is able to struggle and clutch at his rescuer. It too often happens that the desperate efforts of a drowning person drag both himself and his would-be preserver to the bottom. In some books it is recommended not to attempt the rescue of a drowning man until he has ceased to struggle, when it may be too late. There is a method of grasping and supporting a drowning person, however lively, that should be taught to swimmers, which will enable them to save life without much peril to themselves; and this could be taught in our swimming baths, but no prizes are awarded for it, and professionals, for the most part, think only of teaching what will win prizes at the swimming competitions. By the way, either Shakspeare understood little about

swimming or he intended to represent Cassius as a vain boaster, which, however, is hardly consistent with his character in the play, when he makes him talk about rescuing the drowning Cæsar by taking him on his shoulders as Æneas did Anchises.

The above, as far as I can ascertain, are all the places expressly constructed for swimming purposes at present existing in London,* and if they fully answered the ends for which they were designed, and enabled their frequenters to obtain the full benefit of the hygienic exercise of swimming, one could scarcely say that they were too few for even such an immense town. But they are of little use in a hygienic point of view. I must remind the reader that in order to derive the full health-giving advantages from swimming, it must be performed in cool and deep water, with plenty of room, and surrounded by the wholesome accessories of fresh air and sunlight. Moreover, the mind of the swimmer should not be harassed and anxious. Now, the London swimming baths satisfy none of these requirements. They are, with one exception (for we cannot count the three ancient plunge baths among swimming baths, on account of their puny dimensions), all tepid. This is no fixed temperature, but varies in every bath, and in the same bath at different times. It may mean any temperature from 65° to 80°, or upwards. The lower temperature would not be objectionable in the point of view of salubrity, but it would not be relished by the swimmers, who would insist on more warm water being added, or otherwise the most of them would forsake the bath. When the water approaches the higher temperature indicated, swimming in it is followed by languor and prostration, more prejudicial to health than otherwise. To me

* There are, I believe, several additional tepid swimming baths in the course of construction in London and suburbs, and one has been recently opened at Stratford, but that town can scarcely be considered as part of London, though within the postal district, and as Mr. Sweedlepipe says, "we must draw the line somewhere." Some may think I have not drawn the line narrowly enough, when I have included in my survey Hampstead, Hammersmith, Greenwich, and Blackheath, but I preferred to make it possibly too wide than to incur the reproach of having made it too narrow.

the water in this state feels sodden and lifeless, and though one can stay in it a long time without shivering, the longer one stays in the more prostrated does one feel afterwards, and a good cold douche or shower-bath would be required to restore anything like tone to the system.

The London swimming baths are all shallow, with two exceptions, and these are only six feet deep at their deepest part. There is consequently no opportunity for diving deep and experiencing the powerful influence of the pressure of a considerable column of water on the organs of respiration and circulation.

With few exceptions the London swimming baths are too small. When any considerable number of bathers are in the water, then there is hardly room for the swimmers, who are consequently continually butting against, or kicking, or even scratching one another in a manner anything but favorable for the preservation of good temper—a most essential requisite in a hygienic point of view.

None of the London baths have the advantage of pure fresh air. Some of them are close, stuffy and fetid. The best of them can only be said to be well ventilated, but no amount of ventilation in a covered building is an equivalent for the cooler air with its fresh breezes, that play around and about the exposed body of the open air bather.

Few of the London baths have a sufficiency of light. Some are mere gloomy cellars. In the very best of them the body does not receive the direct rays of the sun, the light being transmitted through glass of greater or less thickness, often artificially dimmed, in case it should impinge too strongly on the exposed body. The powerful hygienic effects of light on the body have recently received much attention, and it is no doubt a chief agent in the salubrious influence of open-air bathing. To construct a swimming bath where the light is nearly excluded is to forego one of the greatest advantages of the bath.

Lastly, how can the mind remain free from anxiety, when; according to the arrangement in every bath in London, with one exception, the bather's clothes and valuables have to be left in open boxes, to which any person

can enter, while in most baths a notice is stuck up to the effect that the bath proprietor is not responsible for clothes or valuables, but that each bather must look after his own. In some of the baths the ticket givers will take charge of watches, jewellery, and money, but in many others they refuse to do so, and one is forced to leave everything exposed. With this alarming notice staring one in the face, what must be the state of mind of a timid bather under such circumstances, when the bath is tolerably full of the extremely mixed company which frequents these baths, I shall leave the reader to imagine. Certainly if the conditions were otherwise hygienically good, the moral state thus induced would suffice to neutralize them.

Besides the above swimming baths, cold and tepid, under cover, and not to be enjoyed without payment, London has, or had, two large open-air gratuitous swimming baths, fulfilling in many respects the requirements of hygienic swimming baths, but objectionable in several important particulars; I allude to the great bathing lake in Hyde Park—the Serpentine, and the two smaller lakes in Victoria Park.

The Serpentine, before the "levelling-up" operations commenced, was in very bad repute. Its depth was supposed to be very great in some places; a delusion its drainage has dispelled, for it appears to be nowhere above 12 or 14 feet deep. Its bottom was supposed to be foul with the accumulated sediment from the sewers which discharged themselves into it for many years; its drainage has shown it to be foul beyond all conception, and the wonder is that its water was not more impure than we know it to have been, resting on such a thick stratum of abominations. The water was impure,* there is no denying it, and its impurity was often as obvious to the nose as to the eye. And yet a swim in the old Serpentine on a cool spring or autumn morning was not a bad thing—*experto credite*. It was a fine ex-

* I suppose it was this impurity of the water which produced a remarkable disease among the young sticklebacks and minnows, many of which I have found with deposits, apparently of pus, on various parts of their bodies, rendering their movements languid and awkward, and in some cases, especially where these deposits were on the head, causing hideous disfiguration.

panse of water, with beautiful surroundings. The eye rested with pleasure on the green sward of the park, the stately old elms, the picturesque bridge, the pretty little Swiss boathouse, and the monstrous black Duke prancing over the trees. Then if you did not examine too minutely the green confervæ that rendered the water almost opaque, if you kept your eyes more skyward, if you became used to the faint ditch-water smell around you, and "made believe a good deal," you might almost fancy yourself disporting in a retired lake far away in the country. The company was not so bad as was usually supposed. The roughs don't like getting up early even to wash themselves, so there were few of them; they mostly deferred their bathing till the evening. Most of the bathers seemed quiet, steady, respectable people. The regular bathers would generally bring along with them a bit of carpet, or hire a rug from the Humane Society's boatmen to lay their clothes on, and thus save them getting wet by the dew. There was room and to spare for all on the broad bosom of London's great lake, and when you could forget the stories about the horrors below you, and refrain from looking too curiously at the green abominations that thickened the water, a long swim in the deep placid Serpentine, with the sun shining down on you, and the gentle breeze fanning you, was infinitely preferable to any cold or tepid swimming bath in London. If the lover of the swimming bath is to gain nothing by the works now going on in the Serpentine besides clear water in a shallow bed, he will, perhaps, rather regret the loss of his deep but dirty lake. Bathing was permitted in the Serpentine from 5 to 8 a.m., and again after sunset for an hour or so; but no provision at all was made for the accommodation of bathers, beyond a couple of boats belonging to the Humane Society stationed near where most bathers resorted.

Victoria Park Bathing Lakes.—There are two of these lakes. The more easterly one is nearly 300 yards long, and is surrounded by a gravel walk, beyond which are shrubs. The more westerly one is nearly as large, and is more hemmed in by trees and shrubs, and has several islands in it. Both have a depth of 6 feet in their deepest part, becoming gradually shallow towards the shore. The eastern lake is much the clearest. There is a raft on one, and a small shabby bathing house on the other. A swimming master resides at one end of the eastern lake, who apparently

adds to the profits of his profession by selling ginger-beer and sugar-plums. The time when bathing is allowed is from 4 to 8 a.m. The remainder of the day the best of the lakes is much resorted to by the owners of miniature yachts, in order to test the sailing powers of their tiny craft. There is, of course, here also no arrangement for the safe bestowal of one's clothes while one is in the water, so that, as in the Serpentine, you bathe at your own proper peril.

The lakes in these two parks are the only places in which the inhabitants of London are permitted to indulge in open-air bathing.* To be sure there is the river, and there are numerous canals in which the gamins plunge in summer, but they do so at the risk of being seized by the police and brought before a magistrate charged with the heinous offence of indecency, so that all who have any respect for the law are practically debarred from making use of these waters. Besides, in spite of the recent drainage works, the Thames is still little better than an open sewer, and it will be long before it is anything else; and the canals are, with few exceptions, so dirty, that there is little inducement to the respectable swimmer to brave the terrors of the law, and defy the threats against trespassers, in order to indulge in his favorite exercise in either river or canal. So, practically, he is limited to the Serpentine and Victoria lakes, and to those only at the inconvenient hours, and under the uncomfortable circumstances I have described.

While almost every second-rate continental town has ample provision for open-air bathing, it is disgraceful that a large and wealthy metropolis like London should virtually have nothing of the sort. How much pleasure do its

* I do not forget the lower ponds of Hampstead, which were once magnificent sheets of water, but then they were the property of the New River Company, and bathing was strictly prohibited in them. Now they seem to be abandoned by the Water Company, but they have been allowed to drain away or evaporate, until they are little better than muddy pools with a broad margin of sticky clay which would deter any one except a London street Arab from attempting to bathe in them. It would be possible to convert one or more of them into excellent swimming baths of any required depth.

citizens consequently lose! what a powerful hygienic agent are they not deprived of! And yet London offers more facilities than almost any other town I know of for the construction of open-air swimming baths of the best kind, and that without infringing on the comfort or privileges of any one. In the Serpentine, when the levelling operations are completed, the finest swimming baths the world can show might be constructed for a very small sum of money, and I venture to say that while the convenience and wishes of thousands who delight in swimming, and to whom an open-air bath is a source of health and pleasure, would be gratified, no person would be inconvenienced, nor would anything unpleasant be presented to the eye.

The arrangements heretofore in force pleased no one; the bathing public were put to every sort of inconvenience, and the non-bathing public were disgusted that for certain hours in the day the banks of the Serpentine should be handed over to a horde of naked savages, rendering it impossible for any decent female to venture near them. It is surely not intended to allow those orgies worthy of the Fiji islands to be perpetuated in the renovated Serpentine.

I would suggest that a first and second class swimming bath be built at the south side of the Serpentine when its depth has been equalised, as proposed, to 5 ft. 6 in., shelving into shallow water towards the shore. This ought, I think, to be, not a floating bath, but a permanent construction of light and elegant appearance. Each bath should be at least 150 yards long by 50 or 60 wide. Round the bath should run a platform flagged with slates, with steps down to the water, and spring-boards. There should be boxes for bathers round the whole bath, to the number of 200 or 300. These boxes should be numbered, and have complete doors, with a pane of glass let in, and closing with a spring lock, to be opened by the attendant to the bather having a corresponding ticket. This for the security of the bather's clothes and valuables. For what right, I may ask, has any one to invite me into his bathing establishment, induce me to divest myself of my clothes and valuables, and plunge beneath the water, while he

offers me no security for my property, which he directs me hang up in a perfectly open box, and cautions me to look after myself? How I am to look after it when I am swimming in or under the water he does not inform me. Even if, when so engaged, I were to perceive a thief occupied in rifling my pockets or appropriating my garments, it would avail little that *de profundis clamavi*, "stop thief!" By the time I could get out of the water and make towards him, he would probably have got clear off with his booty. Therefore, the simple plan adopted in the Marylebone first class swimming bath, of full doors closing with a spring-lock, is indispensable for the security and comfort of the bather.* To make the security absolute, it would only be requisite to provide each bather with a ticket of bone or metal, the number of which would correspond with his box; and this by a simple contrivance might be fastened to his bathing drawers (without which no one should be allowed to bathe), and the attendant would only open the door corresponding to this number. I have dwelt, in what some may think too much detail, on this apparently trivial matter, but from experience I can testify that much of the comfort of a bath depends on one being assured that one's clothes are in a place of safety. The boxes should be closed in at top with a glazed roof, as in the Hammersmith bath, and the roof, either glazed or of corrugated iron, should extend over the platform, as in a railway station, to afford shelter from sun or rain when not in the bath. The water should be quite open to sun and air. The prices of admission need not be greater—might indeed be less—than those of the generality of the parochial baths, viz. fourpence, first class, twopence, second class. For this the bather should be supplied with one or two towels, and bathing drawers, unless he prefer to wear his own. And here I would hint that the towels should always be washed after being used, and not merely dried, as seems to be the case in some of the baths, if I may be allowed to infer from their sicken-

* The proprietor of a swimming bath which has full doors inveighed against them to me as affording facilities for thieves, but then his doors have neither locks nor numbers.

ing smell. It would surely not be too much to expect a refreshment room or buffet in connexion with these baths, as is often to be found on the continent; such an addition would be highly desirable, if practicable.

These baths should be open from an early hour until dusk, so as to suit the convenience of all. Many persons cannot take an open-air bath in the morning without injury, but can derive benefit from, and enjoy, a swim in the middle of the day. Again, their occupations make it more convenient for some to bathe at one time, for others at another time, and the tastes and convenience of all would be consulted by having the bath open all day.

When such swimming baths are built, bathing, except in these, should be altogether forbidden in the Serpentine. Thus the non-bathing public would gain greatly by being spared the indecent scenes that have hitherto rendered that part of Hyde Park impassable for women in the morning and evening, and swimmers would have everything they could wish for. It might be a question whether bathers might not be permitted to swim from the bath in the Serpentine outside of it early in the morning. In the competitions of swimming clubs, greater space is often desirable than could be obtained in any bath.

A similar construction might be made on the eastern lake in Victoria park, which is in size, depth, and form, quite adapted for it. If the Lilliputian yachters should think their vested rights thereby interfered with, the other bathing lake might be abandoned to them entirely.

Excellent swimming baths might also be made on one of the arms at the east end of the lake in St. James's Park, without interfering with any one's rights or comfort. The water is already of the required depth, and the part indicated is but little frequented except by a few water-fowl.

The lake in Regent Park is also well adapted for a swimming bath. There is a portion of the water, midway between the two suspension bridges, nearly hidden from every habitation by an island covered with trees, where the bath might be built so as to be in nobody's way,

However, as it is quite easy to make the structure pretty, I don't see why any person should object to a full view of it.

Battersea Park possesses a large expanse of water, and a few hundred yards of it might be very well spared by the gardeners and aquatic birds, to whom it is at present dedicated, for the purpose of a large swimming bath, which would complement the gymnasia in which it at present abounds. The water, being only about 3 feet in depth, would not be suitable for a swimming bath without further deepening, but that is an operation which, I presume, would present no difficulty. It would be a great advantage to have a continuous and steady influx and outflow of water in all these lakes; this would insure constant freshness of the swimming baths. I am not conversant with engineering matters, but I should think that this might easily be effected by means of artesian wells in suitable situations, if the flow of water cannot be obtained from the water companies.

I have thus shown how the great want of London, in the matter of open-air swimming baths, might be supplied by utilizing a portion of the water in five of the existing parks.* As there are other parks projected, or in course of formation in other parts of London, it would, of course, be easy to apply the same principle to the lakes that might be formed in them.

These baths would not interfere in any way with the existing swimming baths, for there would still remain a sufficiency of bathers who prefer tepid to cold water, and as a vastly greater number of persons would take to bathing than do now, they would, undoubtedly, first resort to the covered baths, in order to learn to swim, before frequenting the open-air baths. The covered swimming baths would also still be resorted to by those who prefer to swim in the evening, and by those who like to continue their bathing during the winter months.

* I have purposely said nothing about the extra-urban parks of Greenwich, Wimbledon, Richmond, and Wanstead, all of which offer great facilities for the construction of swimming baths, all having fine sheets of water. I confine myself to the more pressing wants of the teeming millions of London proper.

And here I should say a few words respecting the prejudice in favour of sea-bathing, which is almost universal with us. It is believed that there is something in the sea water that renders it far more salutary than fresh water. This is undoubtedly true with respect to certain morbid states of the body—such as scrofula ; but it is far from being universally true. To many persons the seaside and sea water are little else than poisonous, and bathing in the sea, or mere residence near the sea, produces very prejudicial effects. To most healthy persons it is not the contents of the water that do good, but the exercise and the reactions caused by the temperature and the other elements I have indicated above. By many swimming in the sea is preferred to swimming in fresh water for various reasons, independent of any medicinal action of its salts. They like the charm of bathing in the boundless ocean with all its romantic accompaniments ; they swim with greater facility and confidence, as the greater specific gravity of salt water floats them higher. It may be urged that medical men invariably send people to the sea for bathing. That is nearly true ; but then medical men are not altogether free from sharing the national prejudice in favour of the superior salubrity of sea water. Moreover, it is for patients their advice is sought, not healthy persons, and the maladies these patients are suffering from may seem to them to require the medicinal effect of sea water. But undoubtedly the chief reason for their recommendation is, that they know that there are facilities for bathing in the sea, but they would be much at a loss to name any place where their clients could obtain comfortable freshwater open-air bathing. For my own part, though I love the sea in all its moods, and in part because it has so many moods, I dislike the sticky hair and generally dirty feeling it causes, and its nasty taste when one gets a mouthful ; and I would much prefer that its waters were as soft, sweet, and cleansing as those of a Scotch or Swiss lake. To my mind the finest swimming bath in the world is the Lake of Geneva. There you have the changing moods of the ocean, while the water is fresh and sweet, and of such a lovely blue,

that your body when immersed in it seems as white as marble, and, like Narcissus, you are ready to fall in love with your beautified person. Give us freshwater baths in the open air, and a removal to the seaside will not be desired or needed by many who are now attracted thither.

When speaking of the advantages of swimming in the open air, I have not meant that these advantages were limited to the male sex. On the contrary, I am strongly of opinion that swimming is an exercise equally, if not more, adapted to women as to men. Men have their hundreds of games and occupations that keep their muscles in constant and varied play. From these women are practically debarred, and the exigencies of society limit their exercises to but few, and some of these can only be enjoyed by the wealthier classes. The tyranny of fashion, too, compels them to dress themselves in a manner specially unfavorable to healthy exercise, and the consequence is that thousands fall into ill health which might be averted if their muscular system and circulation had only a fair chance. Swimming, which must be performed without the restraints of fashionable garments, is of all others the kind of exercise from which most advantage may be reaped. To most women, also, swimming comes easier than to men. Their bodies are generally of less specific gravity, and so float more easily in water, whether fresh or salt. This being so they sooner acquire the confidence necessary to make good swimmers. Then, as the water sustains the whole weight of the body, and as they are no longer restrained by the bands, bones, and laces of their dress, they are free to bring into full play, without fatigue, all those muscles which have hitherto been kept in thrall by the milliner's devices.

As a means of maintaining and even restoring health, then, swimming in the open air is of still greater importance to women than to men. But I have shown that even in the matter of tepid swimming baths the wants of the other sex have been almost totally ignored, for with the exception of the little bath in York Terrace and the Wednesday morning's use of the smallest of the Marylebone baths, there is actually no provision in London for women's

swimming. As far as regards open-air swimming they have been left out of consideration altogether. Now, if open-air swimming baths are to be established in London, the interests of the softer sex should be considered as much as those of the rougher gender. With this view I would give up the Regent's Park lake to the ladies, for which it is already adapted by its inferior depth—4 feet, I believe. For the same reason it may perhaps be thought best to make the proposed bath in St. James's Park one for ladies only, and if the bath in the Serpentine be only made large enough, there is ample space there for all the wants of the male sex at that end of the town.* The water in Victoria Park in its present condition is, of course, better adapted for a men's bath, but in the event of a women's bath being required there, which I doubt not will be the case, one of the other lakes might be given up for the purpose, or a new lake altogether constructed, for which there is room enough in the park.

When women take to swimming, as I have no doubt they will eagerly when opportunity offers, they will, of course, have to abandon altogether their useless and inconvenient bathing gowns and adopt the dress universally worn by their sisters on the continent, or something equally well adapted to allow free play to the limbs.

When London sets the example, our provincial towns will soon follow its lead, and when once open-air swimming baths become general throughout the land, we may hope one day to cease to deserve the reproach—that though we live in a sea-surrounded and lake and river-abounding country, a much smaller proportion of its inhabitants can swim well than is to be found in many continental countries which have none of our aquatic advantages.

* If it is considered desirable to limit the construction of swimming baths at first to the Serpentine, a ladies' swimming bath might be made in the portion of it contained in Kensington Gardens.

**ON SOME OF THE MEDICAL DISEASES OF THE
BLADDER.**

By **ROBERT T. COOPER, Esq., A.B., M.B., M.Ch., T.C.D.**

HOWEVER correct the division of diseases into medical and surgical may sometimes be, we must confess it is often uncalled for, and has been not unfrequently productive of an infinite amount of mischief. Almost every so-called surgical disease has at its commencement been undeserving the name, and has seen the time when it would have been better placed in the medical section.

Again, there are other diseases which though at one epoch in the history of medicine they would have merited the title of surgical, yet a more scientific system of medicine has removed from the surgical to the medical division. Whether a time will ever come when "the philosophic knife too merciful to kill" can be dispensed with, I know not, but of this I am sure, that exceptional, indeed, are the cases in which it will be required.

But however erroneous the classification of disease into medical and surgical, and the consequent separation of medical men into physicians and surgeons, its evil effects have been nowhere so apparent, or fraught with greater harm than in diseases of the bladder. It is true that the progress made from the time that the unscientific, though successful knife of Frère Jacques was resorted to, until the present reign of the scientific lithotripter of Heurteloup and Henry Thompson, represents an interval during which the most marked advance has been made in the knowledge of the surgical diseases of the bladder. But here we fall short.

The medical diseases are, if not as obscure as they were then, at any rate far more than we could wish them, or than their importance demands them to be now.

It is certainly undeniable that the past few years have witnessed a rapid advance made in the methods of examining

the urine, and ascertaining the condition of the vesical walls, and an extraordinary amount of skill has been manifested in these departments of medicine. I mean the endoscopical, microscopical, and chemical.

It strikes one as the more strange then—considering this advance—that any obscurity should still exist in respect to the simple diagnostic marks—the primary symptoms indicative of some of the commonest affections of the bladder. One would have thought it but reasonable that these should have received the first attention.

Nor would I venture upon the subject were I not convinced there remains a wide gap to be filled up, and though fully conscious of being unfitted to supply what is wanting, yet the kind and flattering encouragement already received from some of my colleagues, more particularly Dr. Richard Hughes, coupled with the allowances I have every reason to suppose will be made, induces the belief that some at least of the following remarks may not be unacceptable, and that the intention will be accepted as sufficient excuse for the faulty execution. And to quote Guthrie's words—himself an authority in these affections:—"In matters of opinion I am very willing to yield and to consider myself in error, but in matters of fact none of us ought to concede, except on demonstration, and I hope all of us will submit to proof."

What the father of English surgery—Percivall Pott—said of surgery is equally true of medicine: "The honour of our art and the moral characters of its professors suffer whenever we pay so blind a deference to any one as prevents us from using our own judgments, and from declaring freely the results of our own inquiries or experiments."

One impediment under which I labour in taking pen in hand, common to almost all country practitioners, is the paucity of literature in my possession on the subject under consideration. The homœopathic physician especially feels this, being as he is excluded by reason of his advanced views from all concourse with his medical opponents.

However, though our isolated positions and our literary disadvantages may, at first sight, appear a great barrier, it

is in reality our greatest boon; for by being placed in such positions we become more thoughtful, and by being exposed to censure we become more painstaking and accurate.

The conduct of our professional brethren towards us—be they spoken of in friendliness—defeats its own object.

In considering the subject of disordered urination—for it is this that will chiefly occupy our attention—we must dwell for some length upon the anatomy of the bladder, omitting such parts of it as are irrelevant to our theme.

Our authorities on this will be Todd's *Cyclopædia*, art. *Anatomy of the Bladder*, by Dr. Harrison, Ledwich's *Human Anatomy*, Dublin, 1852, and an occasional glance at Quain and Sharpey's *Anatomy*, 1848.

I intend first to glance at (*a*) the general position of this viscus in the cavities of the pelvis and abdomen; then at (*b*) its shape, and the alterations this shape may undergo coincident with the various changes of the organ itself; while (*c*) next I shall draw attention to those particulars connected with its anatomy that are of interest to us; and (*d*) lastly, I shall consider the mechanism of the expulsion and retention of urine.

It must not be expected, however, that I can always closely adhere to the order to which I have set myself down, but I will endeavour to keep within bounds as much as possible.

(*a*) On looking at the bladder placed *in situ*, it will be observed that its most fixed region is the inferior portion or neck, whereby we understand with Dr. Harrison that contracted portion which is embraced by the base only of the prostate gland in the male, and by that substance corresponding to this gland in the female, and in which are placed the uvula below, and laterally and above the peculiar structure that fulfils the office of a sphincter. The remainder, and by far the larger portion of this viscus, is for the most part what is termed floating, being surrounded on every side by resisting media, and kept in its position by means of folds of peritoneum (false ligaments), as well as processes sent off from the pelvic fasciæ (true ligaments).

(b) Its shape varies in accordance with the varying changes of (1) its contents and (2) sex and age.

(1) When contracted or empty in the adult male, it is triangular in shape, the antero-posterior diameter being considerably less than the transverse and vertical, being then buried deeply in the pelvis.

From this we may, to some extent, infer that the bladder contracts more antero-posteriorly than from side to side.

When, however, it is expanded "to that moderate degree which in perfect health usually excites a slight feeling or desire to void urine, and when the quantity accumulated may amount to half a pint or upwards, its figure is then somewhat oval, its vertical axis being then considerably greater than either the transverse or antero-posterior, the two latter being then nearly equal. The larger end of the ovoid sac rests inferiorly and posteriorly on the rectum, and is of an irregular form; the smaller end, which is more regularly spheroidal, is directed upwards towards the abdomen, and somewhat forwards, and occasionally also a little towards the left side."

An idea of what the bladder is like under such conditions may be gained by supposing it somewhat to represent the heart turned upside down.

"When over-distended from any cause, it becomes considerably increased in every diameter; it first expands in its lower and middle portions, until the pelvic parietes resist; it then enlarges superiorly to an indefinite degree, and at the same time the whole organ rotates a little forwards by its superior, and a little backwards by its inferior fundus. Its figure in this over-distended condition is not merely enlarged, but it also presents a totally different, or rather a reversed shape; the larger extremity of the oval is now superior, occupying the hypogastric region, which it renders prominent and tense in a degree proportioned to its distension."

In other words, it now more nearly resembles in shape a balloon; at all events, sufficiently so for all practical purposes.

(2) **SEX.**—The bladder of an adult female differs from that of a male, by being flatter when distended, more capacious, and presenting more of a triangular form than the male bladder, which is now ovoid. It can be distended to a greater degree laterally, owing to the roomy pelvis of the female, and its transverse diameter is longer in proportion than in the male. Add to this the important fact not mentioned by Harrison, namely, that in place of its lowest point resting like that of the male bladder upon or rather nearly upon the rectum, the lowest point of the female bladder is its neck. (Quain and Sharpey.)

From this it follows that, if there be irritability of the neck of the female bladder, the symptoms are likely to be more urgent, *cæteris paribus*, than those of a like affection in the male; for the sacculum formed by the most depending part of the male bladder will for a time hold the accumulated urine, while the urine secreted by the female will come at once into contact with the cervix, it having nowhere to well up. The difference it must be confessed will scarcely be appreciable, and it is to be remembered that the lowest portion of the bladder in males who are stooped will be found similarly disposed, the neck being lowest, for the act of bending forwards obliterates the pouch-like cavity. (Ledwich.)

The inferior fundus being thus on a level lower than any other part of the bladder in aged males who are stooped is *in part* a reason why incontinence of urine is so frequently met with in them, this part being thus predisposed to irritability; it explains, too, why it is that the healthy male has to stoop forwards in endeavouring to micturate, if there exists only a small quantity of urine in the bladder.

In the *fœtus*, and up to the end of the first year of infant life, the bladder is pyriform, like a soda-water bottle reversed, the larger end being in the abdomen, "and the smaller extremity tapering into the urethra. This is the only portion in the pelvis; at this age its vertical axis greatly exceeds its other diameters, and even when empty the greater portion of it is in the abdomen."

The vertical line in the fœtal and infant bladder extends

from the urachus above to the commencement of the urethra below, the vertical axis being more parallel with that of the trunk than in the adult.

Knowing this, we can easily understand how "wetting the bed"—the most prevailing form of enuresis in childhood—will not be so often due to intestinal irritation in the first year, the bladder being then in the cavity of the abdomen, and not likely to be influenced by contact with or propinquity to parts often in a very irritable state. For though we find those little creatures often the subjects of intestinal irritations, yet the intestines will not press against the bladder in the same degree as if its position was intrapelvic, and in this way, although the bladder is naturally irritable at this time of life, it will not be from the intestines communicating their irritability to it.

And this brings us to point out a difference between the bladder in the male child from that of the female—in the former the *bas fond* is brought more nearly into apposition with the rectum, while in the female child—we are speaking of a period subsequent to the first year—it rests more against the womb. This explains why wetting the bed, *due to rectal irritation*, may be oftener met with in the male child, as ascarides irritating the rectum will more readily transmit their irritation to the neck of the bladder in them than in female children; I say *may be*, never having seen statistics to prove that it is so, though the majority of cases that have come under my observation have been in males.

Thus briefly we have run over the variations in shape, &c., of the bladder, according to its contents, and the age and sex of the subjects.

We now approach the anatomy (*c*) of this viscus, premising that it would be very tedious, and quite uncalled for, to go fully into matters that can be found discussed at length in almost any of the common anatomical handbooks. I shall, therefore, endeavour to have our attention confined to those parts that are of immediate interest to us.

The bladder is surrounded on the postero-lateral,

postero-superior, and posterior regions by peritoneum, being deficient in this investment anteriorly, the deficiency being marked off by the course of the *vasa deferentia*.

These foldings over of peritoneum are the false ligaments, and constitute one of the five coverings or tunics, the true being four in number, two lateral and two anterior, and consisting of mere processes sent off from the pelvic fasciæ.

The second covering is the cellular which fills up the space not occupied by peritoneum.

The third and most important covering for us to consider is the *muscular*, for to it we must constantly refer when we come to consider the mechanism of the expulsion and retention of urine. It is better marked and redder in colour than the fibres of the corresponding coat of the small and large intestines, being intermediate between that of the stomach and œsophagus. Although it forms an uninterrupted plane, yet in consequence of this difference in direction and arrangement of its fibres, these are described as consisting of longitudinal, oblique, circular, and reticular planes or sets.

The longitudinal are the strongest, and are most distinct on the anterior and posterior surfaces; they, in Ledwich's words, "arise from the urachus, and descend on the fore and back part of the organ; those on the side are *oblique* in direction, and evidently the longitudinal fibres deviating from their usual direction; but, although the urachus is stated as the superior attachment, still, on either side of it numbers may be seen, looped, passing over the summit, both anterior and posterior fibres being continuous; and, again, others are observed to dip deep, like the cardiac fibres at the apex of that organ, to reach the deep reticular layer. In one case, where there was a very slight thickening of the muscular tunic, this arrangement forcibly reminded us of the crucial weaving of the apical bands of the heart in their anatomy."

Some of these fibres pass down to be inserted into the symphysis pubis, some into the prostate, others into the mucous floor surrounding the verumontanum and uvula,

while others, again, are inserted, *particularly laterally*, into the musculo-fibrous substance which, as I shall have occasion to show, supplies the place of a sphincter. Besides these, we have the circular fibres crowding together on the lower parts of the bladder, and so thickly intertwined around the cervix as to give some the idea that they constituted a true sphincter; their office, however, seems to be to bind down and direct the action of the longitudinal, and to help in expelling the last drops of urine.

The musculo-fibrous substance, the "muscular fasciculus" of Harrison, is thus described in this author's words:—"It is not intimately connected to the general circular coat; it appears redder, and of a closer texture, and will be found to be attached to the fibrous or tendinous substance forming the anterior part of the trigone on each side of the uvula, behind which it does not pass. The longitudinal fibres are inserted partly into this semicircular muscle, much in the same manner that the levatores ani are inserted into the circumference of the anus. This structure we consider to be partly elastic, but essentially muscular; it bounds the urethral opening laterally and above, but not below; the slight projection of the uvula in the latter situation, and the elasticity and gentle state of contraction natural to all the sphincter muscles, will preserve the opening in a constantly closed state during the quiescent and normal condition of the parts. This arrangement is on a level with the uvula, and, of course, behind the orifice of the prostate ducts, although the base of that gland extends further back than this sphincter.

"We have repeatedly examined beneath the uvula for muscular fibres, but have found none in a transverse direction; there is, therefore, no portion of a sphincter in that spot, and hence one advantage of the slight elevation caused by the uvula, and by that portion of the prostate gland, denominated its middle lobe, which corresponds to it; indeed sphincter fibres in this spot would not only be useless, but injurious, as they could scarcely exist without the ejaculatory ducts. We conceive, then, that the urine is retained in the bladder, partly by the relaxed and passive

state in which its muscular coats usually remain until they are excited by the sense of distension, partly also by the urine, when only in a moderate quantity, gravitating, not towards the neck, but distending the inferior fundus, which lies on a level lower than that of the former" (this it is evident will not hold good in the case of females, for in them the lowest portion of the bladder is its neck), "and principally by the dense muscular, elastic, vascular, and nervous tissue which surrounds three fourths of the orifice of the bladder. The gentle contraction of the latter raises the uvula into the calibre of the opening, while the remaining sides are pressed into contact with it, and thus the bladder is closed. When distension excites the usual feeling, the muscular coat contracts, the sphincter relaxes, phenomena exactly corresponding to those which take place under similar circumstances in the rectum and anus; and as the levatores ani expand the anal opening by drawing the sphincter fibres outwards at the time the expulsive powers of the rectum are discharging its contents, so the longitudinal fibres of the bladder draw out from the axis of the urethral opening the relaxed sphincter which encompasses three fourths of it, while the middle band of the posterior longitudinal will plainly depress the uvula, and expand the orifice in that aspect, and will even retract and depress the verumontanum, thereby freeing the passage into the urethra, and retracting that sentient caruncle from the irritating influence of the urinary stream."

This is Dr. Harrison's description of the mechanism by which the urine is retained within and expelled from the bladder. All we have to find fault with is his not drawing sufficient distinction between the anal and vesical sphincter—the former being acted upon by muscles outside the rectum, the levatores ani—while the latter is set in motion by the muscular structure of the bladder itself; in other words, by intrinsic muscles; a most important distinction, as we shall see in the sequel.

Before going further let us consider where we are—a muscular fasciculus investing the upper part of the neck, underneath which lies the projecting uvula attached to the

former by means of mucous membrane, &c., while on either side inserted into this fascicle are the longitudinal fibres, forming as they do in this situation the apex of the trigone. The retention of the urine, therefore, within the bladder will depend upon the apposition of the slightly projected uvula to the superior wall or muscular fasciculus.

If a small quantity of urine be in the bladder, not sufficient to excite contraction, the elasticity of the neck will retain it within; but if the urine accumulate to such an extent as to occasion contraction of the muscular coat (superior portion of), then a traction will be exerted upon the muscular fasciculus, drawing it out, while a like traction will draw upon the uvula, and tend to obliterate the fold formed by it and the verumontanum.

In other words, there exists an antagonism between the superior muscular portion of the bladder and the neck. The more the urine accumulates, after a certain quantity has been secreted, the more the longitudinal fibres will contract, and the greater will be the pressure brought to bear upon the cervix.

When there is but a small volume of urine in the bladder it gravitates, generally speaking, to the cervix, the circular fibres of which, together with the muscular fasciculus or true sphincter, are kept in a state of continuous or normal tension, in the same way that other sphincters are, and this tension remains until the urine welling up in the inferior fundus reaches the superior region or fundus; here, by its contact with the upper portion, it stimulates the muscular coat to contraction, and thus sets up an antagonism between it and the cervix. There will, therefore, be required on the part of this latter an increased power, and hence the effort to retain the urine will be found to increase as the volume of urine augments. The strain upon the cervix will equal the muscular contraction of the superior portion *plus* the increased volume of urine. Or to put it more clearly, and in algebraical terms, we shall allow

a to = weight of urine cervix will bear, without exciting the muscular coat to contract.

a' to = increased weight of urine which occasions antagonistic contraction on the part of the muscular coat.

b to = amount of this antagonistic contraction.

We shall then have, when the bladder is filled, previous to its emptying itself, strain upon cervix, which we shall put down as c , equalling the sum of the forces, or in other words,

$$c = a + a' + b$$

And this it is—this strain—which occasions, excites if you will, a call to void urine, which strain is increased to a degree corresponding to the amount of urine lodged in the bladder. If this amount be augmented to an inordinate extent, it will overstrain the muscular coat, and with it the sphincter itself, and a consequent atonic condition ensue; an atony, be it remembered, not necessarily of the upper portion only, but, in the majority of instances, owing to the strain brought to bear upon it, of the cervix as well.

In addition to this, the downward pressure will be increased by the dipping in of the muscular fibres near, but anterior to the insertion of the urachus; an arrangement we will remember was described by Ledwich, which, aided by the connecting oblique fibres of the sides, and scattered circular fibres, will, combined, cause the muscular fibres to contract downwards, and not alone downwards, but the longitudinal fibres being best developed on the anterior and posterior walls, and acting in their own direction, they will cause these walls to contract towards each other. All this obviously will have the effect of increasing the pressure brought to bear upon the cervix, while the development of the planes of fibres, or the anterior and posterior walls, will tend further to draw out the muscular fasciculus, and obliterate the prominence of the uvula. -

I have here, it will be observed, drawn a marked distinction between the cervix and superior portion of the bladder, a distinction which is not so artificial as might at first sight appear, considering that these parts are, though it

can hardly be said markedly so, supplied from branches of different nerves. To the cervix are distributed branches from the great sympathetic, while the superior portion has allotted to it twigs from the spinal nerves, a most important fact to keep in mind.

The next coat of the bladder is the deep cellular which supports the mucous membrane, the latter becoming sacculated if any of the former be removed. It is this coat that gives support to the nerves and blood-vessels.

The last tunic we have to consider is the mucous membrane, or, as it is called, the mucous coat. This, when the bladder is empty, is thrown into transverse rugæ, but when it is distended the surface is smooth. The portion, however, that claims our attention most is that comprehended in the space called the trigone, for it is here that the mucous membrane is most vascular, being more highly sensitive than that of any other region; the apex of it leads, as we have before seen, to the cervix, while the base is formed by a lunated line leading from the orifice of one ureter to the other, the sides by lines projecting from these orifices to the uvula.

So much, then, for the anatomy of the bladder.

We now, I hope, are in a position to approach the more practical, and it strikes me the more interesting part of our theme; but, before we proceed, let us bear in mind that this is not by any means intended to be an exhaustive essay; quite the contrary. My object is merely to embody the various bits and scraps—the *omnium gatherum*—if I might so express it, of the experience I have had in the treatment of the affections we are considering; their sole recommendation consists in this, that they are the faithful and unvarnished records of bedside experience, and that, except where it seemed necessary to illustrate any remark or render the description more accurate than it would otherwise be, I have refrained from quoting authorities.

Indeed, all, or nearly all of the following remarks were compiled without any reference whatever to other authorities, save notes taken from dispensary and private practice; and it was not till these were first brought together that

extracts from authorities, much more numerous than originally intended, were dovetailed among them.

The first class of affections that will engage our attention are the spasmodic diseases of the bladder.

There is, it is almost unnecessary to observe, a very marked relationship between spasmodic diseases in every part of the body, and the same remedies are more or less appropriate to all. Still, though in a general sense this is true, we are not to suppose it possible for this reason alone to dispense with individualisation; indeed, we shall find in some instances that there is a marked distinction observable between spasms originating from different exciting causes, and these will demand our prescribing in accordance with the essential peculiarities if we seek to relieve permanently.

Bearing in mind the anatomical distinction we drew between the neck and the superior portion of the bladder, the duality of spasmodic diseases can readily be imagined—
1. Spasm of the cervix; and 2. Spasm of the superior portion.

1. And in considering this we must refer to a paper published by James Paget in the October 24th, 1868, number of the *Brit. Med. Journ.*, entitled "Stammering in other organs than those of Speech." He thus defines stammering—"stammering, in whatever organs, appears due to a want of concert between certain muscles that must contract for the expulsion of something" (in the bladder the superior portion of the muscular coat), "and others that must at the same time relax to permit the thing to be expelled" (in the bladder the cervix). In his use of the word stammering, however, he was corrected in a subsequent number of the same journal by Holmes Coote, who, without expressly referring to Paget's observations, shows from the derivation of the word that you can speak "of a stuttering limb, although it is inelegant," but you cannot say "a stammering limb or leg." It is amply sufficient for our purpose, however, to keep to the well-known and well-understood term spasmodic, and not go out of our way to employ a conceit of language there is little authority for doing.

However, Paget describes this spasm of the cervix very

accurately under the term "stammering." "Stammering urinary organs," says he, "are not rare; and they may be known by observing, sometimes in the same person, the exact parallelism between the difficulty in expelling urine and that of expelling air in the ordinary speech-stammering. The patient can often pass his urine without any trouble, especially at customary times and places, and when he does so the stream is full and strong, and he has 'nothing the matter with him;' but, at other times, he suffers all the distress he might have with a bad urethral stricture; he cannot pass a drop of urine, or after a few drops there comes a painful check, and the more he strains the less he passes; and then complete retention may ensue, and overfilling of the bladder."

An affection of this sort I was fortunate enough to cure some time since. The patient, a gentleman of temperate habits, used to have attacks at wholly unlooked-for times; he would be obliged when urinating to cease all of a sudden, and, in spite of extreme effort to the contrary, no water would come away. This used to plague him excessively, besides, it was attended with not a little pain, and often obliged him to keep awake whole nights, the bladder becoming distended but no water passing. His suffering oftentimes reached such a pitch as to oblige him to summon at the moment a medical man to his aid, and get him to pass a catheter, an operation attended sometimes with considerable difficulty. I prescribed *Stramonium* 3 to be taken constantly when the attacks came on, and this invariably relieved him. When I last spoke to him he had had no return of his complaint for six months.

I do not remember any other case of vesical cervical spasm worth recording, but here is one of anal spasm not devoid of interest, inasmuch as the part engaged—the sphincter ani—bears a close analogy to the vesical sphincter.

A little female infant, seven months old, was brought to the Dispensary, 18th August, 1868, with confinement of the bowels; strains very much in her endeavours to empty the bowels, but is unable to accomplish the act. The straining

seems to cause very much pain, for she screams very much with it. Has been screaming continually all last night and this morning. Much forcing down, although no evacuation of the bowels follows. *Plumbum Metal.* in the 30th was ordered, and after the first dose the sphincter immediately relaxed. The mother of the child did not think it necessary to repeat the medicine.

And so we have in the proving—

Disposition to constipation. Constriction of the sphincter ani. Ineffectual exhausting urging.

And in the urinary group—

Tenesmus of the neck of the bladder, with a burning sensation in the urethra.

This vesical cervical spasm we find to manifest caprices as unlooked for as they are unaccountable. Thus cases have been known of persons not being able to void urine after being in the company of certain individuals; others to be taken with an intense desire to urinate on going into their dressing-rooms. Paget mentions the case of a clergyman who, if he neglected to empty his bladder with a No. 12 catheter before he ascended the pulpit, would be seized with a horrid need of passing urine while he was preaching.

2. Spasm of the upper part of the bladder is characterised by the following symptoms:—A great bearing down and sense of weight in the hypogastric region, with pains shooting into the inguinal regions and sometimes down the thighs; some desire to pass water, the bearing down continuing after the act of micturition has ceased, and the pain, though great, not being so acute, and referred to a point higher up, than when the cervical portion is engaged. This affection it is which is so often attended by spasmodic pains in the chest, stomach, and other parts. The pain will be more of a dull weighty diffused character than when the cervix is affected; and the urinary stream once it begins to pass *will not be stopped suddenly or scattered*; there will be no dysuria. All that is required is for the sphincter to relax, which, being accomplished, micturition is easy.

In many instances it would appear that the spasm exerts such a weakening effect upon the muscular fibre as to

prevent it overcoming the resistance offered by the sphincter, and consequently no urine is passed. A case in point is reported in the "additional remarks" appended to my paper "On Iron," in the twenty-ninth number of the *Annals*. Much of its value is lost, however, from my having neglected to record the duration of the ailment, and much of its clearness from the vesical symptoms being mixed up with uterine. This is the case.

Eliza P—, æt. 33, admitted to the S. H. Dispensary, 26th January, 1867, with the following symptoms:—Pain across the lower part of the back and stomach, worse when walking and in the afternoon about five or six o'clock; cannot eat anything when the pain is on; is very weak; great bearing down in the hypogastrium when walking, with pressure and forcing when attempting to void urine; feels as if the catamenia were coming on every day. Weaned her baby five weeks since, and had a leucorrhœal discharge for a fortnight afterwards; this ceased, and has since suffered as above. *Sepia* 12^x was given, and on 2nd Feb. "the pain before urinating was less; bearing down much the same; very much pain in the stomach as if from wind; period not returned." To continue.

9th.—The bearing down, though not gone, is better; pain before urinating has come on again; is much worse in the daytime; no pain after getting to bed. To substitute for *Sepia*, *Ferr. Phos.* 1^x.

16th.—Bearing down very much better, and the pain before urinating is gone; catamenia still absent.

My remark upon the above case was that "the bearing down was caused by the mass of urine forcing down upon the neck of the bladder." Very true, but the *fons et origo mali* consisted of the presence of spasm that occasioned the bearing down by reason of its pressing down the urine against the inferior fundus—the *bas fond*. And this, moreover, is rendered the more probable by the absence of any incontinence of urine, for had there been any irritation of the neck of the bladder, it would indubitably have evidenced itself by the usual symptoms. I am borne out in this opinion by the case which Dr. Metcalf brought

forward in the discussion following the reading of my paper. "He" (Dr. Metcalf) "was in attendance upon a gentleman 78 years of age, of a spare frame and leucophlegmatic temperament; who had been suffering from bronchitis with general debility. His friends becoming very anxious respecting him, entreated him to see a physician whose mode of practice was consonant with old-established rules. To this request he reluctantly yielded, and was visited by an eminent London physician, who gave a very alarming prognosis, and prescribed *Iron*. The patient took but one dose of the medicine, and the effects were very distressing—intense headache, great irritability, fruitless efforts to pass urine; these symptoms progressed—the headache proceeded to complete stupefaction; the symptoms of strangury" (or was it tenesmus?*) "to complete retention." * * * "The sequel was this—after the lapse of a few hours he voided the bladder, and passed about a quart of urine of the blackness of ink." After this he recovered completely.

Iron seems to act very decidedly upon the bladder, and besides causing an irritability of the neck of the bladder, it gives rise to tenesmus; in other words, it seems to occasion two distinct and well-marked vesical affections—a spasmodic condition mostly of the superior portion, and an irritability of the inferior portion (the trigone and surrounding mucous membrane), both of which affections may be combined.

Thus we find that in Rademacher's provings, as given us in Hempel's *Materia Medica*, it produced, in one prover, tickling in the urethra with urging to urinate; the tickling gradually extended from the navicular fossa *to the neck of the bladder*. In another, besides the tickling in the urethra and urging to urinate, there was brought out the spasm of the superior portion—

"A violent tenesmus of the bladder, which was soon after accompanied by a distressing tenesmus of the rectum."

Thus we find an irritable condition of the urethra associated with irritation in the vascular structure at the apex

* The term Strangury is often used for that of Tenesmus even by acknowledged authorities, Willis for example.

of the trigone, causing heat and burning when urinating, in other words *ardor urinæ*.

This is mentioned *en passant*, but what I want to have carefully impressed upon the mind is, that spasm of the superior fundus may exist as a separate and independent affection, and not only so, but that it may be the cause of tenesmus and ischuria, without the cervix being engaged.

Before proceeding further, it may be well to explain the meaning we attach to certain technicalities applicable to urinary diseases; and this is rendered almost imperative by the very loose and ambiguous manner in which some writers employ them—the literal significations often being quite lost sight of and erroneous ones substituted in their stead.

By *dysuria* is meant painful micturition, not necessarily accompanied by—

Ischuria (ἴσχω, to retain) *vesicalis*,* by which is meant retention.

Strangury (στρογγύξ, a drop), retention with passing of urine in drops, or, at all events, in small quantities.

Tenesmus (τείνω, to strain), a straining or urging to urinate.

Besides, in the course of these remarks, the terms *incontinence of urine* and *involuntary micturition* will be employed advisedly, that generally being a symptom of irritability, this of vesical weakness and retention. Involuntary micturition (acraturesis) is mostly symptomatic of present or pre-existed retention, and the bladder does not necessarily empty itself at each micturition; † incontinence of urine (enuresis) has never any connexion whatever with existing retention, and the bladder after micturition is completely empty. In subsequent remarks, for the sake of clearness, we shall confine this term to irritability.

Defective micturition, or more properly, perhaps, defective urination, ‡ is a condition in which, after voiding urine, the

* So designated to prevent its being confounded with I. Renalis, which means suppression.

† Sir Henry Thompson proposes the term "overflow" to this condition.

‡ Micturition being derived from *micturio*, properly refers to the desire to urinate, and cannot in every instance be used synonymously with urination:

bladder remains empty all but for a few residual drops ; *scanty or deficient urination*, where the secretion is less than it ought to be.

Now, in the affection we are attempting to describe, tenesmus and ischuria (a continuous retention) will be the prominent symptoms ; while in spasm of the cervix we shall have strangury and dysuria, with an intermittent retention ; but in both it is obvious there will at times be frequent micturition.

Let us explain the mechanism more clearly—the muscular apparatus becomes disarranged, the disarrangement consisting in this, that while one portion of the bladder is in an abnormal condition, the other, that set apart and endowed with elastic properties for retaining the urine, is normal. Provided the spasm has weakened the expulsive force the obvious effect will be to prevent the abnormal or spasmodically acting portion being able to overcome the normal or contracted (elastic) portion, until such a time arrives that the increased volume of urine—the overplus of urine—together with the pressure that will *then* be exerted by the abdominal walls against the distended bladder, forces the cervix to relax. This may be accomplished without there being a large volume of urine in the bladder, for it by no means follows that spasm always weakens the superior muscular structure to such a degree as to prevent its overcoming the resistance offered by the elastic muscular fasciculus ; consequently retention is not by any means an invariable symptom. On the contrary, the spasm may increase the expulsive power, and thus occasion involuntary micturition. The existence of spasm in the latter case is evidenced by the tenesmus and forcing before and after micturition.

Unless the bladder is much distended the force exerted upon it by the abdominal walls must be very slight, nor does it until then, that is to say, until its own walls have proved themselves incapable of affecting the escape of urine, require extraneous assistance.

thus we can say micturition was painful, urination profuse, but to transpose the words would obscure the meaning.

And now we are in a position to understand the practical difference between a sphincter acted upon from within its own organ, like that of the bladder, and one which like the anal is played upon from without. The accumulation of contents in the former case will be owing to a want of power in the organ itself to overcome the resisting sphincter; in the other case from an inability to bring the proper excretory material into apposition with the sphincter, for could this be accomplished by the rectum expulsion would, generally speaking, be very easy. There will be in the case of the anus no lack of sphincter antagonistic force when the fæces are retained; the contrary is the case when there is retention of urine. For the sphincter ani, aided and acted upon by its extrinsic helpmates the *levatorès ani*, will perform its duty if its task be given it.

O'Beirne it was, I think, who first showed that the fæces were not brought into contact with the anal sphincter until just before the act of defecation, and it is a powerlessness to accomplish this that causes an accumulation of fæces. *C'est à dire*, accumulation in the rectum arises from the fæces not being brought into apposition with, and pressed against the sphincter; accumulation in the bladder, on the contrary, arises from an inherent powerlessness to overcome the sphincter force, while the urine is already in apposition with its sphincter. Atony of the sphincter from over-distension can hardly ever take place in the one case, in the other it will be of frequent occurrence. And this shows the fallacy involved in the assertion of Coulson's, that, "unlike the rectum, the bladder retains its contents when paralysed." The rectum, in fact, does retain its contents when weakened, and it is only when the semi-voluntary sphincter is no longer controlled, the rectum acting, that involuntary and unconscious evacuations result.

The foregoing remarks, it is evident, are many of them equally applicable to paraloid affections.

The nearest resemblance to the symptoms of the affection we have been considering will be met with in the uterine bearing down of females. This generally depends upon a sensitive state of the cervix uteri, or a like condition

of the superior vaginal mucous membrane, against which the womb presses when the patient walks about, and thus occasions a sense of weight and bearing down in the parts. Our difficulty in diagnosing will be materially increased if both coexist in the same female. But if we take carefully into consideration the history of the case, the presence or absence of uterine or vesical symptoms, the occurrence of inflammatory symptoms, heat and burning and such like in the vagina, especially to what extent these are affected by micturition, we will pretty fairly be able to distinguish between them. If the affection be a spasmodic one it will manifest itself at more irregular and unlooked-for times, though this will not prevail to such an extent as when the cervix vesicæ is engaged. Indeed the spasm of the superior portion is much more continuous—tonic—than that of the cervix, which, generally speaking, is clonic.

It is not to be supposed that the two spasmodic affections, which, besides being in relationship to the drugs mentioned, will find their correlatives in *Aconitum nap.* and *Belladonna* respectively, may not be met with combined, and this will cause the most intensely painful ischuria—an ischuria combined with strangury and tenesmus, shooting pains down the inguinal regions, &c.

The next affection we have to consider is that of atony, or what is commonly spoken of as paralysis of the bladder. The term atony is preferred, as it conveys a much more universal meaning, and is more essentially a true vesical affection than paralysis, which is comparatively seldom met with in the bladder, and then only as a symptom of spinal disease or paralysis elsewhere. And here I must protest against the loose and confused way in which this is treated of in most of the handbooks, even those specially devoted to vesical disease, which have come under my notice. Indeed, from the careless way in which their authors describe these affections, one would be led to imagine there could be only one form of paralysis, and that the symptoms of this were so complicated and contradictory as to be totally inexplicable.

Thus, in *Tanner's Practice of Medicine*,* and this is only an example of the greatest number, quoting Coulson, it is stated that, "unlike the rectum, the bladder retains its contents when paralysed," and a little further on "that women sometimes suffer from paralysis of the neck of the bladder, so that they are unable to retain the urine at all, or it comes away involuntarily on laughing, coughing," &c.; statements that certainly, in order to convey correct information, would require some explanation.

Our own Hempel is more rational and more explicit, for in his article on *Aconite*, when speaking of rheumatic paralysis of the bladder, he thus succinctly distinguishes both varieties. "If the sphincter be paralysed there will be continual dribbling of urine; if the muscular fibres of the bladder are paralysed, there will be a complete retention of urine;" but even this, as will be seen, cannot be considered the full explanation.

From the bygone remarks it will almost be anticipated what I am about to say on the subject. We must take up atony (or paralysis to which the remarks equally refer) of the superior portion first (1), and then the corresponding affection of the inferior portion (2), and lastly (3) we shall discuss atony of the entire organ.

To do this I must be permitted to diverge slightly and dwell upon a particular variety of vesical affections from which we can learn others. The *post-partum* urinary maladies are, as is well known, retention, and its symptom, involuntary micturition.

The former is brought about by some injury accruing to the superior portion of the bladder during the passage of the foetus through the pelvis; the bladder, for instance, may become wedged in between the foetal head and the pelvic wall. Now, the part injured will be the posterior vesical wall, and if we go back to the explanation given of the expulsion of urine from the cavity of the bladder, we will see there the statement that the anterior and posterior regions are the richest in longitudinal fibres. If, therefore,

* Fifth edition, 1865.

the posterior region be so injured as to occasion atony, the expulsive power will consequently be weakened to a degree corresponding to the extent and severity of the injury. Thus, let us suppose this to be a side view of the bladder, the dotted line representing the injured portion. If the uninjured anterior muscular wall contract, the direction of its action will be towards the posterior, but it will be seen that this is so weakened that it cannot set up a resisting force, and consequently but slight muscular power will be exerted upon the cervix; and thus the weight of the urine will press against the posterior wall, and not, as it otherwise would, in the direction of the cervix.

The consequent effect of this arrangement will be to cause the urine to well up until such a time has elapsed as to make the pressure of the weight of urine, together with the force exerted through the agency of the surrounding parts, equivalent to the lost muscular powers, and then the cervix will be compelled to relax, and the urine will flow away until the weight of that contained in the bladder so far lessens as to render it again inferior to the muscular power lost by the injury. This, it is obvious, occasions overflow of urine; in other words, involuntary micturition (acraturesis).

And this is why we may be deceived in supposing the bladder to have resumed its natural tone and to be acting regularly, the urine being passed frequently, when, in reality, there is a partial atony and consequent retention. If such a condition of things goes on long, that is to say, if the urine is not drawn off, but permitted to accumulate in this way, both vesical walls, together with the sphincter, will become atonied, and the bladder, no longer forming a reservoir for the urine, we shall have still greater involuntary micturition, or what is best understood by the term "dribbling away" of urine. We can see, therefore, how that injury to one part by destroying the harmony of action may debilitate the whole. Over-distension or inflammation of the muscular structure, unconnected with direct injury, and taking place either before or after parturition, may

have been the cause of these untoward puerperal consequences.

The treatment for this affection, more particularly before it has gone on to complete atony, and whether it arises from over-distension or direct injury, is to draw off the urine with a catheter, and subsequently to employ such measures as will restore the natural tone to the invalidated bladder.

Nor is this by any means a superfluous piece of advice. By referring to Sir Dominic Corrigan's treatise on *Fevers*, we shall see there a case given in which a homœopath got into great disgrace for not passing a catheter.

In hysterical retention of urine, and this is one of the multifarious phases hysteria assumes, it will be preferable to use as little interference as possible, for "if the catheter be had recourse to, the natural cure is prevented, and the existence of the disease may be prolonged for an indefinite period of time, for weeks and even for months." (Brodie.)

The vesical atony or paralysis met with in fevers is very much similar to the puerperal variety we have been considering, and this form will be found to prevail most in cases where the spine is affected. In cerebro-spinal meningitis, for example, retention of urine is said to be of very common occurrence, especially when the lumbar region is affected. This is just what we might *à priori* have suspected, considering the muscular structure of the superior fundus takes its nervous supply from spinal branches of nerves. It constituted a marked feature in one of two cases I met with in the London Homœopathic Hospital. The indications for treatment are the same as for that variety we have been dwelling upon—to relieve the tension exerted upon the walls of the bladder, and to restore the lost muscular tone; the former is to be accomplished by catheterization, the latter by drugs, the type being *Nux vomica* and *Cantharis*.

In the following case we find involuntary micturition following a spinal affection, the immediate cause of it probably arising from an over-distension, consequent upon a weakness of the bladder.

Eliza P—, æt. 34, married, of a sanguine temperament,

suffered for some weeks from spinal pains, headache, and diarrhœa, accompanied by slight fever and occasional pains in the extremities—rhachialgia. After these subsided she was seized with involuntary micturition, and the report entered on 10th December, 1867, was—Came on yesterday, and has continued up to the present. Micturition commences with very much pain in the bladder, followed by smarting in the urethra. The urine, when it first came on, was thick and clouded, but to-day it is clear. Ordered *Causticum* ʒ, which had no effect, and on 13th December the report was that she gets much worse, and is often annoyed in the night time, as well as during the day. *Nux vomica* ʒ was then prescribed, and by the 21st the unpleasant symptoms had quite left her.

In this instance the spinal affection brought on a weakened condition of the nerves, and, as observed, the bladder became enfeebled, not having its proper nervous supply. This want of nerve-power the *Nux vomica* restored.

En passant, I may remark that Dr. Jonathan Osborne, the late Professor of Materia Medica in the University of Dublin, used to tell us in his lectures that he has known *Oil of Fennel*, as well as I remember, in five drop doses, frequently repeated, succeed in enabling the bladder, atonied in fever, to discharge its contents without resorting to the catheter. Nor is it a remark I would be at all inclined to pass by without noticing, for he was a man of large experience, and of most accurate observation.

It is obvious that the first consequence of over distension will, in most instances, be atony of the superior fundus, which will be apparent from there being partial or complete retention, and an increased effort to void urine, and then there will follow atony of the neck, and both being combined, will constitute atony of the whole bladder.

It is in atony of the superior fundus that distension of the ureters is so likely to occur from the contents of the bladder pressing with sufficient force to effect the closure of the oblique, semi-valvular openings of the ureters, and thus causing accumulation and consequent distension of their canals behind the closed apertures. (Guthrie.)

The paralysis in the following case* would seem to have at first involved the upper bladder, and subsequently to have caused an atony of the sphincter. "A gentleman, sixty-three years of age, swallowed by mistake a bottle of liniment, of which the *Tincture of Cantharides* was a principal ingredient. In about three quarters of an hour an emetic was administered; nevertheless, he was immediately afterwards affected with paralysis of the lower extremities, and inability to void his urine. For the first fortnight he was under the necessity of having his urine drawn off at stated periods. After this, he regained the power of making water, but was tormented by an incessant desire to do so. When I was consulted, four years after the commencement of the attack, he was able to walk with the assistance of crutches. At times he had a sudden and irresistible impulse to void his urine, and expelled a small quantity by a voluntary effort; but at other times it followed involuntarily, without his being conscious of what happened, so that his clothes were as wet as possible. On introducing a catheter, I found that the bladder was empty." The *involuntary* micturition in this instance probably arose from a diminution of the natural elasticity of the sphincter. A few drops of urine being permitted on this account to enter the urethra, and the bladder responding to the stimulus thus excited, and reflected to it, caused a violent desire to urinate, while the *unconscious emission* arose whenever the bladder ceased to respond to the stimulus. The age of the patient doubtless, and the probable presence of spinal weakness, favoured the continuance of these symptoms, though one can hardly believe, with Brodie, that because he has seen similar cases arise from natural causes, it was not at all referable to the peculiar nature of the stimulus applied. Sir Benjamin goes on to make an observation which requires a passing notice. "I have," he writes, "occasionally seen what was called a case of incontinence of urine in young women having a disposition to hysteria; but in which the result of a close observation was to satisfy me

* Brodie's *Diseases of the Urinary Organs*, 4th edition, p. 120. London, 1849.

that the discharge of urine, although involuntary in appearance, was not involuntary in reality; and that this symptom, like many other hysterical symptoms, was to be referred to a misdirection of the power of volition, and not to the actual want of it."

Now, some confusion is likely to arise from using the terms incontinence of urine, and involuntary micturition synonymously. Incontinence of urine depending, as we make it to do, upon irritation, will certainly be observed in young women whether they are hysterical or not, and the number of cases will be proportionate to the number of irritations existing in, or communicated to, the bladder; but the frequency of the cases of involuntary micturition will be found proportionate to the liability of the coats of the bladder to paraloid affections, whether these depend upon hysteria, emotional causes, or organic lesions. The above remark of Brodie's is illustrated by a case that evidently was one of vesical paralysis dependent—as Russell Reynolds shows paralysis may be*—on idea; an opinion rendered all the more probable by the issue of the case, and the absence of any history of hysteria. The case is as follows:—"A lady, 20 years of age, for the last ten or eleven years had been troubled with a constant discharge of urine. It flowed (as she said) without her being able to prevent it, while she sat in her chair, and while she was walking, so that she was quite unfit to live in society, or even in her own family. All the plans of treatment recommended by myself and others proved inefficacious. At last, on account of this infirmity, it was thought advisable that she should be separated from the rest of her family, and she was sent to reside at a distance from them. After some time she was seized with an urgent desire to return home, and immediately she regained the power of retaining her urine." In other words, on the mind being strengthened the paraloid affection disappeared. The omitting to mention the presence of an hysterical tendency is hardly accountable had there been any. There is, therefore, some ground for asserting that the misdirection of volition was not due to hysteria,

* *British Medical Journal*, Nov. 6th, 1869.

but arose from, or at all events accompanied, a debilitated mental condition.

Besides, remark, we must content ourselves with the term involuntary, for although volition may have been misdirected, yet the fact of its existing, and amounting, as it probably merely did, to an inability to control the action of the bladder, affords a sufficient justification for the term. Add to which we must remember that in descriptive medicine, for an action to be involuntary, volition must to some extent be present—choreic movements are involuntary, they occur in spite of volition, not because it is altogether wanting. In psychology or physiology it is difficult to give a definition of involuntary action that will meet the strict requirements of these sciences, but in practical medicine whose requirements are not so exacting we may roughly limit involuntary actions to those performed in direct opposition to the will. However, more of this by and by.

Atony of the neck of the bladder, when a distinct and uncombined affection, will manifest itself by an inability on the part of the bladder to retain its contents when any undue stress is brought to bear upon it. This will occur in case any convulsive effort, as that of coughing, sneezing, or violent muscular exertion, drags upon the peritoneal folds and the urachus. When a patient coughs, for example, an undue strain is thereby imposed upon the cervix from the sudden tension of the superior longitudinal fibres, and this will compel the sphincter, if weakened, to relax, and a form of involuntary micturition will naturally result. How troublesome, to both patient and physician, this can be in the treatment of chronic bronchial affections, every practical physician is aware. In prescribing for it, our first and most important object must be to take the totality of the symptoms as our guide, carefully selecting a remedy which will simultaneously act homœopathically upon the bronchial affection and the atonied sphincter. There are several from which, accordingly, our selection will have to be made, notably among them stand *Kreasotum*, *Squilla*, and *Zincum met.*

Cases will, however, be met with occasionally in which,

owing to some peculiarity, such as the long continuance of the affection, the age of the patient, or the fact of some permanent injury being inflicted upon the parts, an immediate cure of both affections must be unlooked for, so that we shall have to defer our treatment of the vesical until the pneumonic have disappeared, or *vice versd.*

We shall be obliged under these circumstances to content ourselves by either (a) acting upon the sphincter itself, or (b) acting upon the bronchial affection alone.

In the case of an old lady-patient constantly having bronchitic attacks, and with whom this concomitant symptom—involuntary micturition when coughing—constituted a distressing feature, and whose age precluded any hope of a permanent cure being effected, I very materially relieved it by prescribing intercurrent doses of *Cantharis*. This is an example of object a.

In another patient, a young married woman, who used to be troubled with a spasmodic cough every morning when dressing, which was much aggravated by going into the open air, and in whom the fits of coughing were invariably attended with involuntary micturition, I was enabled to remove, or rather keep in abeyance, the latter by curing the former with *Ferrum phosphoricum* 1^x. This patient had been liable to a weakness of the vesical sphincter ever since a difficult parturition four years previous. Of course it is not to be supposed that the weakness does not remain. It still, as far as I can ascertain, exists,* but except very

* I leave the opinion broached in this sentence unchanged, inasmuch as there was at the moment some reason for giving it, but would at the same time have it accepted with reserve, the more so as I have not seen the subject of the remark professionally for nearly a year, and this I am sure would not have been the case had the distressing symptom mentioned come on again—at all events with any degree of violence; and may state further that I have my friend Dr. Edward Blake's authority for saying that *Iron* has with him proved itself capable of curing the cervical atony, an observation that extended experience of the action of this mineral induces me to coincide with. Should subsequent clinical observations confirm this, it will probably place *Iron* at the head of our vesical remedies, *Cantharis* alone excepted. We possess no agent, at least I know of none, so generally applicable to true, uncombined, atony of fibre, by which term I mean atony uncombined with any palpable

occasionally, when through some indiscretion she catches cold and is obliged to cough, it does not manifest itself by external symptoms. (It seems characteristic of *Ferrum's* spasmodic cough, to be worse in the morning on rising, and on going into the open air.)

If the cervical atony is very great, as is sometimes the case, there will be observed a constant dribbling away of urine. It is to be remembered, however, that such a condition is almost invariably a sequela of over-distension, in which case there will be, not merely atony of the sphincter, but of the whole bladder.

Atony of the entire bladder is a very distressing and often incurable malady in advanced life, when it becomes symptomatic of a general asthenic state. It becomes the more distressing when the bladder, not possessing the power to expel its contents completely, a few drops remaining behind (*defective urination*), the urea becomes converted into carbonate of ammonia, and this alkaline salt, by reason of its irritating properties, irritates the vesical mucous membrane, thereby setting up inflammation and causing it to secrete, in technical language, *ropy mucus*, but more correctly purulent secretion. (Babington.) I believe, with Sömmering, that the primary centre of this affection—the *foyer* from which the evil arises—has its seat commonly in the spinal marrow, the nervous supply to the bladder being lessened, consequently our effort must be to act in such a way as will tend to increase this.

In its commencement this affection will be evidenced by the patient becoming incapable of retaining his urine as long as usual; thus, instead of being able to keep it in his bladder some five or six hours, when the second or third hour comes he experiences a violent desire to pass water, and before he can reach the *pot de chambre*, some drops have perhaps come away and caused much unpleasantness.

organic lesion, as is *Iron*. It is the only remedy I have ever known to cure a prolapsed rectum in the child, and this, although I have prescribed, I believe, nearly all the vaunted specifics for this troublesome affection—amongst them *Podophyllum*, *Ignatia*, *Ruta Graveolens*, *Fluoric acid*, and to my sorrow I say it, a long et cetera.

The rationale of this is as follows: the cervix as well as the upper portion of the bladder has lost tone, instead, therefore, of being able to retain the water the usual time, when the second and third hour comes the tired sphincter gives way, and allows a few drops of urine to enter the urethra, and this reflecting its irritation back to the bladder induces contraction, and thus an irresistible desire to void urine results.

Of the remedies I have prescribed against this affection, *Nux vomica* or its preparation, the *Phosphate of Strychnia*,* certainly holds the first place. *Secale cornutum* and *Dulcamara*, although I have prescribed them frequently, have not been followed by the results one might have anticipated. Next to *Nux vomica* my limited experience in this affection would rank *Rhus toxicodendron*. In one case it seemed to give much relief, though I am sorry to say it was not permanent. The patient was an old man of seventy years, and quite broken down at the time of my prescribing. Professor Gross, of America, prescribes *Arnica* in heroic doses when the paralysis succeeds debilitating illnesses. If there is an enlargement of the prostate—and in old age this is a very common occurrence—I have Dr. Wilde's (of Winchester) authority for saying *Belladonna* will often materially relieve. But we cannot invariably rely upon drugs in this affection. Electricity will further our ends much better in many cases. Graves gives us the following:†—

“Charles Cream, aged about 70, formerly butler and house-steward to the late Lord Bishop of Kilmore. Disease—paralysis of bladder. This man was quite unable to void urine, and it was accordingly drawn off with the catheter three times each day by the resident surgeon. His mind had been astray during nearly the entire of the past twelve months. He was affected with this complaint (paralysis of the bladder) for some weeks previous to his entering this hospital; it

* I am indebted to Dr. Edward Phillips for drawing my attention to this preparation, which he has found of great use in disease of the spinal cord requiring *Nux vomica*.

† *Clinical Medicine*. By R. J. Graves, M.D. Dublin, 1843.

manifested itself suddenly during a paroxysm of mental aberration."

From the 8th October to the 12th electricity, as the report sets forth, was applied from the sacrum to the pubis and along the abdominal muscles. On the 13th the following report is given:—"Applied electricity in the same manner as yesterday; he voided more water, but mind is wandering, and he seems desponding and inactive, as well as impressed with a great dread of some unknown danger. Catheter is still daily applied at his most anxious request, although becoming each day less necessary. This night he attempted to commit suicide (by cutting his throat), but fortunately did not make any dangerous incision. As the bladder is evidently recovering its tone fast, and as he is so excitable, I have discontinued the electricity; it had, however, accomplished its purpose, as he daily voided urine spontaneously, and by the 16th inst. the catheter became unnecessary. I regard this as a most important case, particularly as no remedy was resorted to except electricity." The words are Mr. E. S. Clarke's, by whom the case was communicated to Dr. Graves. One could wish it had been reported more fully. Indeed, I question if it would not have been better placed under our heading of Atony of the Superior Bladder, as the expulsive power alone seems to have been destroyed. Assuming it to belong to this variety, anatomically speaking, the electricity was applied correctly to the back. But in cases where the expulsive and retentive power are lost, in other words, in true atony of the entire bladder, we would gain little by electrifying the spine alone. Hence we can see the reason for the advice given by Sir Henry Thompson, who, by the way, is not much in favour of electricity. In his lectures published last year (1868) in the *Lancet* he thus expresses himself:—"To one pole the ordinary handle and moist sponge are attached, which is placed over the lumbar vertebræ; an elastic bougie containing a conducting wire, and tipped with metal, is attached to the other pole, and is introduced into the bladder. A weak current is set going and its effects watched. Thus a slight sensation only is produced. Move the bougie about

gently in contact with the walls of the bladder, the urine having been just withdrawn; and, finally, let it rest a little in the neck of the bladder, where greater discomfort is felt, in all allowing the current to pass for eight or ten minutes before withdrawing."

In this way we act not only upon the central and peripheral spinal nerves, but also upon the peripheral extremities of the sympathetic branches distributed to the neck of the bladder.

If, however, we meet with a similar condition, viz. vesical atony, in the young organism, its inherent power of reaction will materially assist us in forwarding recovery. In the young—generally speaking, of course—it will not be symptomatic of a general asthenic state, but will be purely a local weakness, and will in the majority of instances be found to have arisen from over-straining of the muscular fibres, occasioned by the patient having had to retain his urine longer than the demands of Nature required.

The subjoined case, quoted from our *Dispensary Books*, partook of this nature:—

"William R—, æt. 8, was confined too much to the schoolroom and not permitted to respond to the calls of Nature as frequently as he had wished; the consequence was his bladder became over-distended, and he has since—that is to say, for the last two months—suffered from involuntary micturition day and night. The urine dribbles away without his being able to prevent it. *Cantharis* ʒ0 was prescribed, and by the end of three weeks he was perfectly cured, the bladder having quite regained its retentive power. Improvement under the *Cantharis* was uninterrupted."

It is this combined atony in its most complete form that gives rise to that most distressing symptom, constant dribbling away of urine, the bladder no longer forming a reservoir for its natural contents, but allowing the urine to pour away as it trickles from the ureters. When such a state of things exists a urinal has to be worn and, concurrently, means taken to strengthen the bladder.

The next affection we shall have to consider is vesical

irritability, cysterethismus, and it, like the preceding, admits of a threefold classification. By the term irritability, as applied to vesical affections, we would be understood to mean that condition of the mucous membrane of the bladder in which a slight amount of inflammation exalts its sensibility, and which prevents the bladder, independently of muscular weakness, from retaining its contents the usual time, and in which the urine may or may not be altered in character. In some treatises vesical irritability and a disordered state of the urine are supposed in most instances to coexist, the one being consequent upon the other; this opinion was held particularly by Prout. But in the following cases we have negative evidence, at all events, that there was no particular alteration in the urinary secretion, and, however fruitful a source this may be, confessedly it is not the only one.

In my paper "On Iron,"* already referred to, I classified enuresis into (1) nocturnal, (2) diurnal, and (3) mixed, a classification that subsequent experience has taught me the value of, and which will be found a serviceable one in practice, inasmuch as it to a great extent facilitates our becoming acquainted with the seat of the disease.

I shall illustrate this as we proceed. My attention was directed to the first variety in this way:—

Captain D— consulted me for a sort of combined irritability, that is to say, one in which the incontinence of urine manifested itself both by day and night. I prescribed *Podophyllin* 3 for him, and by the time the symptoms had almost vanished he sent a messenger to say he was requiring more medicine, but without entrusting him with any satisfactory message. Perhaps under the circumstances it would have been more advisable to have returned unmedicated powders, or, at all events, to have let him have the same preparation again. As luck—ill luck if you will—would have it, I sent instead the 1st cent. dilution, and a couple of days after received a message desiring me on no account to neglect calling to see him. His tale was a simple and instructive one—after taking the first medicine, the 3rd cent. dilution,

* *Annals Brit. Hom. Soc.*, No. xxix, June, 1868.

he had got quite well, but thought by continuing with it to make sure of his symptoms not returning, and with this object in view he went on with the stronger preparation. The result of this, his indiscretion, was the being obliged to spend the whole of the previous night getting in and out of bed; every five or ten minutes he had to urinate, and what struck him as very remarkable, it in no way troubled him in the daytime when walking about or at meals. "I am as well as man alive now, doctor, but the moment I go to bed or attempt to lie down I shall have to get up again and make water, though very little is passed at a time." Conjecturing its cause I appeased his solicitude by a favorable prognosis, and gave him *Nux vomica*, which quickly set him to rights again. *Nux*, it will be remembered, is the supposed antidote to *Podophyllin*.

We have here a marked example of the irritability of the superior fundus, the rationale of which from our past observation will be easily understood. The urine, on the patient assuming the recumbent position, irritated the already sensitive mucous membrane of the superior portion of the bladder, and prevented his retaining even a very small quantity of urine.

It may be objected that, owing to the comparative want of sensibility in the mucous membrane of the superior bladder, irritation or inflammation could not exist in it independently of the inferior and more sensitive portion. But that it can would appear from a plate given by Dr. Baillie, and referred to in Coulson's treatise, in which ulceration began in the fundus, proceeding thence towards the neck.* I have not seen this plate, but believe myself correct in saying the prominent and distinctive feature which must have marked this case in the commencement while the fundus alone was engaged, was the occurrence of nocturnal enuresis.

Now, the case of irritability just reported may appear a trivial one—a case whose importance might be easily exaggerated—but I cannot think so. On the contrary, I believe it to be a most important distinction, and one alto-

* *Diseases of the Bladder*, 5th edition, p. 148. London, 1857.

gether lost sight of by writers on these affections, that irritability existing in the superior bladder gives rise to symptoms directly opposite to those manifested when the inferior portion is engaged. To be sure, I have not had the opportunity of examining into all the authorities on the subject, but, while repudiating any desire at innovation, think it but justice to myself to say that, so far as I can ascertain, this form of irritability has never before been described as a distinct affection. Should the contrary be the case it will be a matter of rejoicing to me to know that my experience has been borne out by others. But the very cursory and obscure method authors pursue in treating of these affections, forces the conviction that, without much hesitation, I may assert it has never been observed, or at all events, that the pathogenesis of such symptoms has not been correctly delineated.

It may be objected that this form of irritability is not to be found as a natural affection and could be produced only by artificial means, by, in fact, medicinal aggravation. But my answer to this objection must be that we do not find medicines provoking diseases that have not their counterparts in those arising from natural causes; and the fact of its having been produced by dynamic agency makes it the more interesting to the practical physician, for it teaches him what ought to be his selection for a like affection should he meet with it. And, as I have stated, I am indirectly backed up by Dr. Baillie's case, which must have presented nocturnal symptoms.

Lest it might be thought my object is to make my experience tally with theories, and that I merely bring this forward to corroborate and illustrate the division of enuresis already given in the paper read before the British Homœopathic Society, I have only to say that, so far from such being the case, it was this peculiar example presenting itself to me almost simultaneously with the diurnal form before writing that paper, which, amongst other things, induced me thus to classify the three different forms of enuresis.

But to enter more minutely into the explanation of the

above train of symptoms. It may very pertinently be demanded, if such extreme sensitiveness existed why did not the urine, as it wells up in the bladder on reaching the level of the sensitive portion, excite it to contract, and thus bring on, at all events, some incontinence in the daytime. Two explanations, differing only in regard to the extent of the irritability, may be given. First, that the irritability existed in the very summit of the bladder, and, consequently, the volume of urine did not press against it, and thus there was nothing to excite it. This can hardly be said to be sufficiently explanatory, as it does not account for the extreme frequency of the symptoms. For, were the sensitive portion thus limited and circumscribed, it would be a considerable time before the urine would well up in order to be brought into contact with the extreme summit of the bladder, the patient being recumbent.

Another explanation may be advanced, to understand which properly we must remember that the inside of the bladder is coated with a thick glairy mucus; if, therefore, the superior portion, not merely the extreme summit, be sensitive, we can easily understand how its mucous lining is capable of protecting it; from which it follows that when the urine wells up in the bladder cavity, even though irritability exists, the parts will be protected somewhat by the mucous membrane; and, besides the hydraulic pressure being equable on every side, no one part in particular more than any other of the superior portion will be pressed upon, and, consequently, every part will be protected from irritation, or, in other words, the temperature will be the same on every side. But if the patient lie down, the urine, be it ever so small in quantity, instead of pressing equally upon every side, will gravitate to one part only, and by its contact, not merely by its weight, will heighten the temperature of the part upon which it presses.

What I mean can be illustrated and will be understood by a very simple experiment. Let us put some hot water in the hollow of one hand, and cover it over with the other: the hand in which the hot water is, and which supports its weight, will experience its effects more than the other which

is covering it. And this serves to explain, better than the other hypothesis, why the symptoms came on so frequently, and why so small a quantity of urine could be retained. The practical deduction from these remarks, whichever view we take, is, that the horizontal position must be avoided as much as possible when the symptoms point to irritability of the superior fundus.

The prominent symptom, then, we cannot too repeatedly insist, of irritability of the superior portion of the bladder, is euuresis when the patient is recumbent, or more roundly incontinence of urine during the night. As observed, however, distinctly marked it seems to be a very unusual form, the superior portion of the mucous membrane not being nearly so sensitive as that of the inferior—that contained within the *trigone de la vessie*.

There will now be no difficulty, I hope, in understanding what are the symptoms of *irritability of the inferior fundus* or neck. The patient necessarily will void urine most frequently in the erect posture, in other words (as remarked in my paper "On Iron") during the daytime when walking about. Of this irritability there will of course be degrees, the urgency and singularity of the symptoms depending upon, and varying in proportion to, the amount of the irritability present in the bladder. If, as is sometimes the case, it borders on inflammation (cystitis), there may be a good deal of pain associated with it, for by reason of the continuity of the mucous membrane of the neck of the bladder with that of the urethra, the latter is predisposed to take an inflammatory action, and both inflammations being combined, most distressing pain results. Or the same may occur from the inflammation wandering from the urethra to the bladder. In either instance to oblige the patient to assume the recumbent posture will constitute an imperative part of our treatment, unless indeed the inflammation is very slight. This is an important practical point to keep in view, and is insisted upon by Brodie when speaking about chronic inflammation of the bladder. He does not take into account how pregnant with evil the recumbent position would be when the superior portion of the mucous

membrane is morbidly sensitive. The reason he assigns for this advice is, the fact that the blood-vessels are more pressed upon when the patient is erect, and that assuming the recumbent posture tends to unload them, but omitting to mention that the symptoms will vary with the position, and forgetting to notice that lying down will have a directly opposite effect if the superior portion or the sides of the bladder are at fault.

Prout,* speaking of inflammation of the bladder, states that "this affection may vary somewhat according to the seat of the inflammation. Most generally this occupies the lower parts and neck of the bladder, in which case there is commonly more or less retention of urine." In other words, he takes no account of the initiatory irritability, which is rather the rule than the exception, and though acknowledging the importance of attending to the situation of the inflammation, does not explain the striking difference it makes in the symptoms. That cases may present themselves where retention of urine through accumulation of pus within the canal of the urethra, enlargement of the prostate gland, or effusion into the cellular structure beneath the mucous membrane will be a prominent symptom is unquestionable, but I will take upon myself to assert it is exceptional to meet with it in the outset of the affection, and never unless the inflammation is very severe. And in this opinion Guthrie† bears me out. "An idiopathic inflammation of the bladder," says he, "is a disease of rare occurrence . . . as a continuation or metastasis of disease is more frequent; and as a *supervention of a chronic state of irritation is unfortunately by no means uncommon*. When it occurs by extension of disease from the urethra, *the desire to make water is urgent*, and the pain which accompanies it is so much augmented on the passing of a few drops, that the patient often compares it to the passing of melted lead. It continues after the urine has ceased to flow, and subsides only to be renewed almost without an interval of ease."

* *Affections of the Urinary Organs*, 2nd edit., London, 1825.

† *Diseases of the Urinary Organs*, 1836, p. 259.

From this description, which I consider, so far as it goes, to be an extremely accurate one, it will be seen that Guthrie regards inflammation of the bladder as generally succeeding a chronic irritability, and to be, as a rule, accompanied by frequent micturition.

Bentley Todd, in his *Lectures on Diseases of the Urinary Organs*,* thus remarks upon gouty incontinence. "The prominent symptoms then, in such cases, is frequent micturition of small quantities, the urine passed being pale, acid, and devoid of mucus or pus; but not unfrequently albuminous, owing to the existence of gouty disease of the kidneys."

None of these authors have taken any notice of how strikingly incontinence of urine is affected by the position of the patient.

In a capitally written monograph on *The Irritable Bladder*,† by F. J. Gant, the author directs attention to the paramount importance of enervating habits, engendering, as they do, disordered states of the nervous system, and thus, by their disturbance of the nervous balance, predisposing the constitution to irritability of the bladder and other organs. His treatise will repay perusal, but while bestowing much attention upon adventitious urinary deposits, he does not take into consideration the extent to which the symptoms can be modified by the position of the irritation within the cavity of the bladder.

Besides the cases already reported in the annals of the British Homœopathic Society, the following, since those were published, have come under my notice, and as each presents something of interest they are subscribed. Indeed, in respect to the first, it was on the dispensary books when my paper was read, but not being thoroughly satisfied of a cure having been effected, I refrained from publishing it. Now, however, on looking over my dispensary books, I find the same patient subsequently attending the dispensary, which is hardly possible she would have done, had not a cure been brought about. Still, I willingly admit the extreme

* Pages 369—70, edition of 1857.

† Second edition. Churchill, London, 1869.

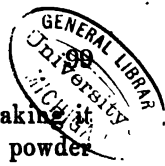
urgency, and intensely painful nature of her symptoms, may have called for *Arsenic* in preference to *Iron*.

Elizabeth Singleton, æt. 30, came under treatment 30th March, 1867, having suffered for four days from incontinence of urine. The intense pain occasioned by the act, induces profuse lachrymation; urine has to be passed very frequently, very much burning and scalding during the act. She feels very well when sitting down, or lying in bed, but whenever she attempts to walk micturition comes on. Urinates but a very small quantity at a time; the stream is continuous. There is felt a continual aching in the region of the bladder, and a sense of chilliness all over the system during the day. Her bowels are confined. The 3rd dec. trit. of *Ferr. phosph.* was ordered, and on 9th April the report was that she had been without any incontinence the previous day, and that that scalding and burning had decreased. There was some leucorrhœal discharge. She then ceased attending.

The symptoms in this case were unusually severe. They all point to the commencement of a true inflammation of the neck of the bladder. It is, however, unusual to find such intense irritability—call it inflammation if you will—confined for many days solely to the neck of the bladder, it generally, if not met by the appropriate remedy, makes its way to the upper parts of the vesical cavity, bringing on the combined irritability, not to mention other mutations.

Jane W—, æt. 33, admitted to the S. H. Dispensary, 13th January, 1869: for the last six weeks she has suffered from noises in the head, which are worse whenever the weather is damp. Bowels are constipated, and is much troubled with palpitation of the heart. But her present sufferings are more particularly referable to vesical irritability, for she is unable to retain her urine during the day. This came on about ten days since, being preceded by a very great pain in the region of the bladder, which extended to both inguinal regions, and to the back. Is obliged to pass water every fifteen minutes; urine has been high coloured, but is now clear. The 1st dec. of *Phosphate of Iron* was

by Mr. Robert T. Cooper.



prescribed with strict injunctions to her to cease taking it if she became either better or worse after the first powder was finished.

The next week the report was—the too frequent micturition subsided immediately after taking the first few doses of the *Iron*. But when under its influence she felt very giddy, and on closing her eyes, she “saw all manner of things.” This, together with an overflow of ideas crowding upon her mind, prevented her from sleeping. All these unpleasant symptoms ceased when she discontinued the medicine.

This disturbance in the cerebral circulation, due obviously to *Iron's* action, is extremely instructive, for it shows the power *Iron* possesses in disturbing the circulation within the cranium, and *à fortiori* when indicated of quieting it.

The concomitant symptoms in the next case are exceedingly interesting, so much so, that it seems to me I would be hardly justified in curtailing them.

Joseph Howard, æt. 16, a young sturdy sailor-boy, whose skin was bronzed by exposure to varieties of clime and vicissitudes of weather, and who had been under the care of many ship-doctors, was admitted to the dispensary, 27th February, 1869, and gave the following account of himself. When at sea had been very subject to boils, especially about his feet. One day a rope got coiled round his left leg, causing a severe abrasion, which formed into a nasty sore—at present a flat oval ulcer on the outside of the leg, taking a direction downwards and forwards. It discharges a good deal, and is accompanied by shooting pains up the leg, is about three-fourths of an inch long, with edges sharply defined. A small sore discharges on the right heel as well. Has a dry cough at night, with dryness and soreness of the nose. Bowels are inclined to be relaxed. This it will be seen was a perfect picture for *Phosphorus*, which was given in the 3rd dec. dilution, accompanied with dispensary directions.

On the 6th March he was very much improved, the ulcer on the left leg was much smaller, while that on the right heel was quite skinned over; the dry cough at night had gone, though some dryness in the nose remained.

On the 13th the remaining ulcer had as nearly as possible closed, there is, however, some slight bleeding from the scar when he takes off the dressing. His mother called to-day with him, and remarked that he had not been able to retain his urine the proper time for the last three or four years. This weakness seems to exist only in the daytime, for he sleeps very soundly, and is never disturbed by nightly incontinence.

Complete absence of pain or bearing down in the region of the bladder; urine looks quite clear and of natural colour. As a rule, he cannot retain his water longer than ten or fifteen minutes, and even when he goes aloft, aboard ship, he is obliged to urinate. Some days the symptoms are more urgent than at others. Prescription, 1st dec. trit. of *Ferr. phos.*

On the 24th his mother called to say he had again gone to sea, but before starting he felt quite well. The wound had quite healed, and the enuresis had entirely left him. On inquiring I found that after taking the *Ferr. phos.* he urinated eleven times the first day—this being less than usual—seven times the second, and but four the third. I am inclined to think this boy had, superadded to the cervical irritation, and probably consequent upon it, some weakness of the sphincter—the urinating when aloft looks like it.

The epiphenomena are extremely interesting in the next example of an irritable cervix.

Susan Howard, a light-haired, delicate featured girl of nineteen, was admitted, suffering as she thought with indigestion, on the 3rd April, 1869. Her symptoms were as follows: for the last three weeks she has not been able to retain any (solid?) food in her stomach, it comes up immediately after being taken. The stomach appears to be irritable, though it is never painful. Along with this, she has not been able to retain her urine when walking about, but is all right in this respect when recumbent. Is obliged to pass it as often as every half hour during the daytime, but is *never* troubled in this way at night.

A hard dry cough annoys her very much all day, and



when lying down ; is worse in the morning after getting out of bed. Catamenia regular. For this train of symptoms my old friend the 1st dec. of *Phosphate of Iron* was prescribed, and next week, 10th April, she gave this gratifying report ; is feeling decidedly better ; does not micturate too frequently, and her food has not once come up since taking the *Ferrum*. A slight aggravation of the urinary difficulty set in after she took the first dose, bringing on some nocturnal symptoms—the medicine was taken going to bed—but this ceased on her omitting it, which, in the event of such an occurrence, I cautioned her to do. There was no necessity for continuing the *Iron*, and after suffering from a slight headache which required *Belladonna*, she was discharged quite well at the end of the month.

We have here not only irritability of the bladder, but concurrently with it, a like condition of the stomach and larynx. These parts are all notably acted upon by *Iron*. Thus, in the pathogenesis given in Snelling's edition of Hull's *Jahr*, we have one symptom which, besides that pointing to the bladder, at once serves to account for its brilliant success in Susan Howard's case.

“ Spasmodic cough, with vomiting of the ingesta after dinner.”

These Howards are brother and sister, and it is not an irrelevant question to ask whether irritability of fibre prevails in families ; I think I have observed it to do so. The brother of the first patient afflicted with cervical irritability, whose case I brought before the British Homœopathic Society, was affected with symptoms precisely similar to those which, owing to a prolonged use of an allopathic preparation of *Iron*, had existed in his sister, and further experience will perhaps lead us to the conclusion that irritability of fibre is to a remarkable extent hereditary. Certain it is, we find a family predisposition to many affections out of the reasonable range of psora, syphilis, or sycosis, and as a necessary consequence some drugs oftener indicated than others.

On this subject Graves* thus expresses himself, “ In

* Opus cit., p. 105.

some families you will find a very curious coincidence between the play of the various functions in disease as well as in health, and you should neglect no opportunity of making yourself acquainted with the family peculiarities and idiosyncrasies of your patients, as knowledge of this description is of the greatest value and importance in the treatment of disease."

But it may be sufficient explanation to say that the temperament of the Howards was the same, and it is perhaps as well to observe that all these patients, except one, whose case is reported in the *Annals*, and Singleton's, whose appearance I am unable to call to mind, belonged to a leuco-phlegmatic temperament—a temperament which, as well as the sanguineous, appear very often to call for *Iron*, and in both which comparatively painless irritations are very common.

Nevertheless, I do not mean to be understood that, as some would give us to suppose, *Iron* is applicable to the former temperament alone. Nothing can be more irrational than the making such hazardous and unfounded assertions, for we meet with symptoms demanding this agent in all manner of constitutions, and its appropriateness to any one arises simply from the fact of symptoms characteristic of *Iron* manifesting a prevalence in these habits. This, indeed, in the case of all our remedies, follows from our principles, but is not sufficiently kept in view by most writers on the *Materia Medica*.

It would be superfluous in a paper like the present to narrate a second time the circumstances attending the first case of vesical irritability, which induced me to select *Ferrum* in these cases. They will be found epitomised in p. 382 of Hughes' *Manual of Therapeutics*.

RHEUMATISM.

By Dr. VAUGHAN-HUGHES, one of the Medical Staff of the London Homœopathic Hospital.

IN the March number of the *Practitioner* Dr. Fuller comes to the rescue of his alkaline treatment of rheumatism ; his pet process ; his hobby-horse which he has ridden so long, and in his own estimation so satisfactorily, but which, of late, has received such rude rebuffs from the experiments made by some of the most eminent hospital physicians in this metropolis. St. George's Hospital and its physicians hedging themselves round in solemn dignity in the unassailable security of their west-end aristocratic tendencies, would seem to look down from a sort of *noli me tangere* attitude upon what has transpired at the sister, but more ancient, institutions in the east-end, and would regard them as unworthy of credit or utility, as far as the treatment of rheumatism is concerned. Dr. Fuller is so deeply enamoured and prejudiced in favour of his own system, and its success in his own hands, and so dazzled by viewing its beauty, that he cannot discern or understand any good results in the labours of his brother physicians at Guy's, Bartholomew's, London, Westminster, and St. Mary's Hospitals. Now, these, as far as this disease is treated, are placed in the balance, and found sadly wanting ; they are all situated in a sort of Nazareth, from which no good can be expected. Drs. Gull, Sutton, Wilks, Barclay, Stuart, Sibson, &c., and their do-nothing treatment, are to be regarded as worthy only of contemptuous pity and satire, and their opportunities of eliciting facts as dwarfed when compared with the glorious results emanating from the grander intellect and exceptional experience of Dr. Fuller. Speaking of the opponents of the alkaline system, among whom Drs. Gull and Sutton may be regarded as the most zealous and efficient, Dr. Fuller, looking down from his pedestal of egotistical exclusiveness, states, " when the suc-

cessful carrying out of any plan of treatment depends on the judgment of individuals, failures soon occurred in what was styled the alkaline treatment." Hence, he would imply, I presume, that want of success with *Alkalies* arose from want of sound judgment in the above-named practitioners. Again, he says, they fail because of "the administration of insufficient doses of *Alkali* in the early period of the attack,—doses which, though they would be regarded as large under ordinary circumstances, are practically useless for the arrest of rheumatic fever; *an ounce and a half* is the *minimum* dose of an alkaline carbonate, which will suffice to overcome the acid condition of the system during the first twenty-four or forty-eight hours of treatment, and in sthenic cases, *two ounces* are often needed." "Four or five drachms, which form the maximum dose administered daily by many persons who imagine that they are using *Alkalies* efficiently are simply useless; they neither mitigate the pain, nor shorten its duration, nor do they protect the heart from mischief." Again, Dr. Fuller is of opinion that his colleagues cannot diagnose the disease when they see it, and confound it with other complaints, for he says "it *constantly* occurs to me to see persons who have been drenched for a week or ten days with *Alkalies*, under the impression that they were affected with acute rheumatism, who, on investigation, prove to be suffering from acute osteo-arthritis, or so-called rheumatic gout, from gonorrhœal rheumatism, or from atonic gout—disorders which, though resembling rheumatic fever in many of their features, are totally distinct from it in their essential character, and require a totally different plan of treatment; indeed, *in most of these cases full doses of Alkalies are absolutely noxious*; they depress the patient and fail altogether to relieve his symptoms." Lastly, Dr. Fuller is of opinion that the above-named eminent physicians do not know how to diet their rheumatic cases, for he affirms another cause of failure to be "an improper alimentation—the diet should be restricted to broth, beef-tea, or other liquids; all solid food being strictly prohibited; but, in many instances, I find that little heed is paid to this matter, and that throughout

the attack the patient is permitted to take whatever nourishment his appetite will enable him to swallow." The foregoing "are the principal causes of the failure of the alkaline treatment in the hands of certain practitioners, but there are several minor causes of failure which serve to swell the chorus of those who mention that alkalies are of no real service." "Thus, I find that no heed is paid to the state of the secretions—that the liver is sluggish, and the bowels disordered; no steps are taken to rectify the derangement, or the alkalies are pushed beyond the exigencies of the case, so that intense alkalescence of the urine is kept up at a time when the patient ought to have been taking bark or *Quinine*—a mistake which leads to great depression of the system, or lastly, the alkalies are perseveringly pushed in the exceptional cases in which they produce diarrhœa, and run off by the bowels; cases in which no alkaline action can be induced, and in which some other treatment ought to be resorted to." In his private consultations he finds the above causes of failure predominating,—no one, in fact, ought to be trusted with the alkaline treatment but himself; no one has the tact to discern when the serious moment arrives that the patient must be supported by bark and *Quinine* to overcome the depression from the alkali but himself; others may have the fiddle, but it is all out of tune as long as he holds the proper fiddlestick; to conduct all in one grand harmony—Dr. Fuller must be consulted and associated with the alkali if success is to be expected. We need not proceed with any further extracts to convince ourselves that the writer of this article in the *Practitioner* holds himself in high estimation and quite unique on the subject of rheumatism, and looks down with censorious severity on the treatment of this disease by other physicians, however eminent and experienced, especially when they dare to question the success and propriety of his excessive alkaline process. No other mode of cure can approach in merit his own system—no one can diagnose the disease as he can—no one knows how to diet a rheumatic patient but himself—no one can attend to the secretions but himself; and no one has the talent to comprehend what is

the right dose to prescribe, or tact to discern when to leave it off, but himself. (P. 139 and 140.) So much for the self-conceit which is engendered when success is supposed to flow from one groove-like train of thought for so many years, unquestioned and unchecked; and the irritation which naturally springs up in the mind if the idea meets with a rude rebuff; man forgets himself for the moment, and would almost insult the intellects and labours of his fellows by hugging to his own dear exclusive self the vain delusion that no success or good can possibly attend the efforts of those who do not think proper to follow in his wake. But let us accompany Dr. Fuller to the bedside of a rheumatic patient and see how he begins—first of all he selects his case; it must be uncomplicated; the heart must be free (why he does not include in his illustration of the virtues of this special treatment fresh cases with the heart already implicated we are not told, but we may give a shrewd guess), as Dr. Fuller must have a fair field for the exercise of his huge alkaline doses, in other words, a mild case with its natural tendencies to a healthy issue; and under these favorable auspices, thus he starts:—he gives the first day from one ounce and a half of alkali to two ounces, sometimes dissolved in three pints of water, perhaps effervescing, and a purge of *Calomel* and *Colocynth* at bed time; when the urine ceases to be acid the quantity is reduced to six drachms a-day, and if the alkaline reaction continues, then to three drachms. Should these doses (*amounting together to twenty-five drachms of alkali*) effect continuous alkalinity of the urine in the first four days, then this essentially alkaline treatment ceases. Dr. Fuller at this stage finds that his pet saline is too depressing for the vital powers to stand up against; hence he is obliged to bring to his aid and prop up the flagging forces by *Cinchona*, *Bark* and *Quinine*; still he cannot give up his favorite altogether, but gives it in smaller doses and makes a compromise with the rebellious frame, by neutralising to a certain extent its injurious influence, by adding lemon juice to it; and throughout the attack he pours in a drastic purgative whenever the bowels are confined. Dr. Fuller may well say that he finds the

pulse and temperature go down, and the patient doze off to sleep and feel less pain; doubtless, as in bloodletting, from excessive prostration of the whole body, the nervous system is thrown for the time being into a state of semi-palsy under such a lowering treatment and loses the power of feeling.

But would not these mild uncomplicated cases have done just as well under Dr. Gull's and others' do-nothing system, under hospital discipline. He and others have had the courage to say, yes, and include also in this affirmative answer those severer cases with heart complication whose treatment Dr. Fuller is silent upon. Besides, these able thinking men and their 'expectant' method, as it is called, have the conscientious satisfaction of feeling that they at least do not engender any medicinal disease by their system. Dr. Fuller speaks very arbitrarily about the necessity of looking to the secretions and of correcting acidity by pouring in quickly and largely his alkaline doses, but I would ask him, as others have done before me, to give an explanation of the peculiar phenomenon connected with this fearful malady, which is this: How is it that when the urine is kept *continuously alkaline*, the *acid sweats* should keep up as profuse and as distressing as ever, uninfluenced by any amount of saline? To this query a shrug of the shoulders and a shake of the head were given one day at St. George's to a friend of mine. Again, as Dr. Fuller always prescribes an alkali throughout the course of his treatment of rheumatism, he precludes himself from an examination of the urine as it is excreted during the natural course of the disease. If he would just follow the wise example of some of his colleagues and treat the next series of his patients on the expectant method, he would discover, perhaps, to his great surprise, that the urine in a case of acute rheumatism has in the natural course of the disease *a strong tendency to become alkaline*, to throw down the triple phosphate and even to assume an ammoniacal odour. I find no difficulty whatever in our hospital in bringing the urine to a neutral condition, even in the sthenic cases, by a teaspoonful of seltzer water in a tablespoonful of claret, given every two hours, and we watch daily even this mild proceeding with great care,

because, as I have before stated, the secretion will pass rapidly from the neutral to the alkaline state which is associated with so much depression, when we immediately discontinue the seltzer but go on with the claret and water, which is felt to be so refreshing to the intense thirst and parched throat. I am convinced, as an old allopathic hospital physician, that there is nothing so detrimental and so pernicious to the human stomach and its healthy functions, and the whole muscular tissue, as large doses of alkalies. MM. Joliet and Cahours have made some interesting experiments to demonstrate the action of the *Salts of Potash* and *Soda*, when introduced into the blood. They show, and their experiments are confirmed by M. Grandeau, that the results from the *Soda salts* are not so serious as those from the *Salts of Potash*, which are found extremely poisonous.

M. Bernard also proves by his experiments that the latter *Salts* exert a pernicious action on the heart, causing a great increase in its action. Dr. Fuller may well advise that no solid food should be taken during his alkaline treatment, and for good reasons too—because the acid gastric juice is so completely neutralised by the constant plying of the alkali that it entirely loses its strong solvent action over the food, which if taken lies, as the patient expresses it, like a lump of lead at the pit of the stomach, undigested for hours, creating flatulence, great depression of feeling, and a disturbed heart's action. It is folly to suppose that any practical man of experience can credit the assertion that after several ounces of alkali have been poured into the human frame, and supplemented by drastic purges, with nothing better than beef tea, barley water, or soda water and milk, as a diet for the space of ten or eleven days, that the patient can be up, dressed, and feel himself convalescent. It is a physical impossibility that any one however naturally strong could resist such a knock-down treatment and not feel wretchedly weak, trembling, thin and pale, with the appetite for good solid food entirely gone, in fact suffering, not from pain which is suppressed by the semi-paralysed condition of the cerebro-spinal nervous centres, but from the die-away exhaustion and sinking, which springs from empty

blood-vessels and still emptier bowels. From these lamentable sequences springing from the allopathic treatment of acute rheumatism, how refreshing and cheering it is to turn to the other side of the picture delineated in a prior number of this Journal, and painted from facts culled at the bedside of patients suffering from the same disease in the London Homœopathic Hospital. It is a happy contrast, and the physician looks on his work, based on the law of *similars*, with serene and complacent countenance derived from the conscientious satisfaction that the cures have been effected in the quickest, safest, and surest manner, and leave no medicinal disease behind to alloy the unmixed gratification.

Neuralgic Rheumatism.

In this fast and competitive age, in which all, women as well as men, rush through life at an express speed and keep their minds as well as their bodies in a constant state of extreme tension, it is interesting to observe the greater susceptibility to nervous disorders and mental disquietude. The great strain on the brain, spine, and nervous centres, manifests itself during the reaction, first, in the great loss and rapid expenditure of nerve power, a force which is so imperatively demanded for the healthy process of digestion and the supply of pure blood; and, secondly, in the want, from the same cause, of sufficient propulsive action in the heart to keep up the necessary contraction in the capillary system, whose vaso-motor nerves are placed in a semi-paralysed condition by the exhaustion of nerve force; hence the stagnation of blood, the congested state of these important blood channels, which in this dilated condition set up a local compression on the sentient nerves of the part, irrespective of the irritation arising from the impure blood stagnating in these capillaries. Hence we cannot feel surprised at the frequent agonising neuralgic pains in the peripheral sentient nerves supplying the vessels which surround the muscular fasciculi and the fibrous tissues about the joints, giving rise to the sensation, so often described,

as if the body had been severely beaten all over, while the reaction on the brain often creates a most distressing form of *tic douloureux*. The skin is feverish and the pulse quick and irritable; the tongue often foul and the urine muddy with urates, especially in winter. Thus appearances are such as to induce one to believe that we have a case of acute rheumatism, pure and simple, to treat; but on closer scrutiny of our patient we shall find it more closely approximates to what is better defined as *neuralgic rheumatism*.

The following cases will illustrate the difference between these complaints, and also reveal to us the necessity of looking for the anatomical basis of disease, while we do not at the same time disregard or ignore symptomatology; a right diagnosis will thus be obtained and the appropriate pathogenetic remedies chosen.

Sarah W—, æt. 37, lady's maid, and single, admitted an in-patient May 19th, 1868, states that a few weeks back she caught a bad cold, followed by fever, headache, and racking pains in the upper and lower extremities. The family with whom she lived resided in the country, and being in the neighbourhood of Her Majesty's Court, her physicians were asked to see and to prescribe for the case. They did so, but with no benefit to the patient, who seemed to get worse instead of better. Hence she was advised to come up to London and place herself under an homœopathic physician, who treated her for about three weeks; still the case did not progress, she was crippled hand and foot, nothing seemed to relieve her; indeed, she fancied the remedies employed made her worse. The physician, though one of our successful practitioners, was puzzled and annoyed, and the patient was discontented. Under these circumstances he sent her into our hospital as a case of *acute rheumatism*. On admission she had all the *sensations* and appearance of a person afflicted with acute rheumatism, with the exception that the joints were not swollen or red, though exquisitely painful to the touch. Bowels stagnant; appetite gone; thirsty; sleep broken; pulse feeble and quick; palpitation of the heart, but no bruit; skin pale and perspiring; cannot sit up in bed because of pain across the loins. To

have *Bryonia* and *Aconite* every four hours; milk, beef-tea, claret, and seltzer water.

May 25th.—No better; brain much disturbed. To have *Belladonna* every four hours.

27th.—No better; costiveness and tenesmus distressing. To have *Nux vom.* night and morning.

June 1st.—Bowels no better, and other symptoms the same. To have *Nux vom.*, *ter die.*, and *Merc. solub.* at night.

5th.—Complains of irritation in rectum and constipation. To have *Podophyl.* every night. Omit *Nux* and *Merc.*

8th.—Bowels freely moved by *Podoph.*, but pains in the limbs and back continue. She feels very languid, and has no appetite; her pains not much relieved. She had now been in the hospital about three weeks, and no perceptible progress had been made in her case; we were all disappointed and dissatisfied. Feeling that homœopathy ought not to be blamed, and that some oversight had occurred, I determined to cross-examine the woman and trace back carefully the symptoms to the beginning. I found out that she had become depressed in health and strength before she fell ill; that on the day of the attack she got wet; that the menses were on at the time, and that they stopped suddenly, and had not appeared since. Conceiving from these replies that I had discovered a clue to the anatomical basis of her complaint, I ordered her to be taken out of bed daily and placed in a very hot sea-salt hip-bath, and I prescribed *Pulsatilla* three times a-day. In a few days the menses came on with manifest relief to all her sufferings, her appetite returned, and she was enabled to keep down meat and fish on alternate days. The medicine and bath were continued daily, and she steadily progressed towards health, till she was discharged cured July 4th, 1868.

The following case is somewhat of the same character as the foregoing, and will also confirm my opinion as to the necessity of keeping in view the anatomical basis during the treatment of our patients.

Elizabeth W—, æt. 37, a dressmaker, admitted October 6th, 1868, suffering from acute rheumatism. She states

that her attack came on after she had been overworked as a needlewoman, coupled with much anxiety of mind. She had suffered from want of sleep and palpitation of the heart at night. She began to complain of the pains early in May, and they continued to get gradually worse in the hot months of June, July, and August. Attributes her attack to sleeping in a damp bed in the country. The menses made their appearance soon after her arrival, preceded by burning, gnawing pains in the bowels; they ceased the same day, and the pains passed down into the legs and disabled her completely. Her face is flushed, and her eyes are weak and bloodshot; the skin is hot; the pulse 110; tongue furred white; very thirsty; no appetite; palpitation of the heart; frontal headache; bowels regular; urine dark, with difficulty in voiding it; regurgitant bruit with first sound of the heart.

October 7th.—Pulse 100; sweats acid; tongue coated at back. *Aconite* had been taken, and to day *Belladonna* was added to quiet the brain. To have milk and beef-tea; claret ℥v and seltzer water ℥i, a tablespoonful every two hours in water.

9th.—Much better yesterday; not so well to day. She can hardly breathe without sitting up. Urine dark coloured, with a copious deposit of urates; right hand much swollen; bowels not open since the 7th. To have *Aconite* and *Bryonia* every two hours alternately. Continue the *Belladonna* at night time.

11th.—Slept better last night; breathing easier; slight friction sound at base of the heart; urine clear, but still high-coloured. Continue the above remedies and the drinks.

14th.—Pulse 100; wrist-joints very much swollen; complains of great thirst still; not so much pain; feels very weak, and a sinking sensation at the epigastrium; limbs feel stiff; tongue clean, but dryish; bowels not open for three days; bruit and friction sounds still heard. Continue the same.

16th.—Complains of great sinking sensation; thirst; tongue moist, but slightly coated; pulse 100, and weak;

sweats very acid ; pains in the abdomen only ; joints are better ; sleeps better ; bruit and friction sound are not heard, and the heart's action is regular. Omit the *Aconite*, but continue the *Bryonia* and *Belladonna*. To have an egg and ℥ij of brandy in a pint and a half of milk.

19th.—Has been gradually improving the last three days ; the pulse 96 and soft ; pains are more in the joints, but she can move her limbs easier ; complains of pains in the loins, and leucorrhœa exists ; sweats less ; hands and wrists are less swollen ; bowels moved ; urine clear, and deposits only mucus ; slight anæmic bruit is heard over the cardiac region. Omit the seltzer ; continue the claret ; brandy in the milk ; to have some minced meat. Continue the remedies. To sit up with a bed-rest.

26th.—Has been gradually getting better in every way with the exception of the pain in the loins and the leucorrhœa.

November 4th.—With the exception of the pain in the back and rather profuse leucorrhœa feels only weak, and has slow digestive powers. Omit *Bryonia* and give *Nux vom.* three times a day ; port wine ℥ij.

9th.—Her final convalescence seems suspended by the pains in the loins going down the thighs, and associated with much leucorrhœa ; no menses have appeared since her first arrival, when they ceased suddenly. To have a hot sea-salt bath ; a good nourishing diet of milk, beef-tea, meat, and port wine, and to take *Pulsatilla* three times a day. She states that her doctor examined her in June and said she had disease of the womb. She was therefore examined, and the uterus was found antverted and the cervix contracted with unhealthy granulations. A tent was consequently introduced, and then a sound was passed into the uterus. The menses came on the same evening and continued more or less for a whole week, accompanied with a very striking amelioration of all the rheumatic pains and symptoms. Her digestive functions improved, and she gradually gained strength sufficient to be discharged cured and fitted for work on December 14th.

I have not the least hesitation in stating that this case

would have continued a protracted, a lingering and unsatisfactory one, had we not directed our attention to the uterine disturbance and restored its healthy functions; because, when we had dispersed the general rheumatic affection, the uterus kept up a kind of pseudo class of pains in the back and lower extremities resembling those in the original disorder, and thus tended to induce us to continue, routine-like, the remedies which had already fulfilled their duties and were powerless over the local complaint—the disease having become *hysterical rheumatism*—the uterus for the time being having assumed the real seat, the anatomical basis of the disease we had finally to treat and cure.

Rheumatism as a Medicinal Disease.

As an active member of an Hospital Staff I do not think it, as a general rule, advisable or preferable to refer to cases in private practice for the purpose of illustrating one's views with respect to disease and its treatment; but the following case is not such as is generally met with in hospital practice, and therefore I make it an exception, especially as it is not improbable my colleagues may have met with similar instances. I bring the subject forward more particularly at the present time because I regard it as elucidating, in an exemplary manner, first, that the treatment of rheumatism by salines is spoliative, opposed to the healthy function of digestion, and non-curative; and, secondly, that if salines in large doses be continued long enough, a regular proving of the drug is obtained which is pathogenetic of chronic rheumatism.

A gentleman consulted me nearly three years ago, He was above forty years of age, of a *nervo-sanguineous* temperament, of a large athletic frame, and his family healthy, and supposed, if anything, to be subjects of the uric acid diathesis, as it is called. He was actively employed bodily and mentally in a profession in London; very temperate in his habits. About nine months previous to his visit to me he was recommended to consult one of the leading phy-

sicians of the day for relief from the following distress. A dull aching pain over the ascending colon, extending, on the one hand, around to the loins, and on the other to the umbilicus, aggravated by flatulence, constipation, and indigestion. He had formerly an attack of hæmaturia. The physician told him that he was of a gouty diathesis, and had a calculus forming in the pelvis of the right kidney, and ordered him to take *two tumblersful* of Vichy water daily, which he faithfully carried out for nine months, when he was compelled to seek further advice, no *permanent* amelioration in the symptoms having taken place, and other constitutional disturbance being superadded, of which the subjoined were the most distressing signs. Pain in the head, with occasional giddiness, sleep often broken with sudden starts, curious noises in the ears, dizziness of vision, *tongue foul* at the back and deeply chapped, *palpitation of the heart* on exertion; *pulse* thready, weak, and *irregular*; bowels uncertain from purgation; a dull, aching, and annoying sensation, extending from the cæcum along the course of the ascending colon, worse when the bowels are costive, and the abdomen is distended by flatulence, a state which occurs after each meal, however harmless; *the digestion of food has become slow and difficult*, the appetite small and variable, *the thirst increased*; *pain across the loins*, extending down the thighs *and into the joints* of the lower extremities; *the legs swell* after exercise, and the veins are in a varicose state on the right leg, compelling him to wear a bandage; complains of great lassitude in standing or walking, and an *aching weariness in the muscles of the limbs*; feels almost unable to carry on his profession, which has ceased to be any pleasure to him; *the urine is 1024, and muddy with urates*; the nervous system generally is much shattered. The most extraordinary symptom, however, which cropped up during the drinking of this Vichy water was a *sour-smelling perspiration*, which was so *offensively acid* as to annoy not only himself, but every one who came into immediate contact with him. The *skin* kept on acting in this way notwithstanding that the *urine* was alter-

nately *alkaline with phosphates*, neutral with oxalate of lime crystals, or perhaps turbid with urates !

I ordered this patient *Nux* and *Arsenicum* daily at first, and then to alternate them every other week ; to take a tepid sea-salt bath every day ; to drink claret with his meals, having a teaspoonful of seltzer water in each glassful ; to avoid all salted provisions ; to discard the Vichy water as if it were a poison ; and to rest the frame as much as possible. He continued this treatment perseveringly, and at the end of two months the acid offensive perspirations ceased to worry him. When six months had elapsed the swelling of the legs discontinued after exercise was taken, and the varicose condition of the right leg disappeared altogether, enabling him to walk five or six miles without a bandage. The urine during the first twelve months was singularly variable, sometimes phosphatic, at others muddy, with urates, or occasionally perfectly clear, and to all appearance healthy, yet the microscope would reveal large deposits of oxalate of lime crystals. A very capricious state of the digestive functions continued for several months, and even now he is compelled to be very cautious in his diet ; this, too, at the end of nearly three years, and in a man of powerful athletic aspect. I never prescribed any other remedies than the two already mentioned ; the *Arsenicum* was found as beneficial in relieving the dyspeptic and heart symptoms as it has generally proved in my hands when the rheumatism has been spontaneous and not artificially engendered, as in this case. When phosphates were present in the urine two glasses of sherry were allowed in conjunction with the claret, otherwise no stronger stimulant was permitted during the treatment than *vin ordinaire*.

I have italicised those symptoms which seem to me to bear relatively the strongest resemblance to rheumatism as it is generally met with. I am more and more convinced, from observations gleaned from experiments made with small doses of salines, say a drachm or two of seltzer water, that even these are sufficient to disturb that nicely balanced condition of acid and alkaline secretions which are natural to the healthy frame, and necessary for the right play of

its organic functions ; for example, the salivary, pancreatic, hepatic, and some of the mucous glands, on the one hand, the gastric, urinary, and cutaneous on the other. If, therefore, by these oft-repeated small doses of salines, we can actually effect a change in these natural secretions, and thus disturb the healthy functions of their respective organs, how detrimental, how spoliative must be large and continued doses, such as an ounce and a half in twenty hours ! I believe also that these remarks hold good as well with regard to the administration of acids in large quantities. I therefore agree most heartily with the observations made by Dr. Drysdale in the 107th number of the *British Journal*, under the head of "Spoliatives," supported as he is by extracts from writings by such eminent men as Pereira, Headland, Trousseau and Pidoux, &c. After some instructive comments on the action of acids, he passes on to the consideration of alkalies, which he considers the more injurious of the two, for at page 95 he says, "For although in the normal state a certain degree of alkalinity of blood is necessary for endosmosis, oxidation, and secretion, yet that must not be exceeded, for the saliva, pancreatic juice, and bile, are alkaline, the urine, sweat, and gastric juice are acid. If, therefore, by alkaline medicines we derange the natural degree of alkalinity or acidity of these secretions, the result is an impairment of digestion, respiration, and ultimately of the whole nutrition and blood formation. Hence ensue a deplorable state of cachexia and emaciation, as is seen after abuse of such medicines and alkaline mineral waters, such as Vichy and Carlsbad. Thus the action is reduced to simple spoliation, withdrawing from the blood certain elements which require to be present in due proportion for its integrity as healthy pabulum. They are hereby brought into the category of depletives and evacnants, including all exhausting losses of natural fluids, suppurations, &c." Again, he says, "The action of such spoliatives may counteract plethora and all the disorders dependent upon it, such as eruptions on the skin, congestion of the head and liver, and obesity, &c., but in these cases there is no specific influence at work, nor are these diseases

cured, but return again when the spoliative is withdrawn, unless, indeed, the blood-forming powers have been injured beyond recovery by medication."

With these deplorable facts before us, penned by men of deep and earnest thought and long experience, how joyful, how comforting, how welcome are the truths based on the *Law of Similars* which guide us in solving the intricate and difficult problem of tracing out and then relieving the various ills our common humanity is subject to. Do they not stand out in strong and steady relief—stable and certain as a Gospel truth?

REMARKS ON THE INTRODUCTORY LECTURES
DELIVERED AT THE DIFFERENT MEDICAL
SCHOOLS IN OCTOBER, 1869.

By Dr. C. B. KER.

SUCH remarks might fitly be headed, "Those who live in glass houses should not throw stones," for the condemnation with which some of the lecturers visit homœopathy and homœopathists stands in glaring, almost amusing, contrast with the acknowledged deficiencies and imperfections of their own practice. Indeed, it is not going too far to say that a chief cause of the treatment we receive at their hands is the consciousness on their part of those very imperfections and deficiencies, on the principle that one's own weakness, as a general rule, makes us most intolerant of the weakness of others. With a candour which has something praiseworthy in it, most of the lecturers prove their recognition of their weak points by commenting on and explaining or apologising for them; and, with a heartiness which is both ludicrous and natural, nearly all of them cry out against the not-to-be-forgiven sin of homœopathy. As a set-off to their confessions of demerits they laud to the skies the merits real or fancied of their school and its high priests, and are never wearied of telling the tale of their virtues.

In this way they put themselves and their audiences in good humour with each other, allowing their perfections to obliterate the memory of the confession of their imperfections.

The first lecture I shall comment upon is Dr. Cheadle's, at St. Mary's. From Lord Milton's fellow-traveller over the Rocky Mountains of North America I expected honesty, and I cannot say I was disappointed. He sees clearly enough where the medicine of the schools fails and how far it is from deserving the eulogies which are sometimes heaped upon it. Here is one of his sentences—"As we learn more of the materials with which, and of the mode in which, the tissues of the body are built up, and the series of morbid changes which take place, and as our knowledge of the precise action of the agents at our disposal on the tissues and secretions increases, we shall begin to see clearly how to adapt them to the end we seek." This is a remarkable passage. "We shall begin to see clearly," he says, "how to adapt them," meaning drugs, "to the end we seek," that end being, of course, the cure of disease. The lecturer could scarcely have appreciated the full force of this confession of his. What does it amount to? To this, that we, in this nineteenth century, more than 2000 years after medicine has been practised as a profession, have come to the conclusion that after, not before, we know more of the tissues which go to the building up of the body, of the morbid changes which take place within it, and of the action of drugs on those tissues and secretions, we shall then, but not till then, begin to see clearly how to prescribe medicine in disease. We must wait, in fact, for advances in physiology and pathology before we can expect to do much good. The confession is to this effect, that we have not yet begun, after these long years, to see clearly how to treat disease! But it would not have done to dismiss an audience of medical students with the impression of such an admission on their minds, and Dr. Cheadle, therefore, goes on to say that men are at work who will soon throw light on the dark places—"Now, a great army of skilful and honest investigators, the most industrious and honest of men, attack the unknown"—the

unknown with a vengeance—"night and day, and light must come out of their labours." We must hope so, and wish them God speed. In another part of the lecture the speaker gives them the key of explanation to this state of modern medicine. "Clinical medicine is pushed out, as not necessary for examination, by the crowd of other subjects to be learned." Clinical medicine pushed out! The Bible and its great doctrines might as well be excluded from the theological examinations, English jurisprudence from a lawyer's, or book-keeping from a merchant's. What is a medical man without clinical medicine? Worse than the pilot without a compass. And yet, up to this time, hundreds of men have yearly been turned loose on the world to practise what they may know nothing about. I must say, in justice to Dr. Cheadle, that, though he makes this admission, he makes it to condemn the neglect of clinical examinations. "The most important of all medical knowledge," he says, "is the knowledge gained at the bedside. The wards of a hospital are the proper field of study, not books." After the admissions I have quoted it is difficult to know what the lecturer means when he says, "The triumphs of therapeutics are less obvious but no less real than those of surgery and preventive medicine;" so little obvious are they that not only do not we of the new school see them, but the most eminent of the old school equally fail to recognise them, and it is not a little strange that in the same lecture we should hear of such triumphs and such failures. Dr. Cheadle's summing up is something to the following effect: "We can teach you no magic art; we have adopted a careful empiricism now, and with that we must be content for a time; medicine necessarily waits on the sister sciences; we can cure certain affections and control and direct the course of others—prevent secondary affections, remove pain, and relieve distress."

Without the slightest allusion to Hahnemann the fact is mentioned of diseases being no longer looked upon as entities, something to be driven out from the body, a belief which in some degree justified the polypharmacy of old days. There can be no doubt that Hahnemann was the

first to express his dissent from that belief. In the 13th paragraph of the *Organon* (and it must not be forgotten that that work was published sixty years ago) we read—“Disease considered as a thing separate from the living whole, and hidden in the interior, is an absurdity that could only be imagined by minds of a material stamp.” Elsewhere he gives his own definition in these words—“Diseases are nothing more than alterations in the health of the healthy individual, which express themselves by morbid signs.” This is exactly what the schools teach now without the proper acknowledgment to Hahnemann. So much for Dr. Cheadle’s lecture.

A notice of some passages in Mr. Paget’s address to the Clinical Society will prove interesting to us, especially from the singular and candid admissions he, too, makes. “Be clinical, whatever you are,” he says; “clinical science is self-sufficient,” though he feared that there existed little faith in the power of clinical research and too great a readiness to accept and act on deductions from other sciences though not approved by clinical evidence. Here, then, is one of the arch-priests of the old school lecturing, not raw medical freshmen, but his brother practitioners, on the utility and necessity of clinical study as upon a subject unknown to them, or the importance of which was not at all recognised. Nothing can explain more clearly the chaotic state of modern therapeutics than the fact embodied in these words of Paget’s. No wonder that there has been no real advance when the only road to advance in practical medicine, that of clinical research, has been neglected. Again, he says—“there is no reason to be given from the nature of things why any disease should have a remedy.” He might have said, with equal truth, the converse of that proposition, that there was no reason in the nature of things why disease should *not* have a remedy, but it is characteristic of the medicine of the present day the hopelessness conveyed in Mr. Paget’s words. He passes close to homœopathy, but without a glance of recognition, when he adds—“In all biology there appears no more singular fact than the real cure of disease after the manner of ague by *Cin-*

chona, or syphilis by *Mercury* and *Iodide of potassium*." We must hope that search will be made for an explanation of that fact, for there can be little doubt that such search will result in the re-discovery of the doctrine of similars. In the history of science, to parody Mr. Paget, there is no more singular fact than the inability or unwillingness of medical men to see in homœopathy a road out of their labyrinth of chaotic uncertainty and confusion.

Dr. Johnson's opening discourse at King's College is in many respects a very sensible one. He, too, impresses upon his students the fact that disease is not an entity—that disease and its cause are two different things, and that in most cases the cause is external to the body. He claims for modern medicine the merit of investigating into the causes of disease, as if, in all times, from Hippocrates downwards, there had not been such investigation. He dwells at length on his favorite idea, by no means an original one, that disease is an effort of Nature to rid herself of offending matter, and on the deduction from his theory that such efforts should be assisted and not thwarted. We know that, carrying out his theory into practice, he treated his cholera patients during the last epidemic with *Castor oil*, and very successfully, according to his own showing. Here, then, is another instance of the closeness of approach of the old to the new school, without recognition on the part of the former, and that though allusion is made to homœopathy and to its more successful treatment of cholera which, however, as you may suppose, is not attributed to the remedies, but to its non-interference with Nature's eliminating efforts, which opiates and astringents, he says, very effectually do. We have no theory of therapeutics trustworthy or true, he asserts, "*similia similibus curantur*" not being a legitimate deduction from fact, nor the theory of deficient vitality which necessitates restorative treatment. "The most general and comprehensive statement with regard to the cure of disease that can safely and confidently be made is this—most of those diseases that are curable by any means are curable by the unaided powers of Nature, and the chief art of the medical man consists in

regulating and directing those natural forces which will cure a fever or an inflamed lung as surely and as completely as they will heal a wound or mend a broken bone." A very candid admission for a learned Professor to make, that Nature after all is the great doctor, and that the smaller doctor's province is that of the nurse who has only to watch and wait, and see that no thwarting of the great doctor's efforts takes place. If Dr. Johnson is really in earnest in saying that the natural forces are sufficient of themselves to cure a fever and an inflamed lung, and that most of the diseases that are curable by any means are curable by Nature's unaided powers, why does he not go farther and say that disease is better treated without medicine? He is not prepared to go quite so far, and yet to that conclusion, or to a belief in homœopathy, I believe he must soon come. In the meantime he should be prepared with a list of the diseases curable by Nature alone, and of those requiring the interference of drugs. He introduces the subject of homœopathy in the following not very complimentary language—"There is much truth in the statement that superstition is an ally of infidelity, and it may be admitted as a fact that the extreme and childish credulity of Hahnemann and his disciples in the efficacy of infinitesimal doses has tended to increase the scepticism of those who see in the reputed cures by such doses only the work of the *vis medicatrix naturæ*, aided, perhaps, by the faith and hope which rarely fail to exert a beneficial influence upon the sick." Here, then, the superstitious and the sceptical are brought into contrast, the superstitious being the followers of Hahnemann, I suppose. We do not accept the title superstitious, though a large body of the most intelligent of the dominant school must perforce accept that of sceptical, and I do not see how Dr. Johnson, after the admissions of his which I have just quoted, can avoid being classed among the sceptics. I think it must strike you that this lecturer is, to say the least, not the one to charge the followers of Hahnemann with childishness and credulity, and to affect for his own practice a higher or more scientific position. He thinks his bare assertion that the few known

specifics in medicine, *Quinine*, *Mercury*, and the *Iodide* and *Bromide of potassium*, are useful in proportion to the size of the dose, militates against homœopathy. In the first place, he does not prove that those specifics are most efficacious in larger than in smaller doses; and, secondly, he brings no argument against homœopathy even if he proved them to be more useful in the larger doses. Nothing will remove from the allopathic mind the deeply-rooted conviction that homœopathy simply is the doctrine of small doses. To our shame be it said that some among us have said and written much to account for this conviction. Still a man in Dr. Johnson's position ought to know what homœopathy is, and to be candid enough, when speaking of small doses, not to identify that question with that of the law of similars. But, condemnatory as is his tone, when speaking of old medicine, he thinks that his credit requires him to be more than condemnatory—to be unjust towards new medicine. His credit required him also to say, towards the end of his lecture—"We have not given up faith in medicine, though we rely less on drugs than we did." Some of the passages I have quoted appear to me to contradict this assertion. And again he says, almost apologetically—"We do possess remedies of undoubted power, and we hope to add to their number," and characterises, Heaven save the mark, therapeutics as "an important part of the art of healing." But enough of Dr. Johnson.

In flat contradiction to some of the assertions of the last lecturer, Mr. Gamgee, at Birmingham, maintains that too much has been said about the power of Nature in disease, and too little of the power of art.

At St. George's Hospital Dr. Wadham makes the confession that science has contributed little to our knowledge of therapeutics, which remains almost entirely empirical, the result of accidental observation and subsequent experience. And he says also that, so far as medicine is a science, it continues in all its branches one entirely of observation. "Observation alone, chiefly forced upon us by the ridiculous assertions regarding the efficacy of homœo-

pathic remedies, had also led to the recognition that not only many specific diseases and many uncomplicated inflammatory affections run a definite course, over which therapeutic agents have no control, and have, when not carried to such an extent as to cause irreparable destruction of tissue, a tendency to end in resolution, but that even in chronic affections, and notably in those affecting nervous tissue, after a lapse of time, in the absence of all remedies, though probably under the influence of hygienic means the nature of which may have escaped detection, an impulse towards a return to the natural function of the tissue occurs and continues uninterruptedly until its perfect restoration is established." So he credits homœopathy with being the prime agent in what will probably prove a great revolution in medicine, but no thanks to it, of course; for what man in his senses can give credence to the ridiculous assertions it makes touching the efficacy of its infinitesimals? It is an active agent indirectly and unconsciously. It teaches more by what it does not do than by what it does. As it cannot by any possibility cure disease, in the proper sense of the word *cure*, by the doses of medicine it professes to give, it shows us what the natural course of disease is, and, as recovery unquestionably is frequently the result, a lesson is thus given us which it may be well to take to heart—that it is right in many cases to let well alone, and to withhold drugs from our patients, especially when observation shows us that their maladies are running a safe course. This allowance may certainly be made in favour of homœopathy. We are of course very grateful to him for his liberal mention of us. One other passage I shall give from Dr. Wadham's address. "The function of the physician is often best performed by simply watching and directing the action of the vital forces, supporting the system and relieving symptoms by the employment of those means of which experience has taught us the value." Here, too, a priest of the old faith, lecturing to the rising generation of disciples of medicine, is obliged to own that often a physician's part is that of a nurse only.

At Guy's Hospital, Dr. Hilton Fagge dwells much, as

indeed nearly all the lecturers do, on the importance of clinical study, which looks as if, up to this time, the subject had never been touched upon. "For the first time in the history of medicine," he says in another place, "drugs and methods of treatment have been submitted to that which is the only real test of their value. The question now is,—would the patient have been better than he is to-day if he had taken no medicine? the old question was,—is he better than a week ago before he took my physic? The result is that most of the strong medicines are still believed to have curative power. For a certain number of cases the expectant treatment is best, however." There are a good number of admissions here which would never have been made a few years ago. For the first time, he says, drugs and methods of treatment are being submitted to that which is the only real test of their value. The physicians of past times, could they hear this statement, would be not a little surprised and indignant at the charge of never putting to proper test the medicines they were duly using. As far as I can see they tested them in the same way as their successors test them, that is to say, on the diseased body. If Dr. Hilton Fagge had described his only real test to be the proving of medicines on the healthy and thereby obtaining the clue of their action and use in disease, there would have been some more truth in his expression—"for the first time." But he and his party are not ready to go so far yet, though there can be no doubt that they will soon be obliged to acknowledge that medicines must be proved on the body in health, and so secure their practice on the only sure foundation. The fact, however, that *we* have already secured that foundation will cause its general recognition to be postponed, so unwilling are our brethren to allow that any good thing can proceed from us, or to follow our lead in any one matter. I do not think that the lecturer's assertion, flattering though it be to himself and school, that most of the strong medicines are still believed to have curative power, is a correct one. In one sense, perhaps, it is true enough. There certainly are medical men, especially in country districts, who either know nothing of the advances

of modern medicine or who choose to ignore them if they do. Such cling to the old compound prescriptions and to powerful drugs, conscientiously enough, I dare say, and refuse to adopt any other practice than that they were trained in. But, on the other hand, there is no denying the fact, a fact attested by themselves in addresses and speeches and writings, that the old so-called strong medicines are not only being lost faith in, but discarded altogether. A book has been published only a few weeks ago by Dr. C. Drysdale, of London, in which *Mercury* is condemned as a remedy for syphilis, and this is no new condemnation. So far back as the Peninsular war some of the army surgeons treated syphilis without *Mercury*. But it is not necessary to insist on the fact, after what I have said at the beginning of this paper that the most educated and intelligent followers of old medicine neither give so much strong medicine nor in such complicated mixtures as they used to do. One would scarcely have expected after the claim he has put in for faith in strong medicines that Dr. Hilton Fagge would have made the admission that the expectant treatment in a certain number of cases is the best. But such an admission he makes, nevertheless, and so one more proof is given, though none was wanting, of the utterly confused condition of the modern practice of medicine. But the word expectant he uses under protest, and implies that indifferentism and doubt are worse than expectancy, all three, however, being bad. He might have gone on to say that in the confessedly transition state of therapeutics in these days, doubt and indifferentism and expectancy are as unavoidable and even necessary as faith is in recognised and unmistakable fact. But as he fails to see, what we outsiders do very clearly, the real state of the medicine of the day, he cannot express himself otherwise than he does. It is natural and even meritorious in the firm believer to condemn what he believes to be false and to warn the doubting and indifferent of the natural termination which their attitude of mind leads to.

Dr. Meymott Tidy delivered the opening address at the London Hospital. He strongly urged upon his hearers the

value of independent inquiry and the mistake of pinning their faith to authorities, and of theorising too much. System-makers and system-mongers, he said, have been a curse to science as facts are handled by such to suit their pre-conceived notions. Thus may be accounted for the miserable system of homœopathy, a system which has led some brought up to love truth and freedom to hug the chains of error and falsehood. This is a specimen of the mode in which homœopathy is treated by some who boast of being the rational disciples of a rational system of medicine. System-makers and mongers are a curse to science. But homœopaths are system-makers. Therefore homœopathy is a curse to science. Slipshod logic of this sort takes many people in, but it is a poor compliment to any individual or audience of average education and intelligence to present such a syllogism to them for acceptance. The major and minor proposition both admit of dispute, and yet the conclusion hangs upon them. That system-makers are a curse to science is by no means clear. A system may be the natural deduction from admitted facts, a legitimate generalisation from observed and recognised phenomena. And even when the system is proved to be a false one, it has at all events shown us the way we ought not to go, and that is no small matter. The minor proposition, that homœopathy is a system, may be called true enough, if a medical system is one based upon a principle or generalisation from observed phenomena. If the system is based on a false principle let it be condemned by all means. But before characterising homœopathy as a false system, Dr. Meymott Tidy should have been prepared to prove two things; first, that the facts on which the law of similars is based are not facts; and, secondly, that the law of similars is not a natural deduction from those facts. He has not attempted to do the one or the other, and therefore has no right to tell his students that homœopathy is a curse to science.

Mr. Silver, at the Charing Cross Hospital, strongly impressed upon his students that hasty generalisations on insufficient data were the bugbear of medicine. He did not, however, go on to say, as he might have done, that one of

the hastiest and falsest generalisations in modern medicine is to the effect that homœopathy is a curse to science, and that it is formed *à priori*, and not on any data whatever that would for a moment stand a logical test. The syllogism is:—homœopathy gives medicine in infinitely small quantities. But such quantities of medicine are powerless for good or evil. Therefore, homœopathy, too, is powerless, for good or evil. Here, too, both major and minor propositions are not such as to be made parts of a syllogism. That homœopathy gives infinitesimals in diseases is true, but that it is a system of small doses or that it gives only infinitesimals is not true. Again, that infinitesimals are powerless for good or evil is not proved, and the direct contrary is maintained by hundreds, even thousands of intelligent observers in all parts of the world. How, then, can the conclusion that homœopathy is powerless for good or evil be drawn from so rotten a foundation? I am justified, therefore, in condemning such conclusion as a hasty and false generalisation from insufficient data.

I have already quoted enough to give you a general idea of the tone of these introductory lectures. You will, I have no doubt, agree with me in thinking that tone wholly unjustifiable on the part of those whose admissions amount nearly to this:—Homœopathy is very bad, but our own practice is almost as bad. It seems natural advice on our part to give them:—put your own house in order, and, till then, leave us to build or improve ours as we best can. What weight can the opinion have, on a subject of medicine, of men whose own practice calls forth such remarks as the following, which I quote from a clever monthly journal called the *Practitioner*. “The editors have seen with sorrow the scepticism in the matter of therapeutics, which is slowly creeping in amongst us; they have watched with a sadness which many others have shared with them, that despairing nihilism in the treatment of disease which advances *pari passu* with a rapidly increasing knowledge of pathological facts and the causes of disease.” Would that scepticism and that nihilism find any place in a system of medicine which had good grounds for calling itself rational? But the wholesale

condemnation of all practice but their own in which they indulge would be justifiable only by the followers of a rational system of medicine. To sum up the admissions and confessions made in the lectures I have been quoting from, they are to the following effect. 1. We shall begin to know how to treat disease when we know more of physiology, pathology, and *Materia Medica*. 2. Light is to come out of darkness from the investigations of those who are now diligently attacking the unknown. 3. Clinical medicine, so far from occupying the first place in examinations, is pushed into the last when it is granted a place at all. 4. A careful empiricism is the practice of these days, and with that we must be content for a time. 5. Medicine has its foundation in the sister sciences. 6. All we can do is to cure certain affections, control and direct the course of others, prevent secondary affections, remove pain, and relieve distress. 7. There is no reason in Nature why any disease should have a remedy. 8. We have no trustworthy or true theory of therapeutics. 9. Most of the diseases that admit of cure at all are curable by Nature. 10. The chief art of the physician is to watch and direct the natural forces. 11. Medicine has discovered only three or four specific remedies. 12. Therapeutics remains almost entirely empirical, the result of accidental observation. 13. Now, for the first time, drugs and modes of treatment are being properly tested. 14. In a large proportion of cases the expectant treatment is the best.

I said in the commencement that the motto of these remarks might very justly be—"those who live in glass houses should not throw stones;" and I think I have proved that our brethren of the old school live in a house of glass, and not only so, but in one whose foundations are built on the sand. It is neither presumptuous nor impertinent, therefore, to advise them not to throw stones. On the contrary, to give them such advice is to do them a real service, and if it is neglected, on themselves will lie the responsibility if their frail and brittle tenement comes tumbling about their ears.

ON CHOREA.

By GEORGE M. CARFRAE, M.D.

(Concluded from Vol. XXVII, p. 649.)

FOR upwards of a quarter of a century the editors of this Journal have endeavoured to awaken the mind of the profession to the necessity for a reform in practical medicine. Happily, the majority of medical men now admit this necessity, and are bestirring themselves to establish a more satisfactory system of therapeutics. If, however, additional evidence were wanting on this point, it is to be found in the following quotation from Reynolds' *System of Medicine*. Dr. Radcliffe, the author of the article *On Chorea* in that book (vol. ii, p. 131), writes thus, "Nothing can be more perplexing than the statements made by various authorities respecting the efficacy of remedial agents in the treatment of chorea. Few voices, it is true, are now raised in favour of the old-fashioned antiphlogistic way of treatment, in which bloodletting and purgatives and low diet figured so conspicuously; but beyond this all that is uttered seems to be dictated by the spirit of contradiction or scepticism. Indeed, so little unanimity of opinion is there respecting the treatment which ought to be pursued in chorea, that the only course is for each one to glance at the principal remedial agents recommended, to weigh the statements made respecting them as well as he can, and to take upon himself the responsibility of deciding upon his own course of action." Following this suggestion, we shall now briefly examine the principal remedies recommended for chorea, and allot to each its relative value as a curative agent in that disease.

Dr. Elliotson, along with many other physicians, speaks very confidently of *Iron* as a remedy for chorea. He says that he cured forty cases by the use of full doses of the *Sesquioxide of Iron*, the time spent in the cure varying from six to eight weeks. When we consider, however, that the average duration in Dr. Reeves' summary of

eighty-four cases is seven weeks, we are left in doubt as to whether the *Iron* had any modifying influence on the course of the disease in Dr. Elliotson's cases. The pathogenetic action of *Iron* would not lead us to select it as a remedy for chorea. And if it be used at all, its proper place would, we think, be in those cases which occur in combination with chlorosis; and then, it should be given in material doses.

Zinc has been extensively used both by allopathic and homœopathic physicians in the treatment of chorea. The late Dr. Hughes speaking of the cases occurring in Guy's Hospital, says, that "*Zinc* in the form of *Sulphate* has been the most frequently employed as a remedy, and has generally been most successful."

In the proving of *Zinc* (Hahnemann's *Chronic Diseases*, vol. v, p. 357, Hempel's edition) we find well-marked choreic symptoms, "jactitations in various parts of the body, twitching in various muscles; twitchings and jerking in various parts of muscles; a good deal of visible twitching in the body and face; visible twitchings in both arms and hands." Judging from its characteristic indications, we should be led to recommend *Zinc* in those cases in which there is aggravation of the symptoms after dinner and towards evening, and when the sufferings are increased by wine; also when the symptoms are felt most during rest.

Arsenic was first recommended in the treatment of chorea by Dr. Thomas Marten, sixty years ago, and has been a favorite remedy ever since. The late Dr. Begbie, speaking of this medicine, says, "in an experience of nearly thirty years, I have never known *Arsenic* fail." Dr. Radcliffe thinks that it acts more powerfully when used hypodermically.

Strychnine has been lately held in great repute as a remedy for chorea, chiefly in France; it was brought prominently into notice by Trousseau. He uses what we think unnecessarily large doses, so large, indeed, as to produce the pathogenetic effects of the drug. The symptoms which he thinks it essential to evoke for the cure of the patient constitute such an excellent proving of the

medicine, that we here quote the paragraph as a good guide for its selection.

“After a very few days have elapsed, and as soon as the first doses are increased, the patient complains, at certain periods of the day, twenty minutes or half an hour after taking the medicine, of some stiffness of the jaws, of headache, of impairment of the sight, of a little giddiness, and of slight rigidity of the muscles of the neck. He complains also that the hairy parts of his person and his scalp itch; the sensation next extends to the non-hairy parts, and in some cases an eruption of prurigo comes out. As the doses are increased, the stiffness becomes general, and is most marked in the limbs that are most convulsed (and these are also the most paralysed, as you know). Muscular jerks occur occasionally also at the same time, and oftentimes spasms and convulsions in hysterical persons. These starts happen in particular when the patient is taken by surprise, or when the order is given him before he has time to will, and they may be so violent that he is thrown down. I remember a young girl, eighteen years old, who was under treatment for St. Vitus’ dance at the Necker Hospital, and who, on being unexpectedly addressed by one of the sisters, was seized with tetanic contractions of this kind, and thrown forwards as by a spring. These tetanic contractions are painful, especially when the patient tries to resist them, and to remain standing; they are instantly quieted, however, on the patient assuming a horizontal position.”*

Strychnine, *Nux vomica*, and *Ignatia* will, we think, be found suitable in the same class of cases, the characteristic indications for their use being that “many of the symptoms are aggravated early in the morning, also after dinner, and in the evening. They are relieved by lying down; aggravated by taking coffee or wine, or smoking tobacco.”

Ignatia ought to have the preference when the disease has been caused by fright. Hartmann suggests that it ought to be used in recent cases.

* Trousseau’s *Clinical Medicine*, vol. i, p. 418-9.

We are not surprised to find *Iodine* and *Iodide of Potassium* among the remedies for chorea when we look to its pathogenesis. Gairdner observes that *Iodine* causes trembling of the limbs resembling chorea, and lasting a long time. In Hahnemann's proving of *Iodine* (*Chr. Diseases*, vol. iv, p. 24) we find these symptoms: "Trembling, trembling of the limbs, trembling first of the hands, then of the arms, feet, and back, his walk is vacillating and unsteady, his hand moves in zigzag, he is unable to approach anything to his mouth in a straight line; when at rest the trembling parts may be held still easily, general exercise is painful, and the circulation accelerated with a small wiry pulse. Spasms, spasmodic movements of the limbs, violent spasms and convulsed movements of the arms, back, and feet, ceasing scarcely a moment. Great prostration of strength, and general emaciation. Despondency." A scrofulous diathesis is an additional indication for the use of *Iodine*.

Dr. Harley, who has lately devoted some attention to the subject, relies solely on *Conium* for the cure of chorea. He gives it in very large doses (ʒiij to ʒiv of the *Succus Conii*), the quantity being proportioned to the muscular activity of the individual. The production of the proper physiological effect is indicated by the occurrence of giddiness, tottering, and great heaviness, and tendency to sleep, or, rather, to cease muscular exertion, and remain quiet.

In addition to the above-mentioned remedies which have been found useful, both by allopathic and homœopathic physicians, there are others which are used more exclusively by the latter. *Cuprum aceticum* or *Metallicum* corresponds, says Hartmann, to twitching of the muscles, sudden piercing cries, spasmodic distortions, and motions of the extremities even when occurring during sleep, mostly commencing at the fingers and toes, and gradually changing to convulsions as the body becomes involved, attended with distortion of the mouth, alternate opening, closing, and distortion of the eyes. Another kind of chorea for which *Cuprum* is indicated is the following:—Redness of the face, spasmodic distortion of the face, eyes, and body, at times risus sardonicus, at others violent weeping, anxiety, ludicrous

gesticulations, and desire to hide oneself. These symptoms are attended with melancholy or ecstasy.

Belladonna.—In cases of poisoning by this plant we have these symptoms:—"continual agitation; they could not keep still or remain erect; they threw themselves forward, extending their hands towards the ground; constant catching at small objects, which they let fall; choreic convulsions." Additional symptoms which give a preference to *Belladonna* are—feebleness and uncertain gait, paralysis of one side of the body, so that the patient draws one leg after him; convulsive movements of the lips and risus sardonicus; absurd grimaces, and feebleness, and trembling of the tongue. It is particularly indicated when the twitching occurs in the flexor group of muscles, and the paroxysms are preceded by a feeling of numbness in the muscles.

Stramonium has for one of its characteristic indications, like the last-mentioned medicine, a creeping sensation in the limbs previous to the attack, which consists of violent spasmodic movements of the extremities, almost always crosswise, of the left arm and right foot; afterwards the head is attacked, or only the muscles of the lower lips, jaws, &c.; or the patient rotates her arms and hands, as if she would spin or weave. Many of the symptoms of *Stramonium* point it out as a valuable remedy for that species of chorea described as the mania saltatoria. It is also indicated when the disease tends towards idiocy or religious mania.

Hyoscyamus corresponds to chorea with great agitation and loquacity. The patient shows a tendency to laugh at everything.

Agaricus muscarius has been found useful in and is strictly homœopathic to chorea. The indication for its use is that the twitching and spasms all cease during sleep.* Dr. Hughes† "rapidly cured a case of long standing which had this peculiar feature; the twitching in the arms ceased when the patient used them in his work of shoemaking."

Cocculus indicus is useful in the same class of cases as *Agaricus*.

* See *Monthly Homœopathic Review*, July, 1868.

† *Manual of Therapeutics*.

Causticum, says Jahr,* is a principal remedy in serious cases, and has been successfully employed in chorea which came on after a retrocedent eruption of the head.

Sulphur is likewise useful after retrocession of an eruption.

Rhus toxicodendron is particularly indicated when the disease comes on after a cold bath or repelled measles.

China will be found valuable in chorea when it is brought on by onanism.

Cina is indicated in cases which are complicated with worms.

Crocus cured a case of Dr. Hartmann's,† in which the contractions took place in single bundles of muscular fibres. The patient suffered from bleeding of the nose. The same author recommends *Secale* as a remedy from which he has got satisfactory results when combined with animal magnetism.

In Dr. Hale's *Materia Medica of New Remedies*, 2nd edition, there are some valuable additions to our list of remedies for the disease now under our consideration. He mentions for example some well-authenticated cures by *Cimicifuga racemosa*, which seems to act best in cases with the rheumatic complication. Dr. R. Hughes‡ also recommends it as a remedy for chorea when it is complicated with rheumatism.

The same remark also applies to *Caulophyllum thalictroides*.

"*Scutellaria lateriflora* promptly relieves," says Professor Paine,§ all forms of chorea; in fact, it may be correctly pronounced a specific for these affections. And, lastly, there are some very interesting cases of chorea cured by *Veratrum viride*.

In severe cases the *recumbent posture* must be enjoined, but in mild cases and during convalescence from an acute attack of chorea *gymnastic exercises*, especially if combined with music, tend very much to promote the recovery of the patient. To these ought to be added *warm baths*.

Before concluding, we cannot help reverting to the significant fact that while the whole category of so-called antispasmodic remedies, *Camphor*, *Ether*, *Valerian*, *Musk*,

* *On Nervous Diseases*.

‡ *Op. cit.*

† *Chronic Diseases*, vol. iv, p. 149.

§ Hale's *New Remedies*.

&c., has been tried in the treatment of chorea and found wanting, the medicines which find most favour by physicians (allopathic) in the present day are those which are most strictly homœopathic to the disease. Where, for example, can we find a better example of this than in Trousseau's favorite remedy—*Strychnine*? And unless we suppose that he got the idea from Hahnemann, we are very much at a loss to fancy what principle can have led him to the use of that remedy. In studying the modern treatment of chorea, indeed, we cannot help coming to the conclusion that we have additional evidence afforded us that the "drift of modern medicine" is towards homœopathy.

ON THE SURGICAL TREATMENT OF ENLARGED TONSILS.

By GEORGE MOORE, M.D.

(Read before the British Homœopathic Society.)

THE pathology of this disease points out a rational treatment—no less than the teachings of experience. An enlarged tonsil in the first stage of chronic hypertrophy is soft and friable, and cuts easily. At a later period, when the exudation thrown out by the sub-inflammatory process has reached its maximum development, the gland is dense, firm, elastic, and crisp to the knife's edge. The cut surface presents numerous small pits, which are ducts dilated by holding the secretion which cannot escape, owing to obstruction of the orifices. The soft connective tissue is converted into firm fibrous bands which intersect one another. The walls of the gland-tubes exhibit the same change. The secretion and, notably, its cell constituents show altered characters when investigated by the microscope. The mucous covering is more or less congested and thickened. Partly from unevacuated secretion, partly from interstitial hypertrophy, the gland is in various degrees augmented in volume and in weight.

Such pathological characters—very briefly sketched—encourage only a very faint hope of the disease ever being controllable or removable by a purely medical treatment. At any rate, the medicine or medicines have yet to be discovered which shall cause absorption of the effusion and bring the gland back to a normal condition.

Medicines, however, in alliance with good food, change of air, sea bathing, and all means calculated to invigorate the nutritive processes, are not to be undervalued, whenever tonsillary enlargement occurs in young children as part and parcel of a constitutional degenerescence, whether it be known as struma, rickets, or herpetism. The body must be treated before the tonsil. The result in all cases is that the child improves in general health; and, in a few, that the enlargement remains stationary and is tolerated, or becomes somewhat smaller.

Unfortunately, as far as my experience goes, such favorable results are exceptional. In the majority of instances enlarged tonsils, beginning as the effect, end in being the cause of constitutional disorder. An attack of cold seizes upon the throat of the delicate child; or the child catches an exanthematous angina; or it suffers during the crisis of second dentition. The slight, quiescent, and tolerated enlargement receives a fresh impetus, and ever after, if left to itself, it goes on steadily increasing in size until adjacent parts are seriously encroached upon and the function of these parts are interfered with. The order and severity of the secondary symptoms arising in this manner are regulated by the locality and extent of the mechanical obstruction offered by the enlargement. It will suffice to run over the more prominent of these deviations from health:—

1. Respiration is carried on mainly through the mouth, whence it happens that the progressive development of the nose is arrested, that organ remaining small, thin, and narrow in its passage; and also that the patient's general health suffers from the restlessness, snoring, unsound and disturbed sleep, which are caused by the impediment to the free ingress and egress of air.

2. Recurrent attacks of cold set up tonsillitis, which is accompanied by more or less fever, frequently terminates in suppuration, and is often, when the tonsils are previously much enlarged, complicated by alarming symptoms of suffocation.

3. The decomposition of the unhealthy secretion from the diseased tonsils, as well as from the fauces generally, renders the breath offensive and compels the patient, already in feeble health, to live constantly in a vitiated atmosphere.

4. The voice becomes thick and muffled, or nasal, or guttural; pronunciation indistinct, and sustained speaking unduly fatiguing, or even impossible.

5. Deafness may result either from the enlargement being situated at the upper part of the tonsil and blocking up the orifice of the Eustachian tube, or from an extension to the latter region of the tumid condition of the mucous membrane of the throat, so generally met with when the tonsils are enlarged.

6. A close relationship has been traced between chronic tonsillary disease, dyspepsia, and rheumatism. In 70 cases of acute rheumatism treated in the London Hospital, it was found that 72 per cent. had been subject to acute tonsillitis, and that about one half had enlarged tonsils at the time of observation. It is supposed that the saccharising property of the buccal secretions is modified by the unhealthy secretion from the tonsils—that disorder of primary digestion ensues, that impurities find their way into the blood, and that rheumatism is the result.

7. Swallowing is rendered uneasy or difficult, and hence a child may suffer from taking less food than it otherwise would take. This symptom has been observed in children at the breast.

8. When enlarged tonsils have been permitted to exist from an early age upwards a peculiar conformation of the chest occurs in about 10 per cent. of all cases. Lambron* maintains that it is not the ordinary distortion of rickets, but a special deformity met with in all cases where respira-

* *Nouveau Dictionnaire de Médecine et de Chirurgie Pratique.* Article "Amygdales."

tion has to be carried on chiefly by the diaphragm, in consequence of an obstruction situated in the upper air-passage; and he concludes that when an infant, with chest-walls soft and easily altered in shape, has enlarged tonsils, the energetic and constant contractions of the diaphragm pull the chest-walls inwards at a point corresponding with the insertion of that muscle, and hence establish a transverse depression on the external surface, which alone constitutes the characteristic pectoral deformity caused by this throat disease.

Enough proof has now been offered for the necessity of some measure of surgery for the purpose of preventing, mitigating, or remedying the foregoing serious evils, and the only point now left for our consideration is—To what particular surgical procedure shall we resort?

The reduction of enlarged tonsils may be accomplished by different methods, each having its own advantages and disadvantages.

1. *By the bistoury.*—The operation by means of the knife and forceps has the surgical merit of being speedy, effectual, and almost painless. But, on the other hand, it is anything but easy or safe in the case of a frightened and struggling child, even with the most powerful and intelligent assistance. The tongue, palate, or pharynx is almost certain to be wounded. Chloroform, although recommended by high authority, appears to me to be out of place and to constitute an additional objection. Moreover, several cases are on record of fatal puncture of the carotid in adults, who are, of course, much steadier and more manageable than younger persons.

2. *By the tonsilotome.*—This instrument is free from the serious risks of the last. Death from lesion of the carotid is impossible. Nevertheless, it is useless when the enlargement extends downwards and outwards rather than upwards and inwards, for the ring cannot be properly applied, and only an insignificant slice, if even that, can be excised. Moreover, some mouths are so narrow at the back part as to prevent the necessary movements of the instrument, and some tonsils so friable as to tear under the fixing of the

prong and the traction of the knife. Still, if the ring fairly encircles the tonsil, a satisfactory result may be obtained with absolute freedom from danger to life or injury to adjacent structures. I have on several occasions used a French tonsilotome with excellent results.

3. *By ligature and Maisonneuve's "constricteur."*—Both are painful, troublesome, and tedious, but they are absolute safeguards against hæmorrhage. Ligatures are, further, productive of offensive discharge so long as the slough remains.

4. *By caustics.*—*Nitrate of Silver* and *Iodine* have been largely used, but a reference to the dense structure of an hypertrophied tonsil will show at once why they must fail, as universal experience proves they do. They have a slight effect in reducing a recent, soft enlargement, and also in diminishing somewhat the gross volume by their superficial astringent action; but they have no influence whatever on deep-seated and chronic induration.

5. *By escharotics.*—The possibility of reducing enlarged tonsils by escharotics first came to my knowledge from reading a work,* published in 1863, by Dr. Fournié, of Paris, in which he states that two years previously he first employed the Vienna paste in the case of an English child, aged four years, for whom a cutting operation had been proposed by English and French surgeons, and objected to by the parents. Four applications of the caustic, at intervals of four days, sufficed to reduce the tonsils to their natural dimensions. To carry the paste safely to the throat he constructed an instrument consisting of a small pan, fixed at the end of a handle and inclosed in wire-gauze, the interstices of which were large enough to admit the passage of the semi-fluid paste in adequate quantity. Since the first operation he states that he has adopted the same surgical procedure both in infants and adults, using sometimes the Vienna paste, sometimes *Bichromate of Potash*, with almost analogous results. The latter drug he especially advocates in recent and scrofulous enlargements. He does not give the exact strength, but says that the solution must

* *Etude Pratique sur le Laryngoscope.*

be very concentrated and added to a small quantity of *Chromic acid*. The bichromate is also employed successfully by Lewin, of Berlin, for the same purpose. Fournié then gives brief particulars of fifty-two cases treated on this new plan. Three weeks was the average duration of treatment, and the result is declared to have been satisfactory in all. In two instances amygdalotomy has been performed, but the pain was so severe that the patients refused to submit to it again.

In the *Medical Mirror* for August and September, 1864, Dr. Morrell Mackenzie published two excellent papers on this subject, in which, whilst admitting the efficacy of Vienna paste and the bichromate, he proposed the substitution of a mixture of caustic soda and lime. He figured an instrument made of vulcanite for the conveyance of this escharotic to the tonsil, and he claims for this surgical drug certain important practical advantages over every other similar agent, viz. that it causes less pain, penetrates deeply rather than widely, and acts a longer time.

The following is the manner in which the treatment ought to be conducted. The preparation, which is in the form of powder, should be made into a semi-fluid paste with water, the consistence being such that the paste does not run. A sufficient quantity of it is then placed in the receiver at the distal end of the instrument. The patient sits facing the window, so that the operator can have plenty of light to see what is going on; or when there is no sunlight the throat is to be illuminated, as in laryngoscopic examination. The operator holds down the tongue with the depressor held in the left hand, applies the paste to the enlargement with his right hand, and keeps it applied for a few seconds. On the withdrawal of the instrument the patient swallows a portion of vinegar and water previously got ready, and gargles with the same. For a little while afterwards a burning sensation is felt. The place touched looks reddish black. In a day or two the slough separates, and on the fourth or fifth day, according to circumstances, the application should be repeated. Before long the operator will find the enlargement gradually

diminishing, and the patient expressing his relief and gratitude. I have never seen the slightest harm from the operation, but have experienced, in all cases, the natural satisfaction of every healer when he finds his efforts crowned with success. After vainly endeavouring to cure enlarged tonsils with medicines, nothing can be more personally pleasing than to see them dwindling from day to day, and all the secondary symptoms vanishing with equal pace.

I have applied this treatment above forty times. From this experience I feel justified in stating that it possesses the following advantages :

1st. Parents will consent and children submit to its application when a cutting operation would be at once rejected.

2nd. It is entirely exempt from the dangers and difficulties already mentioned as applicable to both bistoury and tonsilotome.

3rd. It can be employed for deeply-seated enlargements which cannot be reached in any other manner.

4th. The enlargements can be reduced bit by bit at any particular corner or prominence, according as the operator desires.

5th. When the first slough separates, and the honey-combed appearance of the tonsil is displayed, subsequent applications act more effectually than the initial one, partly because there is less obstacle to penetration, and partly because absorption is stimulated.

6th. The application can be done without the fuss and formality of a cutting operation however simple.

7th. The results are highly satisfactory in promptness and effectiveness. A troublesome disease is got rid of in a short time ; all its evil consequences either cease at once or gradually subside, and the patient, child or adult, flourishes apace.

A new instrument of my own contrivance for applying the paste is made by Messrs. Krohne and Sesemann, Duke Street, Manchester Square.

CASE OF IRITIS.

By Dr. LEADAM.

(Read before the British Homœopathic Society.)

MR. N. S—, æt. 40, a spare, delicate man, of nervous temperament, very excitable, was seized with a general catarrh, after a very close, oppressive, and hot day, on July 30th, 1869. He had had a dinner party on the 31st, and suffered some little additional inconvenience in the eyes, but on the 1st day of August had more pain and inflammation in the right eye, and on the 2nd, after a restless night, he lost the sight altogether.

There was acute pain over the orbit and in the globe of the eye, constant watering of the eye of scalding tears with temporary relief, the tarsal edges were adherent in the morning, the pulse was depressed, the tongue furred, appetite gone, mental agitation, and clammy skin. Examination of the eye was very difficult, owing to spasmodic closure of the eyelids, and intolerance of light. His eyes are naturally rather weak. The patient had called at my house in the morning at ten o'clock, but finding me out, he went on to Mr. Bowman, the oculist, who was also out of town, but his *locum tenens* (another oculist) saw him, and diagnosed *iritis*, and prescribed *leeches, blister behind the ear, Poppy fomentations, Atropine drops into the eye, daily and purgative draughts*. However, I saw him at 4 p.m., before any of the measures had been adopted.

On examining the eye with great care, and by means of the ophthalmoscope in a dark room, by letting in the light gradually I found there was general catarrhal ophthalmia, *id est*, conjunctivitis; then the pink zone of straight vessels in the sclerotic was distinct, but not so intensely vivid as might be, probably from the obscurative effect of the conjunctival inflammation. The aqueous humour was muddy, so that the iris could scarcely be seen, and the pupil not at all. The anterior chamber appeared deep; the cornea was glazy and dull in patches. The pain over and in the orbit was severe, but was relieved by the flow of

scalding tears; there was a bad taste, foul breath, and white tongue. The leeches and blister were countermanded, the purgative had been taken, and had acted once, the *Atropine* drops were allowed to be used in order to influence the pupil. I now prescribed—

Tinct. Aconiti Nap. ʒ, gtt. i; *Tinct. Mercur. sol.* ʒ, gtt. i. Alternately every hour in a dessert-spoonful of water.

August 3rd.—The eye was a little better, catarrhal ophthalmia less. The tears less scalding; a sense of ease in the eye. The conjunctival vessels clearing. Still adhesion of the tarsal edges by muco-purulent secretion, but the tears were constantly flowing. Great nervous irritability and impatience from confinement in a dark room. Continue.

3rd.—The iris not visible through the muddy humours of the anterior chamber, and on trying his power of vision he could not distinguish the hand passed in front of him. The eye affected was usually the strongest, but now he finds the other eye stronger than it was before, but this may only be in consequence of the loss of the other. He has been accustomed to wear an eyeglass. The pulse is weak, and the skin clammy.

The *Atropine* has been dropped into the eye four times a day, but it irritates the eye, gives pain, and affords no ease afterwards. To discontinue it, and use the *Extract of Belladonna* smeared round the eye.

Rep. *Aconitum et Mercurius*.

August 4th.—A little improvement again in all the symptoms—the conjunctiva clearing, the straight vessels forming the zone are paler, but there is still great difficulty in opening the eye from the intolerance of light, and the iritis could not be seen owing to the continued muddiness of the humours and the glaziness of the cornea.

Rep. *Aconitum et Mercurius*.

August 5th.—I requested a consultation with one of our first oculists, as friends were suggestive on all sides, and we met. With the greatest difficulty, owing to the extreme intolerance of light, combined with darkened vision, two unusual and apparently incompatible conditions, a partial view of the eye was again obtained by means of two lenses

and a candle. Our oculist described the eye as having the cornea involved in the catarrhal ophthalmia, and having the aspect of a fine honeycomb, apparently indented, and yet he could see no hypopion, but turbid humours, and the iris might be the seat of iritis, but he could not see it.

The patient complained to-day, for the first time, of a sense of dryness in the external eye, which is likewise much relieved when the lachrymal secretion flows. He cannot tell how many fingers are held up, or even the form of the hand. A very doubtful prognosis was formed, and it was considered a very grave case, and the alarm of the patient and his friends greatly excited. I now prescribed—

Tinct. Belladonnæ 3; *Tinct. Cannabis sat.* 3. One drop in a dessert-spoonful of water alternately every hour. *Extract of Belladonna* to be continued on both eyelids. Plain diet, with meat and claret.

The *Belladonna* was entirely homœopathic to the symptoms, especially with the new symptom or sense of dryness of the eyeball, in addition to the intolerance of light, and the *Cannabis sativa* has among its symptoms in Hahnemann's *Materia Medica Pura*: "The cornea becomes non-transparent; pellicle upon the cornea. Pressure from within outwards in the back part of the eyes. Sensation of spasmodic drawing in the eyes."

5th.—Great relief from the first dose of the *Belladonna* internally. Could not see yet, but had less intolerance of light, and felt easy as regarded the eye. The conjunctival vessels have cleared up considerably the last twenty-four hours, the sensation of dryness had gone, and the nervous irritability of the patient was much diminished. Appetite fair. Pulse improved.

Rep. *Tinct. Belladonnæ et Cannabis*.

6th.—Greatly improved; declares that he opened his eye involuntarily this morning without dread of the light. Intolerance of light has ceased. On examination I found the vascular turgescence of exterior of eye much diminished. He could bear me to inspect the eye with more freedom; the humours were less turbid, though I could not see the form of the pupil distinctly, the cornea had lost the irregular

dulness which the oculist described as a honeycomb surface.

Continue the medicine and the *Extract of Belladonna* around the eye.

7th.—I found my patient quite delighted. He could see his fingers distinctly, and said he thought he could read. Of course I forbade the attempt. A slight unequal reflection of the cornea still existed, but the humours in the anterior chamber were clearing, though the pupil was not yet clear.

Continue.

8th.—To-day he can look at me, and for the first time I have a full view of the iris; the aqueous humour is clear, but not bright. The cornea is more lustrous. The pupillary margin is caught at one point at the outer and lower part to the lenticular capsule, forming synechia posterior, otherwise it is fairly open, but, of course, ovoid in form. He can see everything and feels quite happy. Pulse low. Appetite moderate. To have stronger claret, and mutton daily at dinner.

Continue all the medicaments.

9th.—Can see to read words, but the sight is slightly misty. Cornea quite clear. Pupil oblong and stationary. The iritis has not all gone yet, for the iris is still rather dull and the arterial zone is distinct though pale, and vascular turgescence of the conjunctival membrane still swell the palpebræ. He can open the eye to half what the other is and can bear the light without inconvenience, but his impatience to get rid of the darkened room, as he is wanted in the city, is retarding him now.

Tinct. Belladonnæ 3, *Tinct. Sulphur* 5, in alternation every two hours, the extract to be continued around the eye.

11th.—The eye is much better; he feels only a slight difference between that and the other. Opens it freely, but the pupillary margin is fixed at a point or two, and the pupil open and movable, but oblong. He says he only detects a something slightly interfering with the use of the eye.

Tinct. Bryonia Alb. 3, *Tinct. Sulphur* 5, alternately every three hours.

He felt obliged to go into the city and did so in a close carriage and with his eye bound up.

12th.—Seems none the worse for his two hours' talking in his office yesterday. The pupil is as yesterday.

Continue.

14th.—Went again to the city. There is a little improvement in the shape of the pupil. Says he finds that he can see distances best with the sick eye and close objects best with the good eye.

Continue.

16th.—Has been three days to his counting-house. The eye improves in that the pupil is more circular, showing that some adhesions have given way. He reads perfectly; has, however, caught a little cold in the eye, which makes it water.

R *Mercurius Sol.* 5, gtt. i, ter tiis horis capiend.

20th.—Cold in the eye gone. He will go daily to the city. Pupil still more circular, but more open than the other, owing to adhesions, but the muscle of the iris is scarcely perceptibly different from the other in colour or texture.

In the hope of getting absorption of fibrinous deposit I ordered *Tinct. Lachesis* 6, *Tinct. Sulphur* 30, alternately every three hours.

24th.—Can read and write as usual, only finds the slightest difference in the sick eye. The pupil varies in shape but does not contract so small as the other, and is still irregular. It is losing its oblong shape.

Continue.

He will probably require the operation of iridectomy to release the synechiæ (although they are very moderate) because the constant drag upon the iris is apt to induce recurrent iritis.

I am induced to lay this case before the Society and to invite the observations of members upon it, as being one of the severest affections of the eye of the ordinary kind; I mean those which are most frequently met with. Catarrhal conjunctivitis and rheumatico-catarrhal ophthalmia (which is of the globe) are sufficiently acute. Corneitis, sclerotitis, choroiditis, and iritis, which are so frequently combined, as in this case, nevertheless may exist separately, but when

once we recognise the existence of iritis, separately or combined, we can scarcely be quick and energetic enough in our treatment, in order to obviate the complete occlusion of the pupil and the interstitial fibrinous deposit which almost solidifies the muscle of the iris. The case then is of that important nature that nothing but a perfect confidence in the remedies we have at our command would justify us in taking the responsibility of rejecting the *armamenta medicamentorum* which oculists of all countries recognise as alone to be depended on in this serious affection. But I need not ask the members of the British Homœopathic Society whether the attenuated tinctures of the *Homœopathic Pharmacopœia* in the *third centesimal dilution* possess a potency sufficient to be relied on in the treatment of this rapid and formidable disease—formidable not so much for the extent of surface or of tissue involved or of the integrity of a vital organ threatened; on the contrary, the gravity of the case is found to lie in the rapidity of the results of inflammatory deposit, and the small space within which the danger lies which is threatening the destruction of the sight. Fibrinous deposit in a current attack of inflammation of a serous membrane is known to take place in about nineteen hours; if, then, in any case of inflammatory disease, apart from the actual vital organs, activity of medication and power to control inflammatory action be imperative, it surely cannot be denied that it is in this small spot which constitutes iritis, that, moreover, the power of such medication can be readily seen and appreciated.

The affections of the eye have been considered so important as to demand the separation of a special class of surgeons as oculists, but chiefly, I presume, on account of the greater delicacy required in the operative department of that branch of surgery, and a more constant practice in the manipulations, therefore another reason exists for reading this case before the Society, namely, that homœopathic practitioners may not be daunted in their efforts to treat a class of serious cases which have usually been relegated to a special class of operative surgeons of the old school, and that the public may know and have their confidence kept

alive in the certain efficacy of homœopathic remedies in the most delicate structures of the body.

It will have been noticed in the relation of the case that there was extreme intolerance of light, combined with obscured vision—an apparent contradiction which, however, is to be explained by the fact, and is, indeed, an evidence of the co-existence of sclerotitis. The dimness of the cornea indicating corneitis was sufficient to impede the transmission of light and diminish its intensity, but the sclerotic inflammation was the cause of the intolerance.

The fibrinous adhesions which constitute the danger of iritis proceed from the inflammation of the serous covering of the iris (the membrane of the aqueous humour) which, of course, lines both surfaces of that muscle, and posteriorly is in proximity to the capsule of the lens, or other portion of the same membrane.

The same results occur here as are found in pleurisy, namely, a lesion of contiguous surfaces; it is of the greatest importance, therefore, that our remedies should be powerful, fully equal to the emergency, and well selected.

Aconitum napellus having a special influence and power in arresting rapidly the progress of inflammation in serous membranes was the most appropriate remedy to depend on at the onset to extinguish energetically the beautiful and delicate, though morbid, process which was going on to the destruction of vision.

Among the symptoms produced by *Aconite* are—

“Dilated pupils; obscurity of vision on opening the eyes; pain in the interior of the eye as if it would be pressed from the orbit, the pain extends to the superciliary region and to the inner part of the brain; sight impaired; very painful inflammation of the eyes; heat in the eyes; inflammatory lachrymation of the eyes which causes so much pain and fright as to make him desire death.”

Belladonna has, among others, the following symptoms: “Continual winking of the eyelids, trembling and winking; his eyes close and become watery; involuntary lachrymation; pain and burning in the eyes; feeling of burning dryness in the eyes; photophobia; he avoids looking at

the light; burning with painful itching; inflammation of the eyes; turgescence of the veins of the cornea, with a titillating sensation; the conjunctiva is traversed by red veins; the eyes run; eyelids agglutinated; pupils are contracted, it is extremely difficult to dilate them; dilatation of the pupils; great obscuration of vision."

The primary action of *Belladonna* is requisite to aid in effecting the dilatation of the pupil so as to intercept or prevent the formation of adhesive bands; it is not always successful, but must nevertheless be attempted, as the permanent cure of the disease depends upon its so doing; nevertheless the arrest of the plastic inflammation *ab initio* by the internal administration of the homœopathic remedy is equally if not more important. The *Atropine* was, therefore, allowed at the first to be continued, but the repeated application of it excited so much pain and discomfort that it had to be abandoned and the *Extract of Belladonna* applied in its place.

The rapidity of the progress of the case immediately upon the internal administration of *Belladonna* 3 was remarkable, and showed how truly homœopathic the remedy was to the morbid condition.

The next remedy was *Mercurius sol.* 5. This medicine was exhibited on account of its correspondence with the catarrhal ophthalmic symptoms, and its pathogenesis as laid down in Hahnemann's *Mat. Med. Pura* has the following symptoms:

"Burning sensation in the right eye; dilatation of the pupil; mist before one or both eyes; eyeballs feel as if agglutinated; burning in the eyes and smarting; a number of red veins become visible in the whites of the eyes; inflammation of both eyes with burning, smarting pain; heat in the eyes with lachrymation; profuse lachrymation of the right eye; the eye fills with tears; burning pain in the right upper and lower eyelid; the left lower lid is very much swollen; agglutination of the eyelids early in the morning; considerable swelling, redness, and constrictive closing of the eyelids, they are painful when touched; aching pain when touching the eye."

Lachesis and *Sulphur* were afterwards used with the hope of removing the fibrinous adhesion that was left and which prevented the free dilatation of the pupil, and with some effect; nevertheless just sufficient remained to alter the form of the pupil, but the appearance of the iris itself was very satisfactory, and scarcely, if at all, to be distinguished from the other.

Discussion on Dr. Leadam's Paper.

DR. BAYES had not in his private practice met with any case of iritis so severe as that related so clearly and admirably by Dr. Leadam. In the few cases of iritis which he had treated of late years, he had relied on *Belladonna* 3rd or 3rd decimal and *Mercurius corrosivus* 3rd decimal, and had been fortunate in not having encountered severe complications or bad results. Perhaps he ought, therefore, to consider his cases as sub-acute, or at least as not as most acute, while that related by Dr. Leadam evidently belonged to the most acute class, as shown by the inflammation having involved the whole of the tissues of the eyeball. It was unfortunate that the exigencies of the case demanded the simultaneous use of three different remedies, *Aconite* and *Mercury* internally and *Atropine* externally, since this complication of remedies made it difficult, if not impossible, to discriminate as to the beneficial action of any one of the three remedies. The question arose as to what curative influence the *Atropine* may have exerted. While the iris was under the paralyzing influence of the *Atropine* it was difficult to conceive that the *Aconite* or the *Mercury* could exercise any great power over the tissue thus fully under the influence of the paralyser. He did not by this criticism intend to cast any blame on treatment which was, probably, that which all would have adopted in face of so terrible a necessity, in the anxiety to relieve and cure the patient; but he looked on this complex treatment as a misfortune in a scientific point of view, because it invalidated any conclusion as to the curative value of any one of the three medicines used, since here we have the result of the three, not the action of any one of them demonstrated. As an instance of the physiological action of *Belladonna* on the iris, he would mention that one of the surgeons to Addenbrooke's Hospital, Cambridge, told the students that he had seen *Belladonna* in the 3rd dilution dilate the pupils of a patient to whom it was administered experimentally; this extreme sensitiveness of the iris to the action of *Belladonna* made him (Dr. Bayes) bring the question before them, as it would not do to attribute the whole cure to the medicines given internally, when the treatment had been inaugurated by the application of *Atropine*, and afterwards of *Belladonna* extract, which may

possibly have dominated, or very largely influenced, the cure from the beginning.

Dr. MADDEN, after expressing his satisfaction with the careful way in which the case had been reported, stated that he was surprised to find Dr. Leadam using *Merc. sol.* in place of *Merc. c.*, since he believed that *Merc. c.* was the only preparation of Mercury, which had actually produced iritis pathogenetically. For his own part he generally treated iritis with *Merc. c.* 8^x or 1, using *Clematis*, in rheumatic cases characterised by severe pain, and he had hitherto been satisfied with the result of such treatment. He desired to call the attention of the society to *Senega θ*, which had been lately extolled in some of the American Journals as most useful in aiding the removal of recent adhesions between the iris and the capsule of the lens. Dr. Madden asked Dr. Leadam what he considered to be the indications for *Lachesis* in the treatment of iritis, he having never been led to think of that remedy in this disease.

Dr. MARSTON said that he had little to add to the remarks that had been made, in which he for the most part agreed, and would not have risen but that the case so ably described by Dr. Leadam brought to his recollection one of his earliest experiences of homœopathic practice some thirteen or fourteen years ago. He would, of course, only state the case very roughly, but it was that of a girl who had received a blow from some sharp instrument, which had penetrated the cornea of the left eye just in front of the pupil. Severe inflammation immediately followed, extending to the right eye, so that she became totally blind in a few hours. Leeches, blisters, and caustics were applied locally, and a mercurial course with opiates administered internally, by a gentleman who had, on the day previous to his seeing the child, pronounced his conviction that the left eye was irrecoverably lost, and that the restoration of the sight was very doubtful. Notwithstanding the opiates the pain had continued so severe that the girl had not slept any night since the accident, a fortnight previously; on examination a large ulcer was discovered on the left cornea. The sclerotic vessels on both sides were highly injected, terminating in a vascular zone around the cornea, the opacity of which prevented any view of the interior of the eye. She complained of a feeling of dryness in the eyes, deep aching pain, with stupefying headache and giddiness. There was also intense photophobia. *Belladonna* 8, in half-drop doses every three hours, was at once prescribed. On the same night she slept six hours, and the next day the pain had much diminished. By the fourth day, the opacity had sufficiently cleared from the cornea to admit of the irides being seen. They presented in both eyes the usual appearance of iritis, the pupil of the left being contracted into a small triangular opening. *Merc. corr.* was substituted for the *Belladonna*; the symptoms rapidly subsided, and by the end of the second week were entirely removed, a small

cicatrix only marking the seat of the wound. Dr. Marston joined very heartily in the thanks which had been expressed to Dr. Leadam for his very excellent and interesting report.

Dr. DUDGEON said the membrane of the aqueous humour seemed more than usually affected in Dr. Leadam's case. He had seen a severe case of iritis get well in a patient who had a simultaneous attack of dipsomania, in which he drank unlimited quantities of alcohol. Some cases were very tedious. He generally gave *Aconite* and *Merc. corr.* 1st dil., and solution of *Atropine* locally, but had seen better effects in some cases from *Terebinth.* 1.

Dr. VAUGHAN-HUGHES said that he had had under his care recently a case of iritis involving the other structures of the eye, which had occurred before, and been treated at Moorfields by caustics externally; what internally he could not say; at any rate, the patient was under the treatment three months. From the general aspect of the eye and the highly stimulating diet of the individual, he was persuaded that the anatomical basis of the local distress was really seated in a deranged condition of the digestive organs. An appropriate regimen was at once ordered, and *Belladonna* 1^r and *Aconite* 1^r gr. i of each alternately every half hour was given. The next day the eye had paled down, and the vascular and nervous excitement considerably reduced. This improvement was continuous day by day, and at the end of a week there was but slight difference between the two eyes. The patient was surprised that tasteless medicine could effect all this and without painful caustics either. As an old allopath he had no confidence in mercurials, except in certain specific characters. He quite agreed with Dr. Jacob of Dublin that the other structures of the eye are generally implicated in iritis.

Dr. HALE complimented Dr. Leadam upon the successful treatment of a very severe case of iritis, in which many of the tissues of the eye were involved, but he considered that the frequent alternations of medicines vitiated the evidence as to which medicine effected the greatest good. Dr. Hale advocated the plan of giving one medicine at a time for some hours or days, and if it were found necessary to give another remedy in alternation, to give several consecutive doses of the second medicine before going back to the first. One fact came out very distinctly, however, which was, that a marked amelioration of the symptoms followed the administration of *Belladonna*. Dr. Hale thought that there was a great risk in allowing the patient to go to his counting-house while the symptoms were only partially subdued; a cold taken at such a time might have seriously endangered the loss of vision. With regard to the total exclusion of light in inflammatory affections of the eye, he considered a subdued light better than total darkness; the latter often becoming not only irksome but irritating, the retina requiring even when inflamed a certain though, of course, a very small amount of its natural stimulus.

In the case under consideration, he thought the photophobia was caused by some amount of retinitis rather than by the sclerotic inflammation to which it was attributed by Dr. Leadam. A curious instance of the effects of a very minute quantity of *Atropine* which by accident was introduced into the eye of one of the surgeons of the Moorfields Ophthalmic Hospital, in producing temporary blindness was mentioned by Dr. Hale. He had in his practice in several cases of iritis found *Belladonna* and *Sulphur* to be the two remedies from which he had derived the most satisfactory results.

Mr. STEPHENS wished to make a remark or two in reference to some observations which had fallen from Dr. Hale relative to the non-seclusion of the patient from light. He remembered a case which was put into his hands by Dr. Tuckey, of Canterbury, in which this principle was acted on. It was that of an old gentleman above seventy. He was allowed a little light generous diet, and ordered *Bell.* and *Merc.* The sight generally got more and more dim, until at last it totally failed. He thought to mention one thing, which was, that whenever any part of the eye became inflamed, the lid naturally closed over it. In chronic cases he had found the greatest possible benefit from *Sulphur*, and had rarely had recourse to any other remedy.

Dr. YELDHAM said the salient points of Dr. Leadam's paper had been fully discussed. He had but little to add. Like previous speakers, he could not commend the practice of using a plurality of medicines at once. It obscured their action, and the results. They would almost always do better for themselves and patients by adhering steadily to one well-chosen remedy. In the treatment of simple idiopathic iritis he trusted to four remedies, viz., *Aconite*, *Belladonna*, *Mercurius*, and *Sulphur*. The last was of great service in favouring the absorption of adventitious matters. He gave the mother tincture. Iritis was most frequently associated with syphilis, and in that form he had repeatedly treated it. He used *Atropine* to dilate the pupil, and gave *Merc. sol.* 2^r gr. v, ter die, and seldom failed in obtaining the happiest results. Dr. Hale's mention of the blinding influence of *Atropine* reminded him of an interesting case of the kind that came under his notice a few days previously. A colleague sent to him a child four years old, to whose eyes he had six days before applied some *Solution of Atropine* to relieve conjunctivitis. This it effected speedily, but there remained thorough dilatation of the pupils, and an amaurotic state of the retina. On being asked whether it could see or touch him by Dr. Y., the child groped its arms towards him in an uncertain manner. This condition, but slightly amended, still continued, his colleague informed him, at the end of a fortnight. Something of the same kind, only in a much milder degree occurred to one of his female patients, in the hospital, to whose eyes the house-surgeon applied some *Atropine* for the purpose of ophthalmoscopy. The pupils remained dilated, and the vision

impaired for several days. Such cases were instructive, as showing what might happen from the application of *Atropine* to the eye.

Dr. LEADAM replied—He was grateful for the interest shown by the members of the Society in the case he had detailed, and always felt the greatest pleasure in being present at the meetings, because he was sure to find some useful information crop up in the course of the discussion which amply repaid him for the trouble of coming. He had chosen *Mercurius sol.* instead of *Merc. corros.* on account of the catarrhal symptoms which prevailed in the eye, as he had generally found the latter remedy most useful in scrofulous affections of the eye. He was sensible of the disadvantage of using more than one remedy at a time, which had elicited the remark of members on that point, and was equally averse to it as they, and having run the gauntlet of their criticisms, he should be more rigid in future, but the case was so rapid, so acute, and so abounding in serious consequences on all sides, that the judgment was hurried by the impatience and anxieties of the patient and his friends.

Dr. DRURY, V.P., in the chair, joined in all that had been said in praise of the careful manner in which Dr. Leadam had prepared his paper. Without this accuracy of detail it was impossible to judge fairly of the value of the remedies, or to observe their effects. There were some remedies extremely valuable in eye cases to which it was worth while to direct attention, as any hints we could give one another might at some time or other be found useful. One medicine, *Phosphorus*, he thought deserved a high place as a remedy in iritis. He had placed on record an account of a case of rheumatic iritis, where the patient had been led into the room, being unable to see. *Phosphorus 30* had been the means of reducing the inflammation and restoring the sight in a very short time; it also cured a relapse, and since that time it had been a favorite medicine of his in rheumatic iritis. *Arsenicum* he had found of great benefit in some cases. That of a little boy, who had suffered from intense pain in and about the eye, and where there was purulent deposit, a case that was seen by Mr. Critchett, obtained marked relief from *Arsenicum*. This medicine was extremely valuable in cases where there was great swelling of the eyelids. Allusion had been made to the operation of iridectomy, to prevent recurring inflammation. He had just heard from a patient of his who had been operated on by Mr. Critchett; this gentleman said the eye was much improved, and vision better. Dr. Jacob, of Dublin, had been spoken of. This distinguished oculist, seeing the frequency with which different parts of the eye were attacked simultaneously or nearly so, spoke of inflammation of the eyeball. About thirty years ago he had seen a good deal of his practice, and he recollected very well how frequently he used solution of *Nitrate of Silver* as a local application, and this had led him (Dr. Drury) before he

became acquainted with the value of homœopathy to use a similar treatment, and he must say it was one that was attended with a fair show of success. Of Dr. Yeldham's plan of giving only one medicine at a time,—giving if necessary a different one for night—he entirely approved; it was his own mode of practice, so he was bound to speak well of it.

ON CIMICIFUGA RACEMOSA.

By Dr. H. WARNER BUBB, Cambridge.

(Read before the British Homœopathic Society, May, 1869.)

MR. PRESIDENT AND GENTLEMEN,—I feel great diffidence in writing a paper upon a medicine the efficacy of which, no doubt, many of you have had more opportunities of proving than I; still as I have made a branch of our profession to which this drug is well suited a particular study, and I flatter myself not wholly without success, I venture upon reading before your Society a few remarks on *Cimicifuga racemosa*. I will briefly touch upon the history and provings so admirably given by Dr. Hale in his valuable work on *New Remedies*, &c.

“*Cimicifuga*, or *Actea racemosa*, has been employed by the Indians, long before the settlement of New England by the whites, as an invaluable remedy in rheumatism, &c.” It is said to be “most useful in myalgia, and other diseases of the muscular tissue.” I have given it a fair trial, with little or no success, in almost every instance being compelled to return to *Bryonia*, &c.

I am sorry I cannot give you any cases of delirium tremens, a disease in which it is reported to be very beneficial, as no cases of the kind have come under my care for four years; but in one case of nervous exhaustion resulting from onanism I found it to act speedily and well.

I cannot speak very favorably of its action in chorea, four cases of which disease are given at length in Dr. Hale's provings; perhaps the dilution used was not the proper one.

In some attacks of catarrho-rheumatic headaches, I have

given *Cimicifuga* in the 1st decimal and 1st centesimal dilutions, with great success.

Under the heading "Appetite and Stomach" appear the following provings:—"Loss of appetite, repugnance to food, pain in the epigastrium, retching and vomiting, headache, &c. &c.

Miss C—, æt. 15, a native of Guernsey, came under treatment in the autumn of 1868. She had suffered for twelve or eighteen months from constant nausea, especially after eating, has frequent attacks of fainting, and for the last six months has loathed all food, and at this date, October 16th, is so reduced as to be unable to leave her bed.

Present appearance.—Face pale, almost to lividity. Eyes large, but sunken, conjunctivæ quite bloodless. Pulse 120, feeble and irregular. Tongue bright red. Speaks with an effort. Suffers from palpitation on the least movement. Catamenia has never appeared. *Bruit du diable* plainly heard with the stethoscope. No appearance of organic disease. Body much emaciated. No cough.

On examination of the spine I detected one spot between the fourth and fifth cervical vertebra, extremely tender to the touch, and on which, on slight pressure being made, an immediate disposition to retching showed itself. My diagnosis of this case was reflex vomiting caused by irritation of the spinal cord, at that spot where the tenderness existed. I gave her half drop doses of the 1st decimal *Tincture of Cimicifuga* every three hours, and ordered beef tea and brandy in the proportion of one teaspoonful of brandy to a wineglass of beef tea. Half to be given, slowly, every four hours, and dry toast if desired.

October 18th.—Has been sick twice since my last visit; pain in the neck not so severe, but still tender. Pulse 112. Continue.

20th.—Has had no return of the sickness; bears pressure with little pain. Continue.

23rd.—Sat up four hours without inconvenience. The nurse gave her a teaspoonful of castor oil yesterday, which was immediately rejected. As the bowels had not acted

for four days an enema of soap and water was administered with instant relief.

I may conclude the details of this case by saying that on the tenth day she walked down stairs with assistance, and left Cambridge three weeks after my first visit quite well, and gaining flesh every day. She remains well to this date.

And now, gentlemen, I have arrived at what I consider the most important part of this paper—the action of this drug on diseases of the brain and sensorium.

The provings given by Dr. Hale are very explicit. “Not disposed to fix the attention on any subject, vertigo, dizziness, impaired vision, fullness and dull aching in the vertex, miserable dejected feeling, mind dull and weary, feels grieved, troubled with sighing, next day a feeling of tremulous joy, with pleasureable excitement, clear intellect,” &c. &c.

In works on psychological medicine under the head “Mania,” you will read, “Distressing confusion of ideas, failure of memory, depression of spirits, extreme irritability of temper, loss of interest in his pursuits, a *miserable consciousness* of loss of interest in his pursuits, and loss of mental power, with change of character. The general health suffers, there is pain in the head, and giddiness, appetite fails, sleep disturbed, bowels confined, or affected with diarrhœa, tongue furred, pulse frequent, patient grows thin.”

The similarity of many of these symptoms are so apparent that I felt elated in finding a medicine so adapted to the treatment of diseases, to which I had, for many years, paid a great deal of attention, viz., those of mania, of whatever kind, whether melancholia, hypochondriasis, or mania proper. With what success the few cases I shall relate will show.

CASE 1.—Miss M—, æt. 43. Present appearance—medium height; growing thinner daily; bowels alternately costive or relaxed, very irregular; appetite becoming more and more variable; constant dull feeling in the vertex; pain in the forehead and eyeballs; looks dejected, cannot

settle herself to any one pursuit; constant feeling of distrust towards her friends, and dislike to those dearest to her; desire for solitude; suffers from giddiness and sometimes faintness, nausea, and occasional vomiting; sleep fitful and disturbed; tongue furred; pulse irregular, about 110, weak; features have a pinched and distressed look; eyes sunken and downcast; answers questions hurriedly and evasively; catamenia irregular, feels worse during the periods.

Previous history showed a similar attack three years before which lasted six months, for which she was sent to a private asylum.

Cimicifuga in drop doses of the 1st cent. dilution restored this patient to health in three weeks.

CASE 2.—A gentleman, forty-four years of age; similar symptoms to the last, only addicted to habits of intemperance. Exhibits a great desire to wander from place to place; never settled. This case recovered under the same treatment in six weeks.

CASE 3.—A young lady twenty-two years of age. Her symptoms vary from the former, being those of melancholia, viz. extreme dejection of spirits; great desire for solitude; very timid; will not answer questions, at other times extremely loquacious; shows a strong propensity to suicide; cause—breaking off a matrimonial engagement. Has had three attacks during three years. Cure effected in two weeks; not heard of since.

CASE 4.—A tradesman, æt. 53. Cause of attack failure in business. Symptoms in this case: constant talking to himself; occasionally moaning or crying aloud; no sleep for five nights. *Glonoine, Belladonna, &c.*, quite failed to effect any change. *Cimicifuga* entirely restored him in eight days.

CASE 5.—A young lady, twenty-one years of age. Violent mania requiring constant watching, for fear of injury to herself or others. *Cimicifuga* in this case had only a partial effect; that is to say, she became less excited, but as the sleeplessness still continued I administered *Aconite* 30 with good results.

I have given *Cimicifuga* in many cases of leucorrhœa, menorrhagia, and amenorrhœa, but I cannot speak positively to any decidedly good results from this medicine except in one case of menorrhagia occurring in a patient of forty-four years of age.

In conclusion, gentlemen, I may venture to say that in cases of cerebro-spinal diseases, or in diseases affecting the brain specially, this medicine may be employed most beneficially. In my hands it has been most useful in the low dilutions; whether or not the higher potencies may be found as curative I must leave to yourselves and time to determine. With many thanks for your kind and patient hearing I shall now conclude this paper.

PELVIC CELLULITIS.

By Dr. J. L. NEWTON.

(Read before the British Homœopathic Society.)

HOLDING as I do a very strong conviction that "cases" are more likely to be of use to us as individual members of this Society, I have ventured to transcribe from my note book, rather than indite aught that might be considered by all of you theoretical, by some of you out-of-place, and by myself elaborate. The fact that pelvic cellulitis may occur either in the puerperal or non-puerperal state—that in the non-puerperal form, the tendency of the disease is to limit itself to the tissues first attacked, and rarely to terminate by abdominal perforation or fatally, while in the puerperal form it is usually epidemic, more diffuse and fatal—that the origin is most frequently in the connective tissue surrounding the uterus, this tissue becoming the seat of an œdema or infiltration with fluid—that West calls it "*acute purulent œdema*"—that Virchow considers it a sort of internal erysipelas, and names it "*diffuse puerperal metritis and parametritis*"—that Bernutz and Goupil think the

most suitable appellation to be "pelvi-peritonitis," that it has an almost exclusively intra-peritoneal seat, is very frequent, and that parallel phenomena may be seen in the male in orchitis and hydrocele—that König found that "injections of air or water thrown into the cellular tissue of the broad ligament near the Fallopian tubes, travelled primarily along the course of the psoas and iliacus muscles, then sinking into the pelvis proper; that exudations, starting from the part of the cellular tissue situated antero-laterally with reference to the uterus and its cervix, passed out laterally into the cellular tissue of the pelvis, and by the side of the bladder, and then with the round ligament, towards Poupart's ligament, thence extending to the iliac fossa externally and backwards; if the starting-point be the posterior part of the base of the lateral ligament, the postero-lateral parts of the pelvis are first filled, the effusion then passing towards the psoas and iliacus muscles"—that the attack may be acute and sudden or gradual and insidious—that it occurs most often in primiparæ—that it quickly runs on to supuration—that it is often mistaken for an affection of the hip-joint—that the abscess which is formed most frequently bursts into the intestine, tolerably frequently into the vagina and bladder; the other outlets, less common, being by the side of the vessels passing out of the pelvis, by the side of the external cutaneous nerve, in the lumbar region, also through the ischiatic notch in the gluteal region. These and many other interesting and valuable facts are, no doubt, well known to all of you, and may be found mentioned in West's *Diseases of Women*, and Churchill's *Diseases of Women*, and McClintock's *Clinical Memoirs*, and Graily Hewitt's *Diseases of Women*, and *Diseases of Women* by Beruntz and Goupil, published by New Sydenham Society.

I do not therefore purpose to inflict upon you an essay on *Pelvic cellulitis*, but will ask you to accompany me to the bedside of a poor woman, æt. 38, to which I was urgently summoned in the summer of 1864, in New South Wales. She had been delivered, as I was told by the messenger, of a still surviving child about five weeks previously. Her "getting up" had been good, until a fortnight

ago, when she hastily jumped out of bed on to the cold clay floor of her miserable hut. The result was cessation of the lochia and severe illness, for which she had been under medical treatment. On the morning of the day on which I first saw her, June 12th, her attendant had been dismissed, as his prognosis was unfavorable—"he having done all that he could for her." My urgent call was due to her "having just been taken in a fit."

I found her just rallying from a tetanoid convulsion, which had lasted some twenty-five minutes. It was the first she had had. The symptoms, at a glance, indicated considerable collapse; and I gave her three drops of *Camphor* every quarter of an hour, until reaction set in. I returned in two hours' time and found her much better; and elicited the following train of symptoms:

Immediately after stoppage of lochia she was seized with violent deep-seated pain in right iliac fossa and general febrile disturbance. Her medical attendant applied leeches (eighteen) and gave her pills of *Calomel* and *Opium*. On the following day she had a prolonged rigor, for the relief of which hot stimulants were used. As the leeches had not relieved the pain, *Turpentine* stupes were used, and the pills repeated every three hours. The stupes were useless, and a blister was employed and dressed with mercurial ointment for five days. The gums then became tender, the bowels much relaxed, and a mercurial erethism developed. Rigors recurred frequently.

Chlorate of potash and *Bark* were given and a little wine, the *Mercury pro tem.* being discontinued. The general symptoms were ameliorated, but still the pain in the fossa continued. Iodine ointment was rubbed in, and the *Calomel* and *Opium* pill resumed three times a day. On the fourteenth day of the attack, her heroic attendant frankly admitted that he could not do any more for her. And when we think that he had blistered, leeches, salivated and iodised her, besides applying *Turpentine* stupes and the never-to-be neglected mustard plasters, surely the most orthodox of the dominant school would admit they could only "leave the case to nature."

By placing my hand over the right iliac fossa, I detected a large brawny swelling, which extended deeply. The pulse was quick and weak, the face of a hectic flush. Tongue whitey-brown; streak down centre, with red tip and edges, and the eyes sunken and jaundiced. My first impression was that the convulsion was due to a morbid material circulating in the blood and irritating the medulla oblongata (a substitute for a rigor)—that the swelling was a collection of scybalæ in the caput coli, and that I had chiefly a drug disease to combat.

On making a more careful examination, I found the swelling both larger, more firmly fixed, and deeper than the dimensions of the colon would allow any mass of fæces to be. The bowels had been freely acted upon many times, and I therefore concluded I had a case of pelvic cellulitis to treat. There was no uterine discharge. On making a vaginal exploration, I found a baggy swelling just behind cervix uteri, apparently bulging the floor of the vagina, and obscurely communicating with that in iliac fossa. I regulated the diet and gave gr. j of *Hep. sulph.* 3^x every four hours.

On the 14th June the swelling in fossa was decidedly softer, and had receded from the surface somewhat. The patient and her friends becoming impatient (as I had superseded another man, I suppose I was expected to cure her quickly) I made an exploratory puncture with a grooved needle in the floor of the vagina, carefully guiding the point of the needle upwards. Two or three drops of pus rewarded my search. I continued *Hep. sulph.*, and ordered frequent injections of milk and water (warm).

16th.—The patient was seized with a rigor early this morning, and during its continuance she “felt something give way inside her.” I was at once sent for, and saw on the napkin that had been applied to vulva a quantity, perhaps half an ounce, of pus. I increased her wine and continued *Hep. sulph.*: during the day she felt an urgent inclination to urinate, and on sitting on pan, provided for the purpose, passed per vaginam Oiss of grumous foul-smelling pus. The tumours in iliac fossa had entirely disappeared, and as the

purulent discharge continued, I repeated injections and gave her *Silicea* 12. No unpleasant symptoms cropped up—her debility was necessarily great and of long duration, but she ultimately made an excellent recovery.

CASE 2.—Mrs. B—, a patient of mine after an instrumental labour (craniotomy) was on the tenth day seized with a severe rigor, pain in rectum with tenesmus, and general febrile disturbance. The milk was fully distending the breasts on the preceding day, and her condition was satisfactory. I was unable to account for her symptoms until she told me that she had jumped out of bed on to a newly-washed floor to snatch one of her children from the fire into which it seemed in danger of falling. The milk and lochia disappeared almost immediately. Pulse was 140. The abdomen in both iliac and hypogastric regions was distended and dull on percussion; bowels and bladder had acted freely, however, and the vagina was much diminished in calibre, and uterus slightly ante-verted. There was not, however, any uterine tenderness. The patient was lying on her back with the legs drawn up. (The tenderness on pressure was so great that I administered chloroform to make a careful examination). I found present that peculiar *sodden* feeling which is, I believe, always to be detected in cellulitis accompanied with effusion of serum. I prescribed *Verat. virid.* ϕ gt. j every two hours, with dry heat by bran bags to abdomen. On the following day the pulse was lowered to 80—there had been profuse sour-smelling perspiration, and the swelling in abdomen was decidedly less. The *Ver. virid.* was repeated in half-drop doses (it had neither purged nor nauseated) every four hours for six more doses—the patient's condition was then so favourable that I merely gave *Sacch. lact.* for a week, when she was convalescent.

Remarks 1.—The tetanic convulsion was, in my opinion, an inexplicable substitute for the rigors which had previously and did subsequently attack the first patient. I have several times seen a more or less violent convulsive attack in patients either operated upon for organic stricture or having pus retained in the body. The first case in which I

ever tried Holt's method of splitting a stricture was unfortunately seized with such an attack and died in it. I was unable to obtain a post mortem, but of one thing I am sure he had not albuminuria.

2. Notice the ignominious failure of heroic treatment.

3. Allow me to call your attention to the efficacy of *Ver. vir.* in cases of inflammation of the cellular tissue wherever situated, *if accompanied with a quick hard pulse.* I have never known it fail me in these attacks, even in cellular tissue about anus, axilla and back of the eyeball. The pulse requires to be quick and hard. Should the time for *Ver. vir.* have passed, I believe *Apis mell.* will come in, but I am convinced the former will prepare the way for the latter, even if it do not supersede it. I have found it an invaluable remedy in cedematous erysipelas alone or before or in alternation with *Apis*; the quick, hard pulse being an unerring indication for it. I believe I have saved several patients, seized with erysipelas in face and head, whom I should have lost had I trusted to *Bell., Acon., &c.* Any remaining cedema after removal of first brunt of the attack will be cleared away by *Apis*; should suppuration occur, of course the abscess must be treated according to symptoms, care being taken to induce pointing as soon as possible, otherwise matter will burrow in extraordinary directions.

4. The irritation of the medulla oblongata, due to some morbid agent in the blood, shown by the convulsion, induces me to recommend *Ver. virid.* in cases of croup and puerperal convulsions; in most of the varieties of these diseases *Ver. vir.* will stamp out effectually when given early. I hope some day to bring forward proof that the materies morbi in croup concentrates its energies on the medulla oblongata, and that it is best antidoted by *Ver. viride.* The same holds good of puerperal eclampsia in some of its varieties; of course those due to loss of blood and organic disease in the brain may require some other agent than *Ver. vir.*, but I think that a high dilution may be curative *pro re nata.*

Discussion on Dr. Newton's Paper.

Dr. MADDEN observed that as he did not practise midwifery he seldom saw cases of pelvic cellulitis of the kind referred to by Dr. Newton. He knew the disease well in its chronic form, but to those cases Dr. Newton's remarks did not apply. One subject in Dr. Newton's paper had struck him particularly, viz., that Dr. Newton used *Veratrum viride* freely in the early stage of inflammation characterised by a quick, hard pulse, and that he also recommended the same treatment for laryngismus and other diseases where the irritating cause seemed to concentrate its action on the *medulla oblongata*. He presumed, therefore, that Dr. Newton believed *Veratrum viride* to be an irritant to this nervous centre, in which case he would be glad to know the grounds of this opinion. He did not mean to say that *Verat. viride* did not act on the *medulla oblongata*, he merely asked for information. He was glad to find Dr. Newton recommending *Apis* as he had great confidence in that remedy in inflammation characterised by rapid serous effusion into the cellular tissue.

Dr. DUDGEON said that good effects had been obtained by Hofrichter in perityphlitis—an analogous disease—from the employment of *Mercurius*, which remedy Dr. Newton did not seem to have tried.

Dr. J. JONES has no experience of the disease as a homœopath. When an allopath had a remarkable case; she was not a primipara. About the third day after the pregnancy she had shivering and all the signs of pelvic cellulitis, with diarrhœa. *Opium* was the chief remedy used and the abscess burst at the umbilicus, when an immense quantity of pus, which was very fetid, escaped. Her convalescence was of about a year's duration. Dr. Greenhalgh was called in in consultation on this case.

Dr. ROTH mentioned a case of a lady who, from the beginning of her pregnancy, suffered from a pain in the abdomen which she could not describe and which she felt in the region of the private parts internally, and which prevented her from lying down. This pain continued incessantly for eight months. After a natural confinement the patient mentioned that she felt another baby, which was not believed by the accoucheur, who neglected even to examine the abdomen. The swelling or tumour felt by the patient was very large, and whenever she wanted to turn from one side to the other she was obliged to take hold of this tumour or supposed baby with both hands, in order to diminish the pain and to prevent her lying upon it. A fortnight after the confinement, and immediately after having passed water one morning, the patient felt again the desire for micturition when, instead of passing water, a good sized chamber (holding almost two quarts) was three parts full of matter, which looked red and green; the patient felt quite relieved and all pain

disappeared. Later pain was felt whenever the water was passed, which was mixed with large quantities of pus; the quantity of matter diminished daily till the urine was quite clear. If we would study the natural history of certain complaints, we would be less liable to ascribe the cure to the medicines which have been given during the course of the disease without influencing its development and natural course. In the case he had mentioned *no* medicine was given till after the discharge of the first and large quantity of matter. *Apis* was given only later.

Dr. J. G. BLACKLEY agreed with Dr. Newton in thinking that cases of pelvic cellulitis were most common in primiparæ, and instanced a case which was in the wards of the London Homœopathic Hospital some months ago, under the care of Dr. Markwick. About three months before her admission the girl had been delivered of a very large child—a boy—and had a very tedious labour. No untoward symptoms occurred until about three weeks before her admission when she noticed a slight painful swelling in the left iliac region. When she came into the hospital this was very painful and excessively tender to the touch, only slightly raised above the surrounding surface. After about a week well marked signs of suppuration occurred, and in another week a discharge of about half a pint of pus took place from the rectum. She went out at the end of a month apparently cured. The medicines used were *Belladonna*, *Hepar sulphur*, and *Silicea*. After the lapse of about a month she again applied for admission with a similar swelling on the left side. This followed the same course as before and was subjected to the same treatment, and she was sent out at the end of five weeks. After being away from the hospital for about six weeks she again presented herself, the swelling having returned on the right side again. This went through exactly the same stages and was treated as before, and she went home into the country at the end of a month, and has remained well up to the present time. Dr. Blackley considered this case in its early stage a typical one of pelvic cellulitis, caused by undue pressure on the soft parts within the pelvis during labour. The subsequent course of the case was simply that of pelvic abscess.

Mr. ENGALL said, that these cases appeared to arise from some shock to the system, and it would appear that pus in the broad ligament was much more serious in its effects than when it was in its neighbourhood, for in spinal diseases large quantities of pus collected in the sheath of the psoas without producing any serious constitutional effects. As regarded the first case mentioned, he thought that the puncture made by the exploration needle had something to do with the cure.

Dr. MORGAN considered that the thanks of the Society were justly due to Dr. John Lawrence Newton for his exceedingly interesting paper. It was seldom that he had listened to a paper

at that Society which contained so much valuable matter in so small a compass, and designated the production as *short, pithy, and practical*. He (Dr. Morgan) was glad Dr. Newton had confined his paper to one form of cellulitis—a most important one—for to have embraced the whole subject would simply be to defeat the chief object the Society had in view, the supply of good practical papers. He (Dr. Morgan) had not met with a case of “pelvic cellulitis,” had he done so his treatment would be very similar to that carried out by Dr. Newton. Having had no experience of *Verat. viride*, on the value of which Dr. Newton laid great stress, he would have administered the well proven and faithful *Aconite*, followed probably by *Belladonna* so long as the symptoms indicated those remedies; should symptoms of suppuration have set in, then *Hep. sulph.* or *Silicea* which have seldom failed him in bringing an abscess, however deep and obscure, rapidly to a point, when it could be opened with an appropriately selected knife or trocar. Cases of acute cellulitis of other parts of the body are frequently met with by the busy practitioner. One invading the *ischio-rectal* fossa occurred in Dr. Morgan’s practice some two months ago. It assumed an aggravated phlegmonous form from the commencement, attended by considerable constitutional disturbance. *Acon.* and *Bell.* 3 were administered in alternation. Hot fomentations of poppy-heads and chamomile flowers were applied to the inflamed surface; pus was diagnosed on the fourth day; the fomentations were continued, *Acon.* was now omitted, and *Bell.* and *Hep. s.* given in alternation every two hours. In two days more the abscess came to a point, which was at once freely opened by a curved pointed bistoury. The convalescence was rapid and complete, the patient partaking of a good generous diet with *China* ʒ three times a day.

Dr. HALE suggested that, in Dr. Newton’s first case, the pus having already formed, the success of the treatment was due to the discovery and evacuation of the pus, and not to any homœopathic remedial measures. It was a question, however, as to whether the free administration of *Mercury* so as to produce pytalism had not produced the suppuration. Another question was whether the suppression of the lochia having caused the pelvic cellulitis, had *Pulsatilla* been administered in the early part of the attack, the inflammation would have been prevented. In Dr. Newton’s second case homœopathy had been employed from the commencement, and the satisfactory results which Dr. Newton had described had followed the exhibition of the *Veratrum viride*. Dr. Hale had not had such severe cases of pelvic cellulitis to treat as those described in Dr. Newton’s paper, but he had treated the case of a lady recovering from an attack, where the pus had been discharged per vaginam—(the symptoms appeared after a first confinement) but after the abscess had discharged its contents, the *poas* and *iliacus* muscles were so

contracted that the knee for some months was drawn up to the abdomen. Dr. Hale prescribed *Lachesis* in various dilutions. In two months, under this medicine alone, the contraction of the muscles yielded completely, and the lady is now able to walk as well as ever she did. She still suffers from neuralgic headache at each catamenial period. Dr. Hale mentioned a case lately under his care in which a succession of abscesses had formed in the neighbourhood of the left ovary in a young unmarried lady. In this case there was spinal irritation, and in the left inguinal region there was swelling, tenderness on pressure, heat and rigors, pus formed and was evacuated on three or four occasions *per vaginam* in this case. The patient could not walk, or for some months bear the motion of a carriage; the catamenia were painful, coagulated, and sometimes dark and fetid. *Lachesis*, *Hepar s.*, *Silicea*, *Belladonna*, and *Phytolacca* were the medicines prescribed, and under this treatment she recovered perfectly and remains quite well.

In reply to Dr. Madden, Dr. NEWTON said he had obtained his knowledge of *Veratrum viride* from allopathic sources, and doubted its being truly homœopathic to the diseases for which he at present so strongly recommended it. In croup it was eminently beneficial where there was membrane deposited. He had seen many cases of genuine membranous croup, though its occurrence is denied. In reply to Dr. Hale, he begged to say that there was no albumen in the urine; he believed there was a pyæmic condition of the blood, as shown by sallow complexion, jaundice, &c. He always uses the first decimal dilution of *Ver. viride* in croup. He thanked all those who had spoken so flatteringly of his paper.

Dr. DRURY, V.P., in the chair, had much pleasure in adding his commendations to those already bestowed on Dr. Newton for his interesting paper; its conciseness was no small part of its merits, for when a thing could be as well told briefly as spun out, it saved time, and the attention was kept up much better. He had no recollection of seeing a case of pelvic cellulitis in homœopathic practice, and he should prefer to keep up his knowledge of the complaint from books, rather than from cases amongst his own patients. *Hepar sulphur* and *Silicea* had been strongly recommended in cases of purulent deposit. There was another remedy in which he placed very great confidence in somewhat similar cases, namely, *Phosphorus*; he thought if this was used more freely it would not cause disappointment. As croup had been alluded to and *Veratrum viride* spoken of as a useful medicine for it, he was reminded of Professor Henderson telling him some years ago that *Iodine 1^r* was his favourite remedy, and that he had never met a case of croup where he used it without success. He (Dr. Drury), while he was sure *Iodine* was an excellent remedy from the great benefit he had experienced with it in laryngeal cases, was well satisfied with our old remedies

Aconite, *Spongia*, and *Hepar*. In one case that he did not see till the child had been ill many hours, *Arsenicum* seemed to give relief where *Aconite* and *Spongia* had not done what he expected, perhaps owing to the number of hours the attack had been going on, and his not persisting sufficiently long with *Spongia*, with which he followed *Aconite*, returning to *Spongia* after some doses of *Arsenicum*, the improvement gained was maintained. In laryngismus *Sambucus* was strongly recommended, but he had been disappointed with it, though in some bronchial cases he believed it was a good remedy and had used it with advantage, but for laryngismus he had found *Ipecacuanha* and *Belladonna* of the greatest use. One or other of these medicines, with proper attention to diet, he thought, might generally be relied on.

Mr. POPE thought the cases Dr. Newton had reported were very encouraging specimens of the control of homœopathically selected remedies over a form of disease that had generally proved very intractable to allopathic practitioners, even when the treatment adopted had been less heroic than that of the gentleman whom Dr. Newton superseded in the charge of the first case he had related. He presumed that in this form of inflammation and suppuration of connective tissue the indications for remedies were the same as that of similar tissue situated elsewhere, viz., *Belladonna* in the stage of congestion; *Mercury* in that of exudation; *Hepar* in that of suppuration; and *Silicea* in that of granulation. Mr. Pope asked Dr. Newton whether the forty cases of croup, stated to have been cured by *Veratrum viride*, were of the membranous, or spasmodic simple catarrhal form of the disease.

Dr. NEWTON replied that the cases were all true membranous croup.

CASES TREATED IN THE LONDON HOMŒOPATHIC HOSPITAL.

By Dr. DRURY, Physician in charge of Diseases of Children.

Case of chorea and copious menstruation.

CASE 1. Nov. 15th.—Eliza M—, æt. 18, a former patient, applied at the hospital for relief in consequence of the return of an attack of chorea, which had disappeared under treatment.

Three weeks ago the movements began to return; there is twitching of fingers, and moving of head. She suffers from constipation. Menstrual period regular as to time, but large in quantity; she used to suffer at each period from great pain and fainting fits, this only occurs now about once every three months.

Stramonium 30th, three pilules in nine dessertspoonsful of cold water, a dessertspoonful every three hours.

Dec. 6th.—Reports herself a little better.

Continue *Stram.*

Jan 10th.—Did not come again till this date. There is still some shaking of the hands, but the head is not shaken at all as it was. Menstrual period is now present, the quantity large; much pain and bearing down.

Nux vom. 30, three pilules, one ninth in water three times a day.

Feb. 7th.—Did not return till next menstrual period—the quantity was less this time.

Continue *Nux vom.*

28th.—Suffering from constipation, for which *Sulphur* 30 was given three times a day; generally better.

This case, like many of those treated among the out-patients, loses some of its interest from the irregular attendance, and from the not knowing how she went on afterwards. As she did not return, which she would probably have done, being in the habit of coming to the hospital, it is likely she continued well.

Epilepsy and chorea.

CASE 2.—John H.—, æt. 10.

Nov. 29.—Four months ago had an attack of epilepsy, and many slight ones since, as many as three or four in a day. The child is very excitable, was unable to talk till he was seven years old. The intellect appears to grow weaker. Child wets the bed.

Bell. 30th, three pilules, one ninth in water three times a day.

Dec. 27th.—Better.

Continue *Belladonna*.

Feb. 28th.—The epilepsy has ceased, but the child is brought, as it suffers from chorea, especially when excited.

Stramonium 30th, three pilules, one-ninth in water three times a day.

April 4th.—The child is again brought—the chorea being less, but there was one slight fit yesterday; breath rather short. Speaks better, and intellect seems improved; the urine is thick.

Repeat *Stramonium*.

May 16th.—No return of epilepsy, there is still a little chorea; intellect continues to improve. There is cough, cold in head, constipation, and some loss of strength.

Nux vomica 30, three pilules, one ninth three times a day.

The child was not again brought, probably owing to the distance at which it resided from the hospital, and as the epilepsy had ceased, and the chorea which took its place nearly so, the parents may not have thought another visit needful.

Itching vesicular eruption.

CASE 3. Nov. 22.—Eliza B—, æt. 6, was brought suffering from an itching vesicular eruption on body, and small blisters on hands.

Rhus tox. 30th, three pilules, one ninth in water four times a day.

Nov. 29th.—Better.

Continue *Rhus*.

Dec. 20th.—Spots keep appearing and disappearing, but are much better on the arms and body; they still continue on legs and thighs; there is a small circular patch on right thigh.

Sac. lact.

27th.—The eruption is nearly gone—a little remaining on feet.

Rhus tox. 30th, one ninth three times a day.

CASE 4.—Benj. K—, æt. 9.

Jan. 3.—This boy had a blow on his abdomen when four years old, which is mentioned by friends as possibly connected with his present symptoms.

He suffers from cough and headache. Pupils much dilated. The abdomen is rather large, pain over pubes when touched. Constipation; pain at stool.

Bell. 30th, three pilules, one ninth three times a day, and *Calc. carb.* 30th, a pilule daily.

17th.—Brought to the hospital much better.

The former medicines were repeated.

This case is one of those where mesenteric symptoms would readily make their appearance. There is not much of special interest further than showing the medicines likely to be of use under similar circumstances.

Case of urinary disorder.

CASE 5.—W. M—, æt. 12½.

Jan. 3rd.—Breath short; headache when excited; languid pain in loins and limbs. Urine is very dark, thick, and slimy looking, offensive, vessel stained red. Passes water often and a good deal at a time.

Dulcamara 30th, three pilules, one ninth in water four times a day.

10th.—Urine clearer last two days, but still turbid and offensive. Shooting pain left side of chest, short breath, head painful—pressure distresses him, languid. If called in a hurry he loses himself. When a child he was threatened with hydrocephalus.

Acid phos. 30th, three pilules, one ninth every four hours.

24th.—Better. Urine is still a little offensive, some red sediment to-day; pains in limbs.

Lycopod. 30th, three times a day.

Feb. 28.—Urine is still offensive at times, and some pain in loins, but is on the whole better.

Dulcamara 30th every four hours.

After this the boy was reported well. There is unfortu-

nately no entry as to the chemical examination of the urine, or whether such was made. This information would have been of interest, though the treatment would not necessarily have been influenced by it. Each medicine given was of use, but the *Dulcamara*, given first and last, was specially indicated for the offensive character of the urine; it is a medicine upon which I place much reliance where this is present. I have also found it of marked benefit in chronic disease of the bladder, where large quantities of thick mucus were passed.

REVIEWS.

Five years' Practical Investigation of Homœopathy at the Cavalry Depot, and H.M. Riding Establishment. By W. C. LORD, F.R.P.S., V.S., (Late Cavalry Depot, Canterbury.) London: Turner. 1869.

THIS is a clear and concise statement of the advantages of homœopathic treatment, in the diseases of horses, experienced by Mr. Lord in his capacity of veterinary surgeon in the army. Mr. Lord enjoyed exceptional advantages for putting the system to a thorough and extensive trial, and we heartily recommend this little pamphlet to the attention of all who have horses, as they will from it see at a glance the immense superiority of the homœopathic treatment in saving the lives and shortening the illnesses of these valuable animals.

On Paralysis in Infancy, Childhood, and Youth, and on the prevention and treatment of Paralytic Deformities. By Dr. MATTHIAS ROTH. London: Groombridge. 1869.

THE greater portion of this little book appeared in our pages, so that our readers have already had an opportunity of judging of its merits. Dr. Roth has added a number of cases to those published in our columns, and in its new form we hope the work will obtain a wide circulation among those to whom its contents are of importance. The treatment of the diseases it relates to has hitherto been of a very empirical character, and we believe we are right in saying it has been as unsuccessful as it has been unscientific. The method adopted by Dr. Roth, which is an application of Ling's medical gymnastics, is founded on correct physio-

logical principles, and has been attended with the excellent results that might have been expected from its thoroughly scientific character.

Legitimate Medicine, What is it ? By GEORGE MOORE,
M.D., 1869.

DR. MOORE answers this question by cruelly arraying in these pages all the absurdities, contradictions, confessions of impotence, in short, everything he can find in the works of our opponents that tells against their system. This collection of wise and foolish sayings is very amusing to those who are not interested in wishing legitimate medicine to appear as the embodiment of reason and science. The old school partisan must feel dreadfully annoyed to find that the unkindest cuts at his cherished system come not from avowed opponents, but from professed friends, indeed, from those great authorities to whom he has all his life been taught to look up as the worthiest representatives and the doughtiest champions of allopathy. As he sees one after another the stabs its avowed supporters inflict upon orthodox medicine, he must feel inclined to exclaim reproachfully with the wounded Cæsar "*et tu Brute !*"

Horses and Stables. By COLONEL F. FITZWYGRAM. London :
Longmans and Co.

THE contributions to veterinary science have of late years been few and far between, and those works which have been published by allopathic veterinary surgeons have been more adapted to the mental capacity of the groom than the professional man. In vain do we seek for a practical work on pathology and practice of veterinary medicine, such as

VOL. XXVIII, NO. CXI.—JANUARY, 1870. M

we could recommend to the students of veterinary surgery. There is a generalization in the symptoms and treatment of disease, and generally an absence of all connection between the latter and the former (except in a round-about manner of acting on every organ but the one chiefly affected), which creates in our minds nothing but astonishment how horses ever recover under such treatment. The best work, in a scientific point of view, is Percivall's *Hippopathology*, but the treatment in it is of so sanguinary a character that even the present professors of the college hesitate to recommend it to the students, and are forced to fall back on two equally old works, viz., Blaine's *Veterinary Outlines*, or Youatt on *The Horse*.

Besides these the only works of more recent date by allopathic veterinary surgeons are Mayhew's *Illustrated Horse-Doctor*, the very name of which is sufficient to condemn it as a scientific work. *Our Domestic Animals in Health and Disease*, by Professor Gamgee, which contains a great deal of excellent matter, but arranged in such a manner as to render it unsuited to the requirements of the student. *Veterinary Papers*, by Professor Dick, of which the same remark may be made as the last; and *Horses and Stables*, by Colonel (and we believe Veterinary Surgeon) F. Fitzwygram, who was a student under the late Professor Dick.

This work which we have been asked to review is divided into eight parts, but without any attempt at classification of disease, for we find diseases of the organs of respiration, rheumatism, dropsical swellings, glanders and farcy, in Part III. Part I is devoted to the construction of stables, ventilation, grooming, feeding, and stable management, and contains a great deal of useful information, which we can strongly recommend to the notice of all owners of horses who may not have *The Horse in the Stable and Field*, by Stonehenge; or, *The Gentleman's Stable Manual*, by Haycock. Part II contains, among other subjects physiological and anatomical, an account of the action and uses of medicines, about which all we can say is, that it is as good a description as can be given by those members of the old school

who will not avail themselves of the homœopathic method of investigating the action of drugs in health, and then applying them to the diseased tissues for which they have a local affinity. Had our author pursued this system he would not have recommended as a "fever or cough-ball," *Aloes ʒi, Nitrate of Potassa ʒij, Extract of Belladonna ʒss — ʒi*. To be mixed with tar into a ball. Nor would he have recommended as an antispasmodic "a narcotic in combination with a diffusible stimulant and a slight purgative." Such a combination is unscientific, and shows that the author knows very little of the means by which "inordinate muscular action" should be relieved. To prove that such treatment is far inferior to the homœopathic we shall pass on to Part IV, and see what are the results of this poly-pharmacy in the treatment of colic, in comparison with the homœopathic method of administering a few drops of one medicine only.

At page 347 the author says, "Colic, as a general rule, ends favorably after a few hours in resolution; but it may induce intus-susceptio or rupture of the diaphragm, from either of which complications a fatal result will ensue; or it may continue until inflammation of the muscular and mucous membranes of the intestines, otherwise called enteritis, supervenes."

Let us now turn to the *Monthly Homœopathic Review* for November, and there see what another army veterinary surgeon, but one of the homœopathic school, says about the duration of this disease. In an article, entitled "Five Years Practical Investigation of Homœopathy at the Cavalry Dépôt," Mr. Lord says, "The average time it takes to cure colic homœopathically (as taken from sixty-four consecutive cases in my official record of treatment) is seventy-seven minutes. The longest of my cases under treatment was six hours and a quarter, the shortest five minutes." In page 686 of same review he adds, "I have treated a great number of such cases (colic) during the last five years homœopathically, without losing one, and the short time they remained under treatment was really astonishing, when compared with the length of time such cases used in former

years to take me when treating them allopathically." Now, if we wish to know the reason why the result of the two methods of treatment should be so different, we shall find it *unintentionally* explained to us homœopaths by Colonel Fitzwygram, at page 348, in the following sentence: "In such combinations the stimulant rouses the bowels to increased action, and thus aids nature in overcoming the spasmodic affection; whilst the purgative clears away the irritant, which in so many cases is the original cause of the attack." That such treatment is not only unscientific but injudicious is evident from the author's admission at page 349, that, "Slight cases of colic with intermissions of considerable intervals are sometimes continuous for several days. The bowels do not respond freely to the effect of the cathartic medicine, and slight pains return at intervals."

All other diseases are treated in the same indirect manner, showing clearly that veterinary science has made very little progress during the last century. We shall only notice the treatment of one more disease to show the present state of allopathic therapeutics.

Under the head "Rheumatism," page 323, we find the following treatment recommended:—"In severe or long-continued attacks it is advisable to give an ounce of *Bicarbonate of Potass*, followed daily by a dose of half the above amount with half an ounce of *Nitrate of Potassa*, until relief is obtained. *Colchicum* in half-drachm doses may be combined with the above. If these remedies fail, two drachms of *Iodide of Potassium* may be given in addition."!!

Having thus briefly pointed out the principal errors in this work according to our judgment, we have no hesitation in saying that it is greatly superior, both in matter and manner, to most other allopathic veterinary works, and deserves a place on the book-shelf of all country gentlemen and owners of horses.

Remarks on Medical Charities, &c. By J. PENN HARRIS, F.R.C.S., Vice-President of the Liverpool Northern Medical Society, Liverpool, 1869.

IN this pamphlet Mr. Harris makes many useful suggestions for the improvement of the management of the hospitals and dispensaries of Liverpool, as regards both the admission of patients and the election of medical officers. Though he does not say so, his plan very much resembles in both these points, but particularly as regards the patients, that which already obtains in Paris, viz. : the establishment of a central board for regulating the admission and classification of patients similar to the "Bureau Central de Bienfaisance" of Paris. His suggestions on this subject are well worth attention, but we much fear they will be ineffective in producing the desired reforms, for, as far as our experience goes, the governing bodies of institutions of all kinds dread nothing so much as amalgamation, though it is obvious to all outsiders that their efficiency would be thereby vastly increased, and the expenses of management greatly reduced. We desire particularly to call the attention of our readers to this pamphlet on account of the liberal and gentlemanly spirit that is displayed by the author in reference to homœopathy and the institutions where the homœopathic treatment is adopted. This liberality and good feeling are now becoming as conspicuous in the writings of old school practitioners by their presence as they were formerly by their absence. At p. 8, our author says :

"In reference to the Homœopathic Charities I trust there would be no difficulty (so long as they remain separate institutions) to their being brought under the same management and support as the association of Hospitals now proposed. The fact of their representing differences and dissent in some particulars of medical doctrine and practice does not warrant their being ignored and excluded from consideration in this plan. The grounds of that difference I am not here at this moment to discuss, though I believe, by extended observation and enquiry on both sides, (Allopathic and Homœopathic) with a freer recognition of

each other's researches, especially on the subject of the action of medicines, much more correspondence in our practice will be attained.

"If I may judge from expressions of one of the most able and accomplished representatives of Homœopathy, (Dr. Drysdale) in a letter lately published by him in the local papers, on his candidature for the Children's Infirmary, I should infer that Homœopathy with him was no final form of medicine, and so far from exhibiting anything of the narrow sectarian, reflects much of the liberal and enlightened physician. He says,—'The science of medicine is one, and the terms Allopathy and Homœopathy are mere names, or rather, nick-names which have become attached to certain phases of medical theory and opinion which happen to be prominent at this time. Hospitals were founded for the sick poor, and not to support any particular doctrine or modes of practice, which are liable, nay, even certain ere long to become antiquated, and to be superseded. To obviate any evil results from this tendency, the simple plan is to abstain from all interference with medical liberty, and trust the appointment of medical officers to the principle of free election from amongst all medical men who are duly qualified in each generation.'

"If such is the aspect and attitude of the body this writer so worthily represents, I cannot see why we should not greet them as fellow-labourers in the wide field of medical research, and not men at whom professional obloquy should be directed, and I trust the period is passing, when to meet or even mention them in any medical relation were to incur the penalties of professional ostracism.

"Diversity of opinion and practice in connection with the causes and treatment of disease is coeval with the study of medicine, whose history, we need not be reminded, is one of transitory systems, many of which, viewed from our standing ground to-day, excite our surprise that they should have found advocates and believers, yet amongst them were the most talented and honourable of the profession. Nor need we consider ourselves so very far in advance of our predecessors, at least in our knowledge of the treatment of disease. Let the grey-headed practitioner of to-day record his experience in the practice of therapeutics, and it would, I suspect, be sufficient comment on our charging others with errors and inconsistencies in their's, and

suggest to us that in a department of medicine at present so open to conjecture, experiment and diversity of practice, we should rather welcome than reject the opportunities of observing under various aspects the labours of others, as by the publication and comparison of our differences we shall, I believe, obtain more effective results, and finally more uniformity in practice, and perhaps discover that theoretical and practical differences in medicine are quite consonant with professional fellowship, as well as with scientific freedom and mental independence.

“Supposing the Homœopathy of Hahnemann to be insignificant as an art of healing, there can be no doubt it has been of immense value as criticism on much of the medical practice of the day. I have dwelt somewhat on this matter as I have long felt that the chasm to our professional and even social intercourse was unreasonably wide and unworthily embittered by it, though equals in [education and all honourable effort to elicit truth, that this tinge of professional contention should cast its unfriendly shadow over the character until it had almost deepened into animosity of the individual, was at variance with the true spirit of a liberal profession.”

We are charmed to read such courteous language in the writings of one whom we can only conventionally call an opponent; and as we see around us an increase of this spirit in the writings of our otherwise-practising colleagues, we think the time cannot be far distant when they will join heartily with us in our efforts to increase our knowledge of the action of drugs and their therapeutic application.

With regard to the author's proposal, that the medical officers of hospitals should be elected by a medical board which is to judge of their qualifications by an examination of their diplomas and testimonials, we think there are serious objections to this plan, and that the old mode of election by governors, bad as it is, is preferable to the method he proposes. Some plan whereby the elections could be made by means of a perfectly fair and impartial competitive process, like the *concours* of Paris, but without its partiality and prejudice, would be infinitely preferable both to the present system of election by lay governors, and to that proposed by the author. However, such is the

prejudice that exists in favour of the present method, that we believe it will be a most difficult matter to get it superseded by a better.

Processes for making Tinctures for Homœopathic Use, as decided upon by the Pharmacy Committee appointed by the British Homœopathic Society, October, 1869.

DR. MADDEN, to whose untiring labours chiefly, if not entirely, we owe the excellent directions for preparing the homœopathic tinctures given in this pamphlet, deserves great credit for the masterly manner in which he has laid down the rules for securing uniformity of strength of tincture for every different kind of vegetable substance. It required a thorough acquaintance with chemistry and pharmacy to arrive at the results here given; and, knowing the qualifications of Dr. Madden for the task, we have every confidence that the results he has arrived at are as perfect as they can be in the present state of science. It being, moreover, highly desirable that perfect uniformity should be attained and practised by all homœopathic druggists in the preparation of the tinctures and dilutions required in homœopathy, we earnestly hope that the processes now recommended will be universally adopted. They are somewhat elaborate, it is true, and require no little calculation; but we trust that no good chemist would grudge the trouble of following a plan ascertained to be the best possible, and laid down by proper authority. Our hope of seeing such general adoption, through Britain at least, is greatly strengthened by the recent establishment of the British Homœopathic Pharmaceutical Society. We press this point, since otherwise the labours of the committee will but result in adding tinctures of another strength to the existing tinctures, which already differ in this respect among themselves.

The point about the new tinctures which it will be important

to remember, is that the first or "mother" preparation will always represent one part in ten of dry medicinal substance, and will accordingly be styled the first decimal potency, and diluted accordingly to form the subsequent attenuations of the scale. That is, ten drops of it to ninety of alcohol will form the first centesimal dilution. Now Hahnemann's mother tinctures, containing either one half of the juice of fresh plants, or the result of the treatment with alcohol of one seventh or one tenth part of those obtained in a dry state, are treated alike in the preparation of the subsequent dilutions. These, consequently, vary in their relation to the actual amount of medicinal substance in them, and still more widely diverge from the strength of the corresponding triturations. We suspect that many are not aware that when ordering *Nux vomica* in the 1st trituration, they are using a preparation exactly ten times the strength of *Nux vomica* in the first liquid dilution. This should not be, nor should the first centesimal dilution of a vegetable medicine bear any other relation to the dry drug than that which its name imports, viz. a proportion of one to ninety-nine. Such harmony with the triturations, and uniformity among themselves, the new plan will effect for our tinctures. But prescribers must remember the change which will have taken place; and it must also be borne in mind when studying provings and records of cases. But in these latter, the difference—when we get to the third dilution and upwards—will be of trifling moment. Hahnemann's third dilution of *Ipecacuanha* will contain $\frac{1}{100,000}$ th of the powdered root, Dr. Madden's $\frac{1}{1,000,000}$ th. It would be splitting straws to say that such variations could bring confusion into pathogenetic or clinical results.

The new plan is no departure from Hahnemann's principle, but merely an adaptation of it to the advanced state of chemistry and pharmacy. He classed a large number of fresh substances in the same process; the new plan individualizes according to the nature of each plant. It is certain that no uniform system can be adopted, each plant requiring its own strength of spirit, and its own process for perfect exhaustion of its virtues. We trust, therefore, that

no misplaced conservatism will hinder the adoption by all chemists and prescribers of the tinctures of the "British Homœopathic Pharmacopeia."

Before concluding, we desire to call the attention of the society, as it proceeds with its labours, to the importance of establishing a uniform scale of dilution, and of making this the centesimal. Its mother tincture will take the place of what we now call the 1st decimal, or, (as in the North) A; and between the 1st and 2nd centesimal an intermediate potency of $\frac{1}{1000}$ th may well be recognised under the title of 3rd decimal or B. But for all other dilutions it is desirable that, through the whole world, the 1st, 2nd, 3rd, and so on, should always mean what Hahnemann meant, $\frac{1}{100}$, $\frac{1}{10,000}$, $\frac{1}{1,000,000}$, &c. The uncertainty at present existing in the nomenclature of potencies is very inconvenient. One of us had lately occasion to consult Kafka's *Therapie* in a case of typhlitis. We found he ordered one grain of *Merc. sol.* 1 every two hours. Now as it was of consequence to know whether $\frac{1}{10}$ th or $\frac{1}{100}$ th was meant, we looked at the preface and introduction, and everywhere we could think of, but could find no intimation whether the potency was the 1st of the centesimal or of the decimal scale, so the advice was useless for the time. Some weeks afterwards, we found in the chapter on Ascites, directions for giving *Chininum arseniosum*, 1st trituration, half grain; and then was added in parenthesis " $\frac{1}{30}$ th grain," so from that it is to be presumed that the decimal scale is followed all through the book. Still, there is no certainty about it, and we should not be left in doubt on such important matters. All such doubt would be spared if one scale were adhered to throughout the world; and we think that the choice for that scale ought to fall on the centesimal.

Epitome of Homœopathic Medicines. By WM. J. BREYFOGLE, M.D. Philadelphia : F. E. Boericke, pp. 383. 1869.

Characteristic Materia Medica. By W. H. BURT, M.D. Philadelphia : A. J. Tafel, pp. 460. 1869.

THESE two works are the latest among the praiseworthy attempts which are being made by our American colleagues to advance the knowledge of homœopathy.

Of Dr. Breyfogle's work we had best let him speak in his own words.

"The arrangement of this work is easily understood ; but few explanations will therefore be necessary. It has been my aim throughout to arrange, in as concise a form as possible, the leading symptoms of all well-established provings.

"To accomplish this, I have compared Dr. Lippe's *Materia Medica* ; the *Symptomen-Codex* ; Jahr's *Epitome* ; Bönninghausen's *Therapeutic Pocket-Book* ; and Dr. E. M. Hale's *New Remedies*, and from these I have drawn the summary in this treatise.

"In arranging individual remedies, I have endeavoured to observe four points :

"1st. The locality of their action.

"2nd. The kind of pain, in general, and in certain organs or localities in particular (mental symptoms).

"3rd. Conditions (amelioration and aggravation).

"4th. Concomitant symptoms (as, for instance, with the pains, chilliness, *Puls.*).

"This work differs from other epitomes :

"1st. In treating of a larger number of remedies.

"2nd. In the arrangement of its material in comparative form.

"With these brief remarks, I recommend this work to the careful study, and just and friendly criticism of the profession, and sincerely trust that it may stimulate others to similar efforts in the noble task of imparting to our art a universally acknowledged scientific basis."

We cannot but think, with every desire to be "friendly" as well as "just" in our criticisms, that in the concluding sentences we have quoted Dr. Breyfogle claims too much for his book. No selection of symptoms, however well made, can form a "scientific basis" for our art. They are the materials for science; they are not in themselves "scientific." If we are to commend his *Epitome* it must be upon humbler grounds. Such service as it is calculated to render is that of a summary and remembrancer. For this it is required that its selection be made with judgment. The author has wisely refrained from trusting to his own discrimination in the task of deciding what are and what are not "leading symptoms." He has made an epitome of several epitomes; following chiefly the *Text-Book* of Dr. Lippe, of whom he seems to be a faithful disciple. The "conciseness" he has aimed at he has certainly attained, for in his 383 duodecimo pages he has summarised the action of some 240 medicines.

As regards the selection of the symptoms we think we can speak favourably. No uniform standard can be set up by which to try such work; the choice must always vary (within certain limits) according to a man's own experience and tendencies. But on going through several of the pathogeneses we seem to recognise most of the genuine effects of the drugs, as we ourselves know them. We must indeed protest against the indiscriminate blending of the so-called "curative symptoms" with those of pure pathogenesis, especially in a collection of "the leading symptoms of all well-established provings." But in this Dr. Breyfogle errs with his masters Lippe, and Jahr, and Bönninghausen; and our protest has been made more than once in vain.

We cannot speak so well of the sections added to each medicine under the heading of "Curative Range." Who would recognize the following as the distinctive therapeutic sphere of *Colchicum*?

"Great weakness, with sensation of lameness in all limbs, tingling in parts as if frost-bitten, twitches like electric shocks through one side of the body, œdematous swellings,

anasarca, ascites, hydrothorax, nervous exhaustion from night-work (also *Cocc., China*)."

Or this of *Colocynth* ?

"Tension, constriction in parts (internal and external). Stiffness in joints. Shortening of tendons. Swelling of parts, with oppression of breathing. Burning pains. Swelling suppuration (*sic*) of axillary glands. Carbuncles, with continuous burning pain. Scaling off of skin. Itching, burning ulcers. *Beer* intoxicates easily, (also *China*)."

Not a word about the gout and rheumatism of *Colchicum*, the colic, neuralgia, and dysentery of *Colocynth*. The following of *Sepia* is perhaps worse still.

"Especially suitable for dark-haired persons, for women, during pregnancy. Heaviness in body. Stiffness in joints. Arthritic pains in joints. Tearing in muscles, great sensitiveness to pain, (also *Coff., Cham., Hep. s.*). Bleeding from internal parts. Ozena. Army itch. Paralysis, with atrophy. Inflammatory swellings. Easily fatigued. Faints at trifles, (also *Hepar s.*). Want of natural heat. Weakness of the joints. Hysterical spasms."

In a second Edition we would recommend the entire suppression of these sections, and the embodiment of their materials into the list of symptoms, so far as they are of any value. We hope to see them, however, weeded of such inanities as this which we find under *Taraxacum*—"He goes to sleep while listening to a scientific discourse."

With these faults (which are mainly those of the school from which it proceeds) Dr. Breyfogle's *Epitome* is nevertheless calculated to be of decided service to those who work from symptoms, and require a compact and handy remembrancer. We hope some day to get higher work from his hand.

Dr. Burt's work is (to use his words also)

"Neither a 'Text-Book,' nor an 'Epitome;' much less is it offered as a substitute for the *Materia Medica*. But from all the sources within my reach, including pretty much the entire range of our English and American Homœopathic literature, I have endeavoured to collect those symptoms which, whether originally pathogenetic, or clinical

only, have come to be regarded as 'Characteristics,' and as 'Key-notes,' by reason of their own prominence, or from the frequency of their mention by the best authorities."

It is obvious that two qualities are necessary in one who would compile such a "Characteristic Materia Medica," viz., judgment in choosing the symptoms, and accuracy in rendering them. The former desideratum Dr. Burt has sought to attain by relying rather upon others than on himself. Drs. Guernsey, Hering, Frost, and Douglas are the authorities he has used most largely: but many quotations are also made from the writings of Drs. Hempel, Hale, and Hughes. What the last-named writers are made to furnish, however, are general statements concerning the pathogenetic or therapeutic powers of our medicines. From Dr. Guernsey, and those we have named with him, isolated symptoms are taken, which they consider "characteristics" of the drugs and "key-notes" of their action. As a whole we have a fair collection of the prominent features of each medicine, but with very little attempt so to arrange and connect them as to present life-like pictures. Dr. Burt's book, like Dr. Breyfogle's, supplies materials for science, but is not scientific itself.

The second desideratum we have mentioned, is accuracy in citing the observations of the several authors laid under contribution. We fear that Dr. Burt must come under condemnation in this particular. We have only been able to verify his quotations in the instance of those he has made from Dr. Hughes; and here the following results have been obtained. Dr. Hughes' name is appended to 117 extracts, and of these no less than 22—or nearly one fifth—are incorrect. We are not speaking now of inaccuracies in grammar, spelling, and punctuation; these are only too common everywhere. We mean that the author is made to say things which appear nowhere in his book, or things precisely the reverse of what he has said. Thus "typhoid hæmorrhages; great sensitiveness of the abdomen; green, slimy, acrid diarrhœa, with tenesmus" is credited to him as a "characteristic" of *Nitric acid*: which is entirely imaginary. He is made to recommend *Colocynth* in

“dysentery, where the disease is located in the small intestines,” whereas he states explicitly that *Colocynth* is only suitable when the dysenteric process is seated in the rectum. We hope that Dr. Burt has not treated his other authorities in the same manner, otherwise the value of his book becomes questionable.

We think we can best complete the view of the present volume we are presenting to our readers by extracting one of the medicines as treated therein.

ALOES.

Socotrine Aloes

Acts through the ganglionic system upon the liver, muscular portion of the large intestines, especially the rectum, and the generative organs and skin. It produces great congestion of the portal circulation.

Grand Characteristics.

Violent tenesmus, with stools of bloody water, great faintness during and after each stool.

Sharp pains in the bowels, with large quantities of flatus with the stools.

“Stool in consistence like jelly-cakes; a quantity of clear jelly-like substance, which may be green or white, adheres like congested mucus.”

“Sense of insecurity in the bowels, as if diarrhoea might occur at any time.”—HUGHES.

“Diarrhoea, with want of confidence in the sphincter ani. The rectum seems full of fluid, which feels heavy, as if it would fall out.”—H. N. M.

“Fistula in ano; it never has disappointed me.”—DR. BOYD.

“Yellow, fecal, bloody, jelly-like mucus; worse when walking or standing, after eating, or passing urine.”—J. B. BELL, M.D.

“Diarrhoea at 10 p.m. and 10 a.m.”—H. N. M.

“Diarrhoea, pain, soreness, and burning in the rectum; stools copious and watery, with much flatus; great exhaus-

tion and faintness after stool, at 2 or 3 a.m.; every morning is driven out of bed for stool."

"Hæmorrhoidal congestions; the hæmorrhoids bleed often and profusely."

Dysentery, with prolonged and severe tenesmus; the rectum is much affected; much pain and faintness during stool.

"A peculiar, heavy, dull, pressing pain in the forehead, of no great severity, but which indisposes to or even incapacitates for all exertion, especially for intellectual labour."—

DR. P. P. WELLS.

Dull heavy headache, with dull pains in the liver.

"Falling out of the hair in adults."—TESTE.

Eberle says "Experience has shown that this drug is among the most efficient agents for exciting the uterine vessels, and directing the afflux of blood towards them, and deserves to be accounted the best remedy we possess against those protracted, exhausting, and obstinate hæmorrhages from the uterus, which occur in females of nervous, relaxed, and phlegmatic habits, about the critical period."

Sulphur as a Remedy for Neuralgia and Intermittent Fever.

By ROBERT T. COOPER, B.A., M.B., M.S., Dublin.
London: H. Turner & Co.

IN this pamphlet Dr. Cooper brings before us certain experiences of his own which lead him to think that *Sulphur* has a much higher place among the remedies for ague and neuralgia than has been hitherto assigned to it.

As regards ague, the inference seems to us hardly justified. A simple case of tertian is reported, of which the history is this. He was admitted to the Southampton Homœopathic Dispensary August 31st, 1868. He stated that he had had typhus fever in the West Indies three weeks before,* and that this was followed by intermittent

* Before what? not, surely, the date of admission. This brief interval would not allow for a typhus, a subsequent intermittent, and then a voyage home from the West Indies.

fever. He now had the attacks every second day. He had taken large quantities of *Quinine*, and was very cachectic. He took *Tinct. sulph.* ϕ three times a day. The paroxysms recurred as usual, but with decreasing severity, till on the 7th he passed the day without one. This is recorded as "attacks have left him completely," which looks a little hasty; and there the narrative ceases. Now, if Dr. Cooper had given us this case as an illustration of the usefulness of *Sulphur* in chronic agues where there had been abuse of *Cinchona* and (perhaps consequent) cachexia, we should have accepted it without a question. But it seems to us a very slight foundation upon which to build a theory, that *Sulphur* "is capable of eradicating the morbid principle that keeps up aguish symptoms after the patient has removed from malarious contagion."

Dr. Cooper's contributions towards estimating the value and fixing the place of *Sulphur* in the treatment of headaches and neuralgia are of much more importance. Twelve cases are narrated; and of these five are of undoubted character. The other seven we must exclude for the present for the following reasons. In the first and second pain of long-standing ($1\frac{1}{2}$ and 5 years respectively) was greatly relieved during the first week of taking *Sulphur*; but there the record stops. We have so often seen immediate improvement in chronic cases effected by this remedy, but followed by relapse unless some other medicine came in to reinforce it, that we cannot attach much importance to what happens in the first week of its administration. In the third case *Sulphur* gave the same immediate relief, but the ultimate cure was effected by *Coffea*. In the fourth case the pain had lasted two months before admission; but it is not until *Sulphur* had been taken for two months and a half that he lost it—no mention being made of his state in the interim. Case 6 is reported by an allopathic colleague. A supra-orbital neuralgia had given way in a week to *Quinine*. Two years after it recurred, and had lasted eleven days without yielding to the usual remedies. Then *Tinct. Sulph.* ϕ was given. "Almost immediate relief was obtained," but it was not till four days after this that the patient was able

to return to his usual employment. So that the decision upon *post hoc* and *propter hoc* here is not very easy. In Case 7 *Sulphur* evidently alleviated sympathetic neuralgic pains from carious teeth; but *Phosphorus* was needed for cure. In Case 12 a neuralgia from debility had lasted three days only, and it is not much credit to the *Sulphur* prescribed that "by the end of the next week the pain had vanished." *Arsenicum* would probably have cured it in twenty-four hours.

The remaining five cases are unquestionable examples of long-standing pain about the head and face rapidly cured by *Sulphur*. But only the two last of the number are instances of the affection for which Dr. Cooper considers *Sulphur* particularly appropriate, viz. "an intermittent periodical neuralgia, in which an aggravation takes place every twenty-four hours, generally at twelve or one o'clock, either in the middle of the day or at midnight. The pain is generally of a dull, aching character, steadily increasing up to the critical hour, and then decreasing; very often this critical hour intersects, as it were, the paroxysms equally, leaving as long a time to follow as had preceded it. The pain does not appear to be usually eased by any external application, and is often, though by no means invariably, found associated with carious teeth." In the first three cases the pain was of the nature of headache rather than neuralgia; was continuous, not intermittent; and must be called in two of them rheumatic, and in the third (as Dr. Cooper himself admits) venous congestive. The value of *Sulphur* in such headaches is well known.

We have gone into this analysis of Dr. Cooper's cases because he is a worker who deserves it; and we are sure he will thank us for not superficially accepting his conclusions without weighing their evidence. The residuum left us is that, on the certain testimony of two complete cases, and the more or less forcible suggestion of several more, *Sulphur* claims a prominent place among the remedies for neuralgia of the head and face, especially when characterised as above. In establishing this claim Dr. Cooper seems to be original, and is worthy of due thanks and credit. We hope he will

continue to work at the subject. But we think speculations as to the relation of *Sulphur* to malarious and periodical affections in general, and therefore to agues and neuralgiæ, quite premature.

MISCELLANEOUS.

Carbolic Acid in Surgery.

Mr. Berkeley Hill states that, in many of the recently recorded cases of wounds treated with *Carbolic acid*, there has not been sufficient attention to the properties of the antiseptic, which will make or mar the success of this plan according as they are dealt with. In a paper read recently before the Harveian Society Mr. Hill mentioned the most recent modifications which have been adopted by Mr. Lester in his use of *Carbolic acid*, and narrated the results he saw during a visit made to Glasgow for the purpose of ascertaining to what Mr. Lester's better success was due. In the early use of *Carbolic acid* the antiseptic was applied in too concentrated a form, and too frequently to the wounded surfaces, or it was applied too imperfectly to keep up continuous antiseptic action. The essential conditions to be observed in using *Carbolic acid* are—

1. That the exposed surfaces having been purified once by an application of the acid, the antiseptic should not again come in contact with them, because *Carbolic acid* is a violent irritant, and retards healing instead of promoting it if kept applied to raw surfaces.

2. *Carbolic acid* is truly volatile, and unless unceasingly supplied to the air about a wound that air soon regains a septic condition, and is able to excite fermentation in the discharges, and consequently irritation in the wound. In carrying out these indications the surgeon uses *Carbolic acid* first to neutralise any septic effect exposure to the air may have produced in a wound. This Mr. Lester now does by washing the surfaces with a concentrated aqueous solution of crystallized *Carbolic acid* (1 to 20); in this form the acid is not strong enough to produce an eschar, and its irritant effect passes away rapidly, for the acid is absorbed into the blood and excreted by the lungs and other organs. The wound being washed its margins are brought together by sutures, if necessary, and then quickly covered by a piece of sheet tin

(sold wholesale by Messrs. Compton and Co., 148, Fenchurch Street, London) which has been washed in the aqueous solution of *Carbolic acid*. This tin is *laid next the skin*, and when well fitted is a tolerably perfect seal to the wound. The tin is covered by a piece of shellac and *Carbolic acid* plaster (prepared by the Glasgow New Apothecaries Company).

The plaster must be large enough to overlap the tin considerably on all sides. Its use is to furnish a very small but long continued supply of *Carbolic acid* to disinfect the air passing beneath the tin to the wound. It acts as a safeguard only; for a more abundant supply of *Carbolic acid* is provided in the next step of the dressing. The shellac plaster is rendered non-adherent by washing it with a solution of gutta percha; the film of gutta percha that is left does not hinder the gradual escape of the *Carbolic acid* from the shellac, its storehouse. Being non-adherent the plaster can be removed without disturbing the wound, and is kept in position by strips of diachylon, so disposed that the most dependent border is left free for the issue of discharge should that form in the wound; and for the first twenty-four hours the quantity of serum which escapes from a wound is often considerable.

The third and last step in the dressing consists in guarding this exit of the discharge with *Carbolic acid*. This is done by laying over it a piece of lint soaked in the oily solution (one part of *Carbolic acid* to thirty-four of *Olive oil*).

The *Carbolic acid* escapes from oil less rapidly than from water, and more rapidly than the lac or other substances employed at storehouses. This oil can be renewed from time to time, and the discharge cleared away without in the least disturbing the wound until it is healed. If at any time it becomes desirable to inspect the wound, this can be done without risk of septic contagion if the wound is smeared with the *Carbolic oil* while it is exposed for examination. Mr. Hill concluded his paper by mentioning the different cases in which *Carbolic acid* is useful. The aqueous solution is an excellent lotion for indolent venereal sores; it allays the pain and stops their progress, induces healthy granulation, and, by guarding its aperture with the oily solution, the largest lesions or other abscesses can be opened without risk of putrefaction of the residuum discharge.—*The Practitioner*, March, 1869, pages 177, 178.

How far can Fluids be injected into the Intestinal Canal per Anum?

By DR. TRAUTWETTER.

(Translated from the *Monatsblatt* to vol. lxxviii of the *Allg. Hom. Zeitung*, March, 1869.)

THE experiments made by Dr. Trautwetter on the living and dead as well as on lower animals may be described as follows. He injected per anum into the intestines, with an instrument for self-injecting, made by Leiter of Vienna, a saturated solution of *Ferrocyanide of Potash* (*Kali ferroginosum hydrocyanicum* or *Ferrokaliium cyanatum flavum*); then, having opened the abdomen, and cut open the lower part of the canal with a pair of intestinal scissors, he poured on the denuded mucous membrane a solution of *Chloride of Iron* (*Ferrum sesquichloratum* or *Ferrum muriatum oxydatum*). There was then formed, on all parts up which the *Ferrocyanide of Potash* had been forced, a dark colouring of the membrane and of the contents of the canal. This colour came out very plainly, and the parts above named were sharply defined by Prussian blue. By this method the author determined precisely how far a fluid injected per anum can pass up; and by the same means he learnt the conditions under which a high passage of fluid is possible.

Besides the above solutions we may employ other salts, for the same purpose, which when mixing give rise to compounds betraying themselves by an intense colour; e.g. by mixing a solution of *Tannin* with a solution of a salt of *Oxide of Iron*, we can obtain a compound intensely black, viz., common ink; by mixing *Hydriodide of Potash* with *Corrosive bichloride of Mercury*, a compound intensely red; and so on. Our author chose the *Ferrocyanide* on the following grounds: 1st, the reaction is highly sensitive. As, however, this is only the case with *acid* solutions, our author acidified his with *Acetic acid*. 2nd, the *Ferrocyanide* exerts no action upon the mucous lining of the canal, even in the living organism.

In order to inject the fluids far into the canal, he made use of the elastic tube of a common stomach pump, fifty centimeters long, introducing into it a strong wire, to which he gave the curvature of the inner surface of the sacrum. The point of a lavement tube, thus bent, passes with the requisite management,

which can easily be acquired by practice, over the sacrum and the promontorium, and then into the sigmoid flexure (*S. romanum*). In order that the wire may not project from the lower opening of the tube and injure the mucous lining, our author screwed a small nut on the opposite end of the wire.

When this nut is fastened with the screw it can be drawn out of the tube, but not pushed further into it. By this arrangement the mucous membrane cannot be injured. According to circumstances, one may give the wire a different curvature; when the long elastic tube is quite introduced into the canal, the point can be felt with the finger through the abdominal muscles, in the region of the lower part of the descending colon. The main conditions for introducing this long tube are the following: 1. The lower part of the intestine must be free from fæces, strictures, or tumours. 2. The anterior third of the tube must be suitably bent. 3. A proper amount of practice, patience, and caution is needful.

The results of experiments on the dead were as follows:

1. That the farthest part of the canal to which a fluid could be thrown per anum corresponds to the boundary between the great and small intestines.

2. That the injection only reaches the furthest point into the colon (*ascendens*, *transversum*, and *descendens*), when it is thrown up, not with the ordinary lavement instrument, but with the long elastic tube.

3. That in cases where, by an injection with the long elastic tube, the fluid did not penetrate as far as the colon *descendens*, *transversum*, or *ascendens*, there was always some obstacle in the gut, *e. g.* masses of fæces, tumours, and strictures of the canal, &c.

4. That, by using an ordinary clyster pipe, even in the cases where the canal was quite free, the fluid could only be forced into the lower part of the colon *descendens*.

In order to decide the question whether the fluid can be thrown as high in the *living* subject as the dead, our author experimented on living men and animals. For this purpose he threw up 450 c.c. of a solution of the *Ferro-cyanide*, per anum, into the intestines of a tuberculous person (a woman aged 28) lying *in articulo mortis*. She had a large cavern in the left lung, and was suffering for some weeks from very loose stools (in consequence of tuberculous ulceration of the intestines), so that the canal was sure to be free

from fæcal obstruction. An hour after the injection she died. In twenty-four hours the body was opened, and on pouring in a solution of *Chloride of Iron* on the opened intestine, the mucous membrane of all the large intestine was dyed deep blue, whilst that of the small intestine gave no reaction.

In introducing the long elastic tube into the intestines of a living subject there are, according to our author, certain precautions to be observed, which with a dead body are partly dispensed with. The pipe must have the above described curvature; and, after it has been carefully oiled, it is introduced into the rectum. After the point has passed the two sphincters one must proceed cautiously, till an obstacle occurs, which is the third sphincter about twelve centimeters from the anus. One must not try to pass this by force, for at first the sphincter contracts energetically in consequence of the mechanical irritation; but in a few moments relaxation succeeds, during which the sphincter can be easily passed. When once this third sphincter is passed, it is easy to introduce the half, nay the whole of the tube into the intestine. We have already given directions to advance it gently, and never to use force. The existence of a third sphincter is doubted by many, as it is difficult to demonstrate it anatomically; but our author has succeeded in convincing himself of its existence invariably during the introduction of the long tube. According to his view, the third sphincter forms the main hindrance to the farther introduction of the injection. The ordinary clyster pipes are far too short to enable us to pass it, which is the reason why the ordinary injections only reach the lower half of the rectum, *i. e.* as far as this third sphincter. In dead subjects one can, even with the common clyster pipe, send the injection beyond the third sphincter, which according to our author is practicable for this reason only, that in the dead subject the contraction and vital tone of the sphincter had ceased. Experiments with animals (dogs) demonstrate the possibility of forcing the fluid up to the limit of the great and small intestines.

Our author's experiments on corpses, living men, and animals having established the above facts and rules, we may add that Leister's apparatus is not absolutely necessary, as he succeeded in throwing fluids up to the colon ascendens, with a common clyster syringe, *furnished with a long elastic tube.*

These results induced him to treat dysentery (in eleven cases)

with injections of *Tannin* (2 grs. to the ounce), of *Tannin* with *Laudanum* (ten to twenty drops to the whole clyster), of *Nitrate of Silver* ($\frac{1}{2}$ gr. to one gr. to the oz. of distilled water); three of the eleven cases with *Tannin* only: five with *Tannin* and *Laudanum*; and the last three with a solution of *Nitrate of Silver*. The patients under treatment with *Tannin* only and with *Tannin* and *Laudanum*, obtained (solid) fæcal stools on the second or third day. The *Nitrate of Silver* seems to act still better; for, soon after the first or second injection, he has seen solid stools set in and tenesmus disappear. Each time he injected only 300—400 c. c., and only once or at most twice in twenty-four hours.

In conclusion our author reports the following case, where the introduction of the long elastic pipe was of great use. There was a patient with a great quantity of fluid exudation in the abdominal cavity, in consequence of a puerperal process, accompanied by an accumulation of gas in the bowels, which considerably aggravated the existing difficulty of breathing. All remedies employed [ordinary clysters, aperients, cold cataplasms on the abdomen, &c.] proved useless. The author, therefore, introduced the long tube into the bowels by way of removing mechanically the gas collected in the canal. No sooner had he passed the third sphincter than a considerable quantity of wind escaped through it, to the immediate and considerable relief of the patient; on his introducing the tube still higher, a second portion of gas escaped; and in three quarters of an hour she was sleeping quietly. (*Archiv f. Klin. Med.*, 1868.)

Note.—The translator is acquainted with a surgeon, Mr. John Davies, of Abergele, N. Wales, who *many years ago* tried an experiment similar to the last, for the relief of a desperate case of tympanites. He introduced, with the same precaution of never employing force, an extraordinary stomach-pump, per anum, to an extent which *perfectly astonished him*. At a certain point this resulted in a discharge of flatus equally astonishing, by which the poor old woman was greatly relieved.

N.B.—The stoppages, and consequent pauses, were so frequent, that our author would perhaps have contended for the existence of as many sphincters (?).

Resemblance to Cholera in the Symptoms of Arsenic Poisoning.

By Professor RUDOLF VIRCHOW.

(Translated from the *Allg. Hom. Zeit. Monatsblatt*, October, 1869, p. 37.)

THE analogy of many cases of *Arsenic* poisoning with cholera, in regard of symptomatology, has been repeatedly noticed; with hints of the possibility of mistakes and of a criminal use being made of this similarity. A case lately observed by me has to my astonishment further exhibited an unusual accordance in the anatomical condition of the intestines.

On July 4th, last, at 6 p.m., a man about forty was consigned to my department of the Charité, who had, by his own account, taken that afternoon, in prison, a tablespoonful of dry, powdered *Arsenic*. Though he had vomited well of his own accord, and the medical officer had given him *Oxyhydrate of Iron*, yet the action of the poison was very strong. Keen pains in the whole abdomen without much tension, violent thirst, constant diarrhœa and vomiting, pulse hardly perceptible, sound of the heart very feeble, deep blue complexion, including the lips and conjunctiva, with quiet respiration; skin very cold, especially on the extremities, starting of the tendons, and cramp in the calves. The *Iron* appeared abundantly in the vomiting and stool; and in the latter were white particles, which proved to be *Arsenic*.

Dr. Führmann still kept administering the *Oxyhydrate* with *Magnesia*, and applied ice externally and internally, but death ensued at 8 p.m. I did not see the patient till he was a corpse. The post-mortem could not take place till July 8th, at noon, the usual judicial inquiry having intervened, when the law, from the nature of the evidence in the case, declined further investigation.

I pass over the condition of other parts and only mention that, notwithstanding evident marks of decomposition in the skin and organs of the thorax, yet the stiffness of death was still present in the extremities. No marks of erosion could be noticed in the mouth, œsophagus, or alimentary canal. The stomach was so distended as to reach the navel, measuring ten inches longitudinally and four and a half transversely, covered outside with a washed-out (verwaschener) dirty bright red colouring matter, whilst inside nothing could be noticed but the great distension of the veins on

the great curvature. The upper portion of the duodenum was of moderate width, looking obscurely milky; the lower, contracted and reddish, the cœcum and upper portion of the colon of moderate width, the lower contracted. The mesentery diffusely livid red; the mesenteric glands but little enlarged and reddened. The stomach contained a large quantity of thin yellowish-brown fluid with large masses of sediment, partly soft and woolly, partly almost dry and sandy, a great part of which consisted of the antidotes, out of which, however, a perceptible quantity (more than one gramme) of particles of white *Arsenic* was separated by washing. Towards the pylorus a blackish-green bilious fluid contained many of the particles of *Arsenic*. In the duodenum was a dark green, almost black, matter mixed, in the lower portion, with whitish mucus. The gall-bladder, which was moderately full, emitted a darkish brown bile, in which Dr. Liebrich sought in vain to find *Arsenic*.

The mucous lining of the stomach generally swollen, and tolerably smooth along the lesser curvature and the anterior plane surface; on the posterior, much wrinkled and formed into a coarse network; towards the pylorus, thickly mammillated.

In general, with the exception of the pyloric portion, there was a uniform washed-out livid tint (from the imbibition of hæmatin), with no vessels distinctly perceptible. On the posterior surface of the fundus a dark ecchymotic streak parallel to the curvature, four inches long and one and a half broad, on which the mucous membrane was much swollen and slightly eroded on the surface, to which a thick mass of the aforesaid sediment adhered pretty firmly. There were no spots observed to be modified or deeply eroded; only on the lesser curvature an imbibition of a greenish grey and brown colour, and in some places flat depressions, which, however, on drawing the membrane tight, did not betray any loss of substance. The mucous membrane looks dull everywhere, especially on the pyloric portion. Microscopic examination showed on the surface of the membrane a very thick granular mass, which penetrates the whole tissue, though extending somewhat deeper down into the glands; lower down the glands themselves were very distinctly seen, their epithelium enlarged and much obscured, and even in many places, as far as the extremities of the gland canals, in a complete state of fatty metamorphosis. The interstitial tissue was in some places

full of a great mass of little globular cells, so that it looked here and there almost like a granulating tissue. On the whole, however, it seemed to be free, as far as the coat that was for the most part superficial.

In the jejunum was hardly anything but a tough, whitish mass of epithelium, free from bile and granules; lower down a thinner fluid, gruel-like, greyish-white, passing here and there into pale yellowish, adhered to the shreds of epithelium, which in some places were coherent. In the ileum a quantity of fluid, almost exactly like rice-water, without any admixture; and in the large intestine merely rice-water fluid, slightly tinged with red. The microscope exhibited the same composition as in cholera, *especially innumerable shoals of minute Bacteridæ and Vibriones*, which perfectly corresponded with the cholera fungi (cholera-pilzen) described by Klob and others.

The mucous membrane was pale throughout, only reddened slightly in the cloaca of the rectum. The larger veins were full, especially in the jejunum. In the great intestine the glands were undistinguishable; whereas, from the valvulæ ileo-cæcalis upwards, there was a considerable marrow-like swelling of the solitary follicles and of Peyer's follicles, yet without affection of the inter-follicular substance. The swelling of the solitary glands ceased sooner, whilst on the contrary that of Peyer's proceeded to the top. With this the mucous membrane was generally thickened, and there appeared, quite deep in the ileum, an enlargement of the valvulæ conniventes, regularly increasing upwards. The tissue of the mucous membrane was throughout somewhat dirty white, and under the microscope appeared full of finely granulated fat: only in the upper part of the jejunum here and there greenish, and in parts blackish (from absorption of bile), and I need proceed no farther to show how very similar the condition of the alimentary canal is to that in cholera. Not only the extensive follicular affection and the whitish swelling of the mucous membrane with distension of the veins merit emphatic notice; but, above all, the gruelly and rice-water-like condition of the contents, without either bile or fæcal matter. Finally it seems to me that there will be some interest in the notice of those most delicate organisms which occurred in this case of the purest *Arsenic* poisoning in enormous quantities. Should any one choose to object that the inspection

did not take place till ninety hours after death, and that decomposition had commenced; still it would certainly be in the highest degree astonishing to find the cholera fungi ("cholera-pilzen") developed to such an extent.

It seems to me of importance to the doctrine of arsenic gastritis that I should bring forward prominently the fact that, even after swallowing such a quantity of arsenic, no true erosion, ulceration, gangrene, or perforation of the stomach had commenced. To be sure, antidotes, and particularly *Oxyhydrate of Iron*, had been administered, and may have been of some use, but with such a quantity of *Arsenic* in the stomach and in immediate contact with the mucous coat, a more powerful action might have been expected, if, in general, corrosive symptoms so easily set in, as has often been maintained. The main fact here, too, was the existence of that glandular form of the gastric inflammation—"gastroadenitis parenchymatosa," which I have made known in *Phosphorus* poisoning. As for the fact that there existed a rounded infiltration of the interstitial tissue on the surface, and partially in the interior (Tiefe) too, is in itself of no great importance, though not without interest. Already in my first communication on *Gastroadenitis phosphorica* (*Archiv*, Bd. xxxi, s. 399) I had remarked that the alteration of the gastric glands is not specific. In fact, it occurs with *Arsenic* just as with *Phosphorus*. But besides the peculiar gastroadenitis toxica, such affections exist also in no few infectious diseases, and I wish here to assert emphatically that, besides abdominal, typhus, puerperal fever, malignant traumatic fever, and cholera also brings with it *very severe forms of Gastroadenitis parenchymatosa*. In the epidemic of 1866 I often had opportunity to convince myself of this fact.

This result of the post-mortem is an important argument for the truth of the law of similitudes, for not only the symptomatic resemblance of *Arsenic* with cholera (which we knew long ago) is here confirmed, but what is of far greater importance, the resemblance of the pathological process (even to the rice-water fluid) induced by *Arsenic* and cholera, and also of the alteration of tissue is here declared most clearly. Will not this evidence open the eyes of our adversaries? Surely it will, when we also set it before us as a problem to submit this method to exact inquiry and to collect a host of such facts.—(*Virchow's Archiv*, 47, 3 and 4. Editor of *Allg. Hom. Zeitung*.)

On the alleged Glycogenic Power of Asparagus.

By EDWARD T. BLAKE, Surgeon.

T. M—, a spare middle-aged man, small frame, clear skin, lymphatic temperament, whose wife* suffered from a disease admirably portrayed by Dr. Wynne Thomas in a recent number of the *Hom. Rev.*, undertook to prove any drug with which we might like to furnish him.

Acting upon a suggestion thrown out in our paper upon *Nitrate of Uranium* in last year's *Journal*, based upon the fact that Dr. G. Harley noticed the secretion of diabetic water in his own case after partaking of asparagus salad, we selected that drug to commence with.

When the prover's symptoms had been minutely noted, and analysed with care for ten days, he took, fasting, ʒj of a mixture of saturated tincture with decoction of asparagus tops every day for one month.

Frequent examinations of the urine yielded no evidence of the existence of sugar, nor were any cardiac symptoms observed. We regret to have to communicate a second negative result, but the process of sifting is really more required than gathering, now that we possess such an *embarras de richesses* in the way of new drugs and new provings.

* It may be of interest to state that Dr. Thomas saw the above case in consultation with me, and recommended a strictly anti-diabetic diet, compress to kidneys by night, and the hot-air bath, in conjunction with the following prescription—*Nux vom.* ʒʳ, *Calc. carb.* ʒʳ, one hour before meals on alternate three days. Under this treatment the patient has made most satisfactory progress, thirst and sugar nearly gone, strength and appetite greatly restored. The swelling and irritation of the vulva (a symptom that should always lead us to suspect diabetes), the tormenting thirst, the skin-dryness, the marked languor, the copious urination, have all passed away, and *with returning health lithates have reappeared in the urine*; thus confirming the interesting observation recorded by Dr. Thomas in the above-named paper. This case deserves our attention for two reasons:—1st, as an example of a disease probably more frequently existing than discovered; 2nd, as being one of the very few instances where a cure has been effected after persistent glycosuria had been proved to exist by careful chemical evidence.

This patient's urine was tested in November by Ichling's solution, and found *perfectly free from sugar*.

The average specific gravity on six trials, made between the dates of November 9th and December 4th, was 1023·8.

BOOKS RECEIVED.

The Law of Vital Force in Health and Disease, or the True Basis of Medical Science, by E. HAUGHTON, A.B., M.D., M.R.C.S.E., 2nd edit. London: Churchill, 1869.

Epitome of Homœopathic Medicines, by WM. L. BREYFOGLE, M.D. Philadelphia: Boericke, 1869.

Characteristic Materia Medica, by W. H. BURT, M.D. Philadelphia: Lafel, 1869.

Processes for making Tinctures for Homœopathic Use, as decided upon by the pure Pharmacy Section of the Pharmacopœia Committee appointed by the British Homœopathic Society. October, 1869.

Conferences on Homœopathy, by Dr. JOUSSET, and an *Essay on the Choice of Homœopathic Remedies*, by M. GALLAVARDIN, translated from the French by MAHENDRA LA'L SIRCAR, M.D. Calcutta, 1869.

Sulphur as a Remedy for Neuralgia and Intermittent Fever, by ROBERT T. COOPER, B.A., B.D., &c. London: Turner, 1869.

Five Years' Practical Investigation of Homœopathy at the Cavalry Depot and H.M. Riding Establishment, by W. C. LORD, F.R.P.S. London: Turner, 1869.

Scarlatina: its Prevention by Belladonna and Carbolic Acid, by G. MOORE, M.D. London: Epps, 1869.

Legitimate Medicine. What is it? by G. MOORE, M.D. 1869.

Transactions of the Twenty-first Session of the American Institute of Homœopathy. Boston, 1869.

Second Annual Report of the Albany City Dispensary Association. Albany, 1869.

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- The Monthly Homœopathic Review.*
The Hahnemannian Monthly.
The American Homœopathic Observer.
The Homœopathic Sun.
The Chicago Medical Investigator.
The North American Journal of Homœopathy.
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L'Art Médical.
Bulletin de la Société Homœopathique de France.
El Criterio Medico.
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The Calcutta Journal of Medicine.
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ERRATA IN VOL. XXVII.

- Page 554, line 16 from top, after "*Calc. carb.*," insert "2000."
 „ 556, line 4 from top, for "course" read "ozæna."
 „ 568, line 18 from bottom, for "palpitation" read "palpation."
 „ 570, line 4 from bottom, for "Bute" read "Preston."
 „ 572, line 15 from bottom, for "hints. First, the," read "hints for the."

THE
BRITISH JOURNAL
OF
HOMŒOPATHY.

NOTES ON THE CLIMATE OF SEVERAL WINTER STATIONS IN THE SOUTH OF FRANCE, AND THEIR ADAPTABILITY TO DIFFERENT INDIVIDUAL TEMPERAMENTS SUFFERING FROM DISEASES OF THE RESPIRATORY ORGANS AND LUNGS.

By JOHN N. CASANOVA, M.D.

*(Continued from Vol. XXVII, p. 390.)**

DAX, LANDES,

Is the first town of any importance in that department, and the only one where a winter station for chest diseases may be advantageously established, on account of its convenient locality, particularly for invalids of the second temperamental group. At present it is principally used as a spring and summer resort for patients suffering from certain forms of paralysis and rheumatic affections, which are treated

* The footnote which has been misplaced in page 365, Vol. XXVII, is to be a continuation to the paragraph ending in the word "type," page 201, seventh line from the top, which was omitted when the first part of these Notes was sent to the press. The reader will be kind enough to transpose it to its proper seat in order to complete the said paragraph, which treats of the second temperamental group.—J. N. C.

by the mineral waters and *mud** abounding in different parts within and without the town. The principal thing wanting in Dax is comfortable accommodations for first-class patients; for, though there are three passable hotels, the Commerce, l'Europe, in the Sablar, and Figaro, in the heart of the town, there are no private lodgings, nor even unfurnished houses, to be had at any price. An enterprising speculator would find it profitable to build a few detached villas on some of the most prominent, the most salubrious, and charming places to be had about the quartier de St. Vincent, on the south and south-east part of the town, from one half to one mile distant, commanding a fine view of the river Adour and the surrounding country. I^s spoke to several influential individuals of the place, and recommended them to form a company to that effect; but having failed in a joint undertaking to erect an establishment for baths on a very large scale, and having suffered from a recent banking catastrophe, people of means are generally timid in placing their money, under such circumstances, in an association of any kind. But I hope that this want of confidence will soon disappear, and a better spirit of enterprise will carry out my advice. I heard several English travellers passing the remark that they would remain and encourage others to join them were there comfortable accommodation easily obtained. The climate is the only thing to be recommended for the present, which is milder in winter than any place one hundred miles further south, on account of its topographical situation, the thermal nature of the soil, and the equability of temperature. This is so much the case that the market of Bayonne is supplied with fruit and vegetables one month earlier from Dax than from any other place in the Basses Pyrénées.

Dax, with its 6000 inhabitants, is divided by the river Adour into two parts—the principal one on the south, and the faubourg called Sablar on the northern bank; a fine stone bridge unites them into one.

The river is navigable for barges and steamers trading to

* Slimy deposits of the river (which take place every time the Adour overflows) left in the bottom of the mineral springs after the water reassumes its natural course.

and from Bayonne, carrying passengers, the fruits of agriculture, and the manufactures of the Landes to that port, and returning with colonial and other productions of different countries.

The Sablar is a small faubourg, poorly built, containing a few shops and several inns, extending about half a mile from the bridge, in a northern direction as far as the railway station, on a fine wide street.

According to M. Hector Serres* the altitude of the town, above the level of the sea, is 12 mètres, and 5 from the low-water mark of the river. Mr. Leon (*Guide Manuel des Baigneurs aux eaux thermales et aux boues de Dax*, 1867) gives 39 mètres 9 c., and 40 mètres by Joanne and le Pileur, in their *Bains d'Europe*, Paris, 1860. But there must be a mistake in the last two reports, for I have seen a high tide bring salt water near the town, the distance of the mouth of the Adour being 36 kilomètres from the bridge.

The plain upon which the town of Dax lies is most beautiful and fertile. The soil is alluvial in some parts, argillaceous and sandy in others, reposing on porphyry and dolomite rocks, some of which are visible near and on the border of the river.

The streets are, as in all old French towns, irregular, narrow, and badly paved. With a few exceptions the buildings are poor and uncomfortable. "No one would believe that the English had been in possession of that town more than 100 years," said a passing observer. But he forgot to add that it is now more than 500 years ago since that took place, and that England herself was not much more advanced at that time in the enjoyment of comforts and luxuries, of which the people are so fond now, than Dax is in the present day.

At one time the town was enclosed, and part of the strong ramparts, which still remain in a good state of preservation with some other monuments of different kinds, show they are the works of the Romans.

* A retired chemist of Dax, who kindly favoured me with much information respecting the place, taken from a manuscript which he is preparing for the press.

In antiquity, commerce, and opulence, Dax was once next, if not equal, to Bordeaux; but there is nothing to be compared with it now. There is no foreign commerce, but a very considerable traffic in wines, liquors, pine timber, resin, hams, wool, tar, salt, goose-feathers, &c., carried on with Bayonne, as the entrepôt of all the products of the Landes and Basses Pyrénées; and the day is not far distant when the chemicals intended to be manufactured from the immense salt-rock bed lately discovered near the ramparts, will bring Dax into notice as a very important industrial town.

From time immemorial Dax has been, and still is, considered as a thermo-mineral watering-place for invalids suffering from rheumatism and paralysis of different kinds, on account of the great abundance of springs to be seen in the town and its neighbourhood, the principal of which are:—

1st. *La Fontaine Chaude* (the Hot Spring), also called *Fontaine de "Nesle,"* from the name of a person who lived close to it, and—

2nd. *The Baignots* (the Bathing Place), so called in provincial language, containing several springs and slime, or mud baths of a very high temperature (180° F.).

The former is situated in the centre of a square, on the northernmost part of the town, about 300 feet from the border of the river at high water. It measures about 1000 superficial feet and three to four deep, and is surrounded by a stone wall and iron rail. The western angle of that enclosure is supported by a handsome three-arched portico, with three brass taps in each, to supply the public with hot water at the temperature of 160° F., running out at the rate of 1298 litres per minute, according to M. Serres' measurement in 1867, taken as the mean of four different experiments. Dr. Dufau gives one ton and a half per minute in his *Notice sur les eaux thermales de Dax*, 1759, and another writer (Constantin James) reckons it at about 200 cubic mètres per hour.

The water of this spring is only used for domestic purposes by the neighbours, and the overflow is discharged

into the river Adour "*non utilisée*," except by a few laundresses, for whom there has been a shed built by the town authorities, about halfway between the spring and the river. So that such a quantity of heat (which, according to Mr. Maxwell-Lyte's "*Rapport industriel sur un gisement de sel Gemme, découvert à Dax, 1866*") would represent the amount which can hardly be produced or generated by all the combustible known to exist in the coal-beds of Great Britain, has been, and still is, wasted away from time immemorial. The vapour which rises from the spring is seen in a cool morning to go up some distance above the houses near to it, and extends itself in a dense mist, enveloping the greater part of the town.

The Baignots is a bathing establishment on the south border of the Adour, about half a mile west from the square, and contains several hot springs, with good accommodation for invalids wishing to lodge and board in the place, as many do in summer. It is pleasantly situated, and commands fine views of the river and country. It is kept by Mr. Marion, an excellent *CHEF*, who knows how to feed his lodgers, *secundum artem*, for seven francs per day for the first class, and four for the second, including wine, baths, attendance, &c. No medical man attends the establishment, although there is one appointed by Government, but I had not the pleasure of meeting him during the four weeks I remained in it. Patients are treated according to their private adviser's directions, or according to their own judgment; and Mr. Marion keeps no register of their complaints, nor of those relieved, cured, or dead. So that statistics of any kind are out of the question at the Baignots, where hundreds of invalids resort in summer from various parts of France and Spain.

Besides the Fontaine Chaude and the Baignots there are several private houses in the square of the town and out of it, where hot water has been procured by sinking a well of a few feet, and bathing apartments are established for the public; an industry which is carried to a certain extent in summer. Also outside of the ramparts, in a place called St. Pierre, noted for its slime or mud baths.

By comparing the physiological effects produced by the mineral waters and mud of Dax with those of BATH I find a great similarity between them (the King and Queen's Baths). It could not be otherwise, since the thermality of the waters in both places originate from one and the same cause, namely, from the igneous state of the centre of the globe; and since their mineralisation is alike, differing only in quantity, as they also differ in degree of temperature: for example, the Dax waters are weaker in mineral elements, but much stronger in heat than those of Bath (England).

The physiological action of the waters as well as the mud of Dax, registered from personal provings, are as follows:—

The circulation is accelerated soon after entering the baths, at their natural temperatures, from 150° to 180° F. Skin hot, pulse quick and hard, red face. The action of the heart is powerfully roused; copious perspiration and cerebral excitement follow. These symptoms were of short duration, and followed by sinking of the pulse, cold extremities, blunted intellect, depression of the nervous powers, and decrease of animal heat.

By continuing the baths for six days longer, pressive pain in the forehead, shooting pain in the lumbar and sacro-schiatic nerves were manifested, as when suffering from lumbago or sciatica.

The tenth day tic douloureux-like pains in the face; pains in the joints, knees, and shoulders; loss of voluntary motion, twisting of the limbs at night, increased by the heat of the bed; disturbed sleep during the night; diminished appetite; bowels costive and scanty, and highly coloured urine; inability to do any mental work.

Being very sensitive to the action of the baths at their natural temperature, I discontinued them and used the water at the temperature of 80 to 100° F. for a few days longer, till all the symptoms had disappeared.

The water and slime elicit several other symptoms by bathing, according to the statements made to me by persons who used to bathe occasionally for pleasure, amongst which were skin eruptions of different kinds, which were not manifested on me. But we know that all symptoms peculiar

to a remedy do not appear at all times and under all circumstances in one person alone. They only do so when given to several provers of different sexes, ages, corporeal and mental dispositions, and temperaments.

The Dax mineral waters and mud, like the waters of Bath, are particularly indicated in cases where the patient has become debilitated by protracted ailments of any kind, provided he belongs to the second temperamental group. The medical men of the place pay no attention whatever to this very essential condition, and allow invalids of the first to bathe. But the results soon show that such remedial agents are not adapted to their temperament. They also believe (as all allopaths do) that the medicinal properties of the water are due to the mineral element which abounds the most in their composition. But they know no better; and I had some difficulty in making them understand that mineral waters do not act according to the predominant constituent element, but according to the vital affinity which may exist between the individual's temperament and the new properties developed by the admixture of the whole number of the mineralising substances, "united in different proportions not by chemical laws, but by an inherent organizing principle, which, acting by means of those laws, combines a certain series of inorganic and organic elements into a unitary substance," or an homogeneous and unitary whole, just as Leibnitz describes the universe: "L'unité dans la variété."

Traditional information, and the authors of the two guides already named, tell us that hundreds of invalids suffering from various chronic diseases of the skin, certain nervous derangements, palsy, gout, rheumatism, dropped hands from lead, pains and paralysis from mercury, and other mineral substances, stiffness, or contraction of the limbs from the existence of foreign bodies, or from the introduction of poisonous substances by different means, are the principal ailments successfully treated by the water and mud baths of Dax; and its physiological effects prove the assertions to be correct in part, that is to say, on subjects belonging to the second temperamental group.

Amongst the invalids staying at the Baignots there were several of the first temperamental group suffering from some of the ailments above named, who did not derive much benefit from the baths, and had to leave the place disappointed because of the non-adaptation of the remedy to their complaints; whereas others similarly affected got well in a few days because, being differently constituted, they had a perfect vital affinity for the medicament.

The waters of Dax are very seldom, if ever, drunk as a remedial agent, their mineralisation being so very weak that the practitioners of the place consider them worthless when so used. They believe that the material substances contained in them are too infinitesimal to produce any effect by drinking them. But they are mistaken, as I endeavoured to show to one of those gentlemen, who ironically told me that the waters were homœopathic on that account. They may be homœopathic, was my reply, to some particular ailments, because the similarity of the symptoms produced on the healthy subject agree with those of the disease; but not because of the infinitesimal quantity of mineral elements they contain, for homœopathy does not consist in quantity. The dose is a question of man, not of science, &c. We went on gradually into the matter, and we became good friends, he frankly acknowledging that there was *some truth* in the doctrine of similars, and promising me that he would investigate it.

Sir Alexander Taylor, M.D., of Pau, Basses Pyrénées, also believes that homœopathy is next to nothing on account of the infinitesimal quantities of medicine used; and yet he acknowledges that there is energy in some mineral waters containing an inappreciable quantity of matter by chemical analysis. “L’analyse ne peut donc pas suffire pour expliquer les effets énergiques de ces eaux sur le corps humain. Capvern (a spring in the Hautes Pyrénées) sur tout est un exemple de cette vérité: ces eaux ne donnent pas au chimiste de résultat tres-appréciable; et cependant leur influence dans l’état de maladie est considerable; c’est un fait que nous livrons à l’attention des homœopathes qui

ne manqueront pas d'en tirer parti."—*Du Climat de Pau*, p. 204-5. Third French edition. Paris, 1865.

Besides the material there is some other substance in the waters and mud which is neither matter nor spirit, and yet it partakes of both. It is on this *sublime* element, no doubt, that the medicinal properties of those agents depend. A mysterious power which I would call *life*—a life of action if not of motion; a chemico-vital life, the effect of thermalty either free or combined.

According to M. Serres, the chemical analysis of the water is as follows:

	<i>Grammes in 1 Litre.</i>
Sulphate of Lime	0.39,701
„ Magnesia	0.16,461
„ Soda	0.05,155
„ Potash	Traces.
Chloride of Sodium	0.28,780
Carbonate of Lime	0.03,583
„ Magnesia	0.02,070
Silicate of Lime	0.04,576
Phosphate of Lime	Traces.
Iron	„
Iodine	„
Bromine	„

M. Serres* has not analysed the slime or mud, but he has made some experiments to ascertain the quality of the substances contained in it, and favoured me with an abstract from his manuscript, which is as follows:

“1. Du limon déposé par les débordements de l'Adour.

2. Du residu de l'évaporation, consistant principalement en un carbonate de chaux, de magnésie, et un carbonate de fer, incessamment converti en sulphure.

3. D'un dépôt particulier analogue a celui-ci, mais provenant de l'action des oscillations sur le carbonate ci-dessus.

4. De la substance de ces oscillations même qui y naissent

* “Ces eaux dégagent une grande quantité d'azote qui n'a pas été dosée.”
—*Les Bains d'Europe*, art. *Dax*. By Joanne and le Pileur, Paris, 1860.

vivent, et meurent, et s'y succedent avec une abondance et une rapidité surprenantes."

The medicinal properties of the mud, as a bath, were discovered long before the Roman conquest by observing some swine suffering from skin diseases which were cured by bathing in it. Men followed the example, and keep to the practice up to this day, not only for skin diseases, but for the ailments already described. The mineral springs of Bath were also discovered in like manner. Prince Bladud, who suffered from leprosy, and was employed as swine-keeper, followed the example of his companions and got well. This took place twenty-five centuries ago, according to a legend of Geoffrey of Monmouth (*Ancient History of Bath*).

Arenation—burying the body in the *sand, moor, turf, peat*—baths are similar, if not identical, therapeutical agents to *mud* baths. The former are used in some parts of the Mediterranean coast, and the latter in Germany. All those dirty-looking means of cure have been taken from hogs which know how to appreciate the practical philosophy of wallowing in the mire on a hot, sunny day, and who show themselves to be correct judges of what is good for their complaint and pleasant to their feelings, although repulsive to our sight.

As before stated, the climate of Dax is mild, equable, and oriental like. Being at some distance from the Pyrénées, and from mountainous regions, there is no attraction for rain. The quantity of water falling during the winter is about the same as in Arcachon.

The predominant winds are from the west and south-west, which generally bring on rain and fogs.

The natives of the Landes are small, thin, and of a tawny colour. They are very industrious, frugal, and sober. The bilious and lymphatic temperaments predominate in them. Chronic diseases are, with a very few exceptions, unknown amongst them. Bilious derangements and fevers of an intermittent type are the ailments to which they are more subject, particularly among those who live in low swampy localities and near the river.

The women partake of the same colour and temperaments as the men. They are the very type of the Spaniards of the south. Fine black eyes, full of life and expression, and a graceful deportment. They dress with good taste, and are noted for their *coiffure*, consisting of a silk handkerchief very gracefully tied round their heads in a peculiar manner only known to themselves. In coquetry and elegance they excel the *grisettes* of Bordeaux.

A residence in the town of Dax is not very inviting, but a patient will find the quartier of St. Vincent on the south and west, and that of St. Paul on the north, very pleasant and healthy localities, if he could only get a suitable house.

Living is very reasonable, for the simple reason that the productions are above the consumption and demand. The surplus is sent to the grand entrepôt of the Landes and Basses Pyrénées, Bayonne.

There is nothing of any importance to be seen in the town except the cathedral, the church of St. Vincent, and the old Roman remains of the ramparts; but there are fine drives in the country, and good sailing and fishing in the river. It is to be hoped that Dax will be better known in future as a winter residence for northerners seeking change of air, or the efficacious medicinal waters and mud of the place; and that we may be able to see Seneca's prediction fulfilled—

“Ubicunque scatebunt aquarum calencium venæ, ibi nova diversoria luxuriæ exitabuntur.”

(Wherever warm springs abound, new places of amusement are sure to rise up.)

Invalids requiring other mineral waters different from those of Dax will find them in Tercis, Gamarde, Prechay, and Gastels, not far from that town, where accommodation of a primitive nature may be had on very reasonable terms.

BIARRITZ,

an old village of the Basses Pyrénées, on the coast of the stormy Bay of Biscay, about six miles south-west of Bayonne, is now in the third epoch of its remarkable history. From

the eleventh to the thirteenth century Biarritz enjoyed an epoch of prosperity founded on the dangerous industry of the whaling fishery. The port was then propitious for that vocation, and its commerce and population increased in proportion to the success of that maritime trade. The village was well built, and a great number of stores were filled with oil ready to be exported, of which there is not the least vestige at present.

The second epoch, from the thirteenth to the present century, was an epoch of adversity, desolation, and poverty, caused by the destruction of the village and port. The powerful action of the ocean in one of its tempestuous crises reduced them to ruins, and obliged the greater part of the inhabitants to quit and to forsake their houses, leaving a few families only to mourn over the gloomy catastrophe. The angry sea rose with all its mighty force in one of its rough fits and sunk the village, burying its buildings and their contents under tremendous rocks, washing away the port, and obstructing its passages with the *débris*. In this condition remained Biarritz, forsaken and forgotten as a miserable hamlet till the present epoch, when, about fifty years ago, the fashion of sea-bathing brought it into public notice, and gradually elevated it to the reputation it now enjoys, but founded on different elements from those which raised it in its original—its first historical epoch.

Biarritz's present epoch of prosperity is the result not of local and hard-working industry, but the effect of speculation, fashion, extravagance, and folly, which caused the village to be rebuilt, streets laid out, solid roads constructed for carriage traffic on the soft sandy soil. There spacious modern mansions have been erected; splendid hotels open to the public; comfortable furnished lodgings for all classes; places of amusement and recreation established; and an imperial palace, with the modest name of Villa Eugénie, has been prepared for their majesties' season of recreation, whose presence in Biarritz attracts *et le grand monde, et le petit monde de toutes les parties d'Europe*.

The greater part of the luxuries and conveniences above named have been realised by enterprising speculators with

no more capital than their credit, in the hope that the high aristocracy and the middle class will continue their visits in summer, and thus be able to pay the interest of the capital borrowed for that purpose.

This is, I repeat, the third epoch in the history of Biarritz: an epoch of apparent prosperity, of extravagance, of coquetry, and of folly, lasting only three short months in each year. But an appendix or a supplement to the summer season is in the way of preparation, which, if attended with success, will contribute to help the householders and other industrious people to pay their way easily. I mean a winter season: a resort not for the healthy exclusively, but for the valetudinarian Milord Anglais.

I have already stated that the continued prosperity of Biarritz depends on the continued fashion and increased influx of summer visitors. With respect to the winter, the agent of prosperity is quite different, although not always judiciously followed. It entirely depends on the curative properties of the climate for certain affections of the body; and it is to ascertain this point that I will now treat of Biarritz as a medical station for invalids, and for the diseases which its air may cure or relieve, according to their individual temperaments. Mean time, let us see the locality.

The medical topography of a locality generally determines the character of its climate, and the topographical situation of Biarritz is a peculiar one. The limits I assign to it are about $2\frac{1}{2}$ kilomètres from north to east, that is, from the Pointe St. Martin to the slaughter-house, and $1\frac{1}{2}$ from the shore to the parish church, east and west. There is a *phare* in the former place—a lighthouse—75 mètres high above the level of the sea, whose brilliant lights eclipse every $30''$ (feu a éclipses de 30 à 30''). That area of $3\frac{3}{4}$ superficial kilomètres of ground is not all built upon. It contains some cultivated fields, the most inhabited part being the lower part of Biarritz.

The ground rises up from the shore to the parish church, which part of the locality constitutes Upper Biarritz, and contains some good houses but badly-kept roads. With the exception of the old and the new Bayonne roads, the

Cours Imperial, which leads to the railroad station La Negresse, to St. Jean de Luz, and to Spain, all the rest are in the primitive state; and as to drainage in Upper or Lower Biarritz, such a thing does not exist. The greater number of the houses have a cesspool within doors which requires to be emptied once or twice a year—a very disagreeable operation to inmates, as it generally lasts two or three days or nights, and the work has to be done through the kitchen or some other room in the house.

The soil is composed of sand and dispersed rocks in the lower part, being the débris of what is no more *terra firma* nor port. On the upper part is a mixture of clay, alluvial, and rocks of transition, as if they were the result of some physical convulsions of old. Sudden ups and downs are frequently met with in the irregularly laid-out streets and lanes of Lower Biarritz, which causes some portions of it to be damp, particularly houses built against or near promontories.

Between the lighthouse and the Bains Napoleons establishment is la Villa Eugénie, as already mentioned, the summer residence of the Imperial Court, which stands on rocks washed by the sea at high water, and about 40 feet above its level at low tide. The building is after the style of the old Chateau de Versailles, originally of two stories high, and a third has been added to it in 1867. It is of brick and white stone, 140 feet fronting the ocean, and contains all the requirements for comfort without pretensions to luxury. The domain is not very extensive nor very green, the soil and air being antagonistic to vegetation, except to pines and to a few evergreens. It contains the imperial stables and domestic offices, with a chapel dedicated to Notre Dame de Guadalupe, her imperial majesty's idol of devotion.

The Napoleon bathing establishment is closed in winter. It would require a large volume to narrate the *scenes* which take place there in summer, amongst the grand monde especially.

By following the undulating road between the village and the sea, which in some places is more than 50 feet

above low water, we pass the hot salt-water baths, the magnificent Hotel Gardère, on an eminence commanding fine sea views, the Casino, the Place St. Eugénie, with its Roman chapel and Hotel d'Angleterre, the Oyster Park, the little fisherman's port, the high Atalaya,* and the establishment where blocks of enormous size are prepared with cement to build a port of refuge among the scattered rocks which stand out in the sea about 500 mètres from the main land: a very difficult undertaking, planned by the Emperor Napoleon, and of a doubtful success.

Next to the Atalaya is the Port Vieux, old port, formed by the force of the water between two high promontories; not the port of the eleventh century, but fragments of the same, which forms a little quiet bay where the timid may bathe with safety.

Further south is the Côte des Basques with its high cliffs, which extend as far as the Abattoir, the limits in length given to the locality and topographical situation I am describing; and not very distant from the Abattoir is the arabesque residence of Lady Bruce.

Between the road just described and the principal part of the Lower Biarritz is la rue du Port Vieux and its continuation rue de Massagrard, the principal streets for hotels, shops, and lodging-houses, extending to the Place de la Mairie from the old port. There is the English club, the English and American bank, and several streets branching off to the upper part of haut Biarritz, leading to the cliffs, to the English Protestant church, to the market-place, to the parish church, to the jeu de Pomme, and to Belle-vue, the residence of the Rev. Mr. Jameson.

Having thus described the two parts of which Biarritz is composed, I shall proceed now with the physiological character of both.

Mountains shooting from the foot of the Pyrénées and the Pyrénées themselves are too far off to attract clouds from the sea to give out much rain, but they are at a moderate distance to modify the easterly winds, which are

* An Arabique-Spanish name, which means "a coast look-out place" or observatory.

not the coldest nor the most prevalent in the place. The prevailing winds in winter are the west and south-west, blowing in strong gales and bringing torrents of rain; but these winds do not hurt invalids exposed to them, except by the inconvenience of walking with or against them, and of being wet; on the contrary, they are salubrious and safe to breathe in a sheltered place near the sea by persons belonging to the second temperamental group, as they are charged with saline particles and generally of a very mild temperature.

The north-east and the north-west are the coldest winds of the season, particularly the latter, which is very trying to invalids suffering from throat and chest diseases; and destructive to vegetation, except to pines and other evergreens, which are unaffected by the cold sea air. Other plants and trees sheltered by high stone walls from bleak winds will escape its deadly effects, provided they do not rise higher than the wall, for if they do that portion will surely be literally burnt, whilst the lower part will remain green and fresh. Gales from that quarter, and even light breezes from the north-east, will prevent out-door exercise so long as they last, which is not always very long.

Fogs and snow are very seldom seen. When they appear it is only for a few hours, after which the weather becomes clear and mild.

The temperature in winter is, as in all exciting climates, very variable. On comparing my thermometric observations with those of others, particularly of Dr. Chapman, the oldest established practitioner in Biarritz, who kindly gave me a copy of his register for four years, ending April, 1868, I found them to agree so far as daily observation goes. The old fashion of giving out the mean temperature of a place to show its thermality is a very imperfect one, as I have elsewhere stated, particularly in climates subject to sudden changes, as in Biarritz, where the temperature varies sometimes as much as 20° C. in twenty-four hours, and where the range is generally from 10° to 16° C., the minima being longer than the maxima during the months of December,

January, February, and March, which makes a great difference in the feelings of invalids.

But mean temperatures after all, and I will repeat it once more, are but imperfect guides to go by, or, as Dr. Corrigan justly observes (*loc. cit.*, p. 7), "There is no more fallacious guide than mean temperature. Two places may possess the same mean temperature, and yet their climates and the effects on the bronchial membrane may be very different. Thus of two places we may have in one a range of temperature within two periods from 30° F., or two below freezing point, to 100° F., or two degrees above blood-heat, and the mean temperature is 65°. Another place may only vary in temperature from 60° to 70°, a difference scarcely perceptible to the senses, and the mean is the same, viz. 65°; and it needs no reasoning to show that the true temperatures of these two places and their effects on the pulmonary organs must be widely different—the one most injurious, the other beneficial. Another point of great importance is the duration of time within which the alternations of temperature occur. If alternations occur, though of trifling amount, within very short periods, they are injurious; if they take place slowly, they are borne with comparative impunity. This is seen not only in man, but in the lowest of the animal tribes, and even in the vegetable kingdom. The lowest classes of animals, fishes, and polypes, will suffer and even be killed by being changed suddenly to water a few degrees lower than that in which they had previously been. Every one who has kept an aquarium is aware of this fact; and in changing the water on the bulbous root of the hyacinth to avoid injury to its fibres, caution is necessary to ensure the same temperature, while great changes will be borne with impunity by the same class of animals and in vegetable life, when these changes are spread gradually over a considerable period of time. In addition to the mean temperature, then, we require to know the lowest temperature of a place, the highest, and the duration of time occupied in the change from the one to the other."

I believe I have given a sufficient number of examples in the present and in the preceding articles, supported by

respectable and reliable authorities, to prove the fallacy of *mean temperatures*, brought forward to praise or to condemn a climate without stating the peculiarities above mentioned, and without which "no definite—at any rate, no adequate—idea can be formed of the amount of comfort or discomfort you will experience there" (alluding to any of the fashionable health-resorts of Europe).

The degree of humidity has been from 87° to 96, the duration of the minima being longer than the maxima. Rainfall 262 millimetres in sixty days, during four months; and ozone from 0 to 8°, the maximum in the same period of time, the minima being longer. Atmospheric pressure from 728 millimetres at minima, and 765 maxima. The duration of this being the shortest. But "a similar fallacy often occurs in reports as to humidity as occurs in temperature," as Dr. Corrigan writes, *loc. cit.*, page 8; and I may add, in ozone and atmospheric pressure. "Two places are compared with regard to the mean fall of rain in them, and one of them is declared as preferable to the other, and drier on the ground; that the mean fall of rain is less, although, in reality, the locality in which the greater fall of rain takes place may be the drier and the healthier of the two. More rain will fall in a thunder shower in half an hour in a warm, clear, region of the south than may fall in a drizzling mist-like rain of two days' duration in a foggy, sunless region; and while the latter exerts a continuously injurious action on the skin and mucous membrane, the short but dense pour of rain of the former removes all harshness from the air, and is quickly succeeded by sunshine and warmth, bringing with them joyousness and health."

With regard to the character of the climate, and its influences on disease, I cannot say much, except for convalescence, particularly of debilitated persons having lost large quantities of vital fluids, in which case it acts better than *Cinchona*.

With the exception of a few cases of chronic bronchitis, which I have seen relieved in subjects of the second temperamental group, I have not seen any malady cured by the

powers of the air alone. I mean by the climate of lower Biarritz, which is more exciting than the upper ; and I have observed that the further off from the sea, the greater the sedative action will be felt by those requiring sedation, although the temperature is somewhat lower than on the borders of the angry ocean.

But Dr. Chapman, whose experience of several winters is to be appreciated for what it is worth, believes that the climate of Biarritz (no distinction is made whether the upper or the lower) is suitable to the following affections, according to the note he kindly gave me with a copy of his meteorological register already mentioned in one of the preceding pages :—

1st. In “scrophulous cachexia at whatever age existing. At all seasons of the year though specifically in winter.”

The circumstance of the cold season being the best to treat affections of the kind with greater success than in summer, is contrary to what I have observed myself in several parts of the continent and in England, and I believe that no medical man would attempt to recommend a scrophulous patient to remain in any of our exciting watering places in winter as a means of cure. The peculiarity of a season goes a great way towards relieving or aggravating a given case, according to the individual’s temperament. The winter of a mild sedative climate will suit invalids of the first group better than the summer, and the summer of an exciting climate will be more beneficial to patients of the second group than the winter. It might have happened that the majority of Dr. Chapman’s cases, to which the winter was “*specifically*” curative, were subjects of the first, or of an admixture of the two temperaments, in whom the former predominated. This is very possible, and I believe it to be the real case. When temperaments are not taken into consideration, mistakes will surely be the result.

2nd. In “debility and cachexia from growing, convalescence from fevers or diseases, exhaustive discharges, loss of blood, old age, &c. Winter season best.”

3rd. In "phthisis, when unaccompanied by much tendency to pulmonary congestion and hæmorrhage. From May to October."

4th. In "bronchitis, chronic, and specially when accompanied by thickening of the bronchial tubes and debility. All seasons except, perhaps, February and March."

5th. In "asthma uncertain in effect of climate, cases in which much exhaustive discharge from lungs do well. Season as bronchitis."

6th. "Gout and gouty debility do very well if patients pass all the year in Biarritz, if not from April to November."

7th. In "rheumatism also same as above."

8th. In "uterine disorders climate acts as a decided stimulant to the uterus and restores tone to constitution. All the year."

9th. "The most marked benefit has been obtained in cases of menorrhœa from want of general tone."

10th. "The period of adolescence if accompanied with debility, &c., is again most favorably affected here."

All persons suffering from any of the above-named diseases will surely be relieved if not cured in Biarritz, in the proper season, provided their temperaments correspond with the climate. But care should be taken in the choice of the proper site for residence. I have before observed that the further off from the sea the less exciting the climate will be felt; there are localities on the old Bayonne road, and on the Negresse Station road, which, with the exception of *ozone* in its higher degree, as in Arcachon, are in many respects more suitable for those who would find the lower Biarritz too exciting.

The diseases to which the natives of Biarritz, who are more or less of a lymphatic temperament, are subject, consist in acute, very seldom if ever in chronic. They are a hardy race; bold and brave at sea; intrepid and inured to fatigue; frugal in their habits and very superstitious. The fishing trade is their principal employment, and they spend the greater part of the day, and even whole nights, on the

stormy ocean in all seasons of the year, in very small boats.

The women are the same, very daring and resolute, full of assurance, and impudent at times.

Like in all watering places of France, and even in England, the Biarritz lodging-house keepers are very attentive and civil. They know how to make their lodgers comfortable, Englishmen particularly, for the guinea of *Milord Anglais* goes further than the French franc, or the Spanish dollar; but care should be taken to have a very explicit agreement made in taking apartments. You must trust to nothing less than black and white, otherwise there will be some made up misunderstandings, particularly if taken for a long period of time. The prices of lodgings in winter are less than one half of what they are in summer. Although there are many honorable people, there are others amongst them who would think it no dishonesty to *skin* an Englishman if they can.

SAINT-JEAN-DE-LUZ

is the last of the winter stations in the south-west coast of France with which I am practically acquainted. It is about nine miles south-west from Biarritz, also on the rough coast of the Bay of Biscay, and not far from the sea. In fact, it is too close to it to be safe, for the angry waves are constantly threatening to swallow it up.

The town is irregularly, poorly built, and not overclean. Like the ancient port of Biarritz, St.-Jean-de-Luz was at one time "la ville aux hardis pêcheurs de baleines," and "le port aux corsaires." Many rich Spanish galleons have been taken there by the privateers cruising during the wars between France and Spain, which have made the fortune of the people who fitted them out; and many cargoes of whale oil have been landed there. That epoch, which was an epoch of prosperity for St.-Jean-de-Luz, like that of Biarritz, is gone. No cruisers, no whaling ships have been fitted out for many years, and the town remained poorly inhabited, and a constant prey to the destructive power of the sea.

All the works constructed from time to time to save the old buildings are continually destroyed by the mighty surf; and now, March, 1867, the foundations of old houses in three streets parallel to each other can, in part, be seen at low tide. Notwithstanding all this, new dwellings are in the course of construction to accommodate the number of Spanish families who take up their quarters in summer for bathing and for recreation; and many natives beautify their apartments to let them furnished to the few English invalids who visit the place in winter.

The principal advantages that St.-Jean-de-Luz possesses over the more fashionable places on the same coast are:—

1st. That it is a quiet and retired place, and not overcrowded in summer or winter, although the number of visitors (Spanish particularly) increases every year in the former season; and the English keep increasing since 1860 every winter.

2nd. That living is much cheaper owing to the abundance of provisions and moderate house-rent.

3rd. That the climate, although rough in winter, is mild, like that of lower Arcachon, and well-adapted to invalids of the second temperamental group.

4th. That the neighbourhood is more cheerful, and offers more facilities for outdoor exercise on well-kept roads; but the town itself is not inviting, particularly when the tide is low, and in wet weather. And as to the houses in general they are very indifferent. With exception of a few private villas, inhabited by some Spanish gentry in summer, and the only two good hotels (La Poste, or St. Etienne, and the Hotel de France), there is no real comfort to be had in the ordinary lodgings for winter.

Contiguous to St.-Jean-de-Luz is Ciboure, another ancient fishing village, and the residence of some Gitanos, or gipsies of the Basque country. "Etrange population," says M. de Lavigue, "sans foi, ni loi, ni crainte, qui conserve les mœurs à part et qu'on reconnaît, à ses haillons, à son teint cuivré, à ses cheveux crépus et à ses lèvres épaisses."

A stone bridge over the Nivelle unites both places.

Then comes Socoa, its cliffs and its fishermen's huts, built among the rocks; its little port, which serves as a refuge to the boats engaged in the tunny and anchovy fishery. There are some lodgings to be had in these two villages, but of an inferior quality. They are, nevertheless, full in summer.

On the main road from St.-Jean-de-Luz to Spain is the inland village of Urrugne, about two miles distant; a very picturesque view is obtained from its elevation above the level of the sea. There is a church of antique construction, with a tower and a clock: on its dial we read the following inscription:

“Vulnerant omnes, ultima necat.”

(Each hour makes a wound, and the last kills.)

The road continues between the sea and the slopes of the Pyrénées, in a south-westerly direction, for about eight miles distant to the river Bidassoa, which separates France from Spain; and here terminates the description of the sea-side winter resorts in the south-west coast of France with which I am familiar, and which may be visited by invalids with more or less benefit to their health, according to their individual temperaments.

Let us now ascend to some of the inland localities in the Basses and Hautes Pyrénées, which, although not much frequented by invalids (except Pau and Bagnères de Bigorre), are, nevertheless, as good, if not better, than the former, whose climate has not only been overrated, but ignorantly misapplied.

Besides the power of the air, some of these places will be found very comfortable nooks for invalids of limited means, who seek a mild and healthy atmosphere, with the advantages of privacy and economy; and even for those to whom expense is no object, but *comfort* and retirement from the forms, luxury, and etiquette of the *fashionable* world.

(To be continued.)

A (SUPPOSED) DECISIVE EXPERIMENT ON THE
PATHOGENESY OF CARBO VEGETABILIS.*

By Dr. FAIVRE.

HAHNEMANN is not satisfied with merely affirming the infinite division of drugs; it is not enough for him to speculate on a medicinal "dynamism" more or less independent of the substance to which he in some way or other imparts vitality (a thing improbable in itself, and absolutely incapable of demonstration); he launches full sail into the region of the incognizable, and affirms without flinching that some substances perfectly inert in their ordinary state, such as *Lycopodium*, common radishes, table-salt, &c., acquire a prodigious activity when infinitely diluted, and that this activity is in direct proportion to their dilution. Now observe this geometric progression with care.

In the attenuations of substances, whose activity in ponderable doses is unquestionable, there was but one thing unknown, *i. e.* the presence of the medicine; we have seen that even this is too much for scientific minds; but as for Hahnemann, he does not stick at such a trifle; he finds out a way of having two unknowns, *viz.* the presence of the medicine and its pathogenetic power. Really one begins to regret that, compelled to halt on so grand a route, he could not add a third unknown to the problem! The practitioner would then have had the satisfaction of finding himself precisely in the situation of Æneas, traversing the infernal regions, who, as Scarron tells us, saw

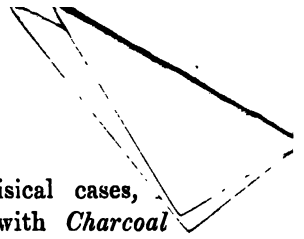
"L'ombre d'un cocher
Qui de l'ombre d'un brosse
Frottait l'ombre d'un carosse."

Let us leave the grotesque and speak seriously. Accident led me to make an experiment of no common rigor on this question, which I will briefly describe.

When I was physician to the Hospital of Croix, Rousse,

* From *L'Art Médical*, December, 1869.

by Dr. Faivre.



my department being crowded with phthical cases, thought of trying to combat the disease with *Charcoal* administered internally. This is neither the time nor place to speak of the theoretical idea which led me to try this treatment. It is enough for my present case that you should know thoroughly what method I employed.

Considering that charcoal, however finely pulverised, penetrates the respiratory passages with great difficulty, and further, that this mode of administering it is almost impracticable on a large scale, I thought of making it penetrate the digestive passages. "How so?" do you ask. By reducing it into particles so minute that one might hope to introduce them by *effraction* through the villi of the intestines; you are aware that the possibility of this seems sufficiently proved. Proved or not, however, it suffices for my case that my attenuation was at least equivalent to those which Hahnemann's disciples profess to make, which you shall presently judge. Lastly, I caused my carboniferous preparation to be eaten with the food, which facilitated the desired absorption.

To gain my end I had a sort of closed box made in the form of a half cylinder of strong staves of oak, calculated to contain 100 litres of water and 10 kilogrammes of wood charcoal. An iron wheel with four flukes, pierced with 1000 holes, kept turning day and night in this mixture, under the power of one of the steam-engines of the hospital for ventilating the wards.

Having calculated at the end of the year the quantity of coal burnt over and above the usual quantity for working the engine, we found that we had used regularly one-horse power per day, and this for one and a half year without interruption. The mechanical force was proved by an elevation of temperature in the mass agitated by the machine, varying from forty to fifty degrees (centigrade) according as the motion was slower or quicker, to which variations I was obliged to submit. I need not remind you that this considerable elevation of temperature was a *mathematical* proof of the mechanical force exerted upon the mixture.

After a month of this work I began to draw off 5 litres per day of the fluid, replacing them by 5 litres of water and a very small quantity of charcoal. The 5 litres thus drawn off were allowed forty-eight hours to settle; after which, the clear portion being decanted, the sediment was returned to the box. The result was that the water was beaten up with the charcoal during *at least* 500 hours consecutively, before it was set apart to be taken by ten patients, who were the subjects of experiment for whole months, in doses of half a litre each.

The fluid presented the greyish appearance of diluted Indian ink. The naked eye discovered no foreign body in it; but the microscope detected myriads of charcoal atoms, so minute that some almost escaped notice, even with Nacet's No. 6 object glass. These bodies of different magnitudes dispersed over the field of view produced, *si parva licet componere magnis*, a sort of firmament of black stars on a white ground, in which each corpuscle was agitated with a continual movement like that described by Brown. This agitation ceased after a considerable time if one avoided touching the glass plates between which the liquid was placed; otherwise it continued indefinitely. The larger particles were like a dot made on paper with a fine pen, the smallest became invisible. Examined by a solar microscope the appearance was the same, only the movement ceased in a few seconds as the liquid evaporated.

I suppose you will allow that I was *at least* as sure of getting my patients to absorb *Charcoal* as any homœopath who administers the 12th or 30th dilution of *Carbo vegetabilis*. Very well, then, setting aside the questionable therapeutic results which I was able to obtain by this method, let us examine simply whether I determined amongst my patients, or, at least, amongst some of them, any *one* of the pathogenetic effects ascribed to dilutions of *Charcoal* by Hahnemann's school.

For this purpose we must ascertain its alleged effects: let us open Jahr's work at article "*Carbo vegetabilis*." Grand Dieu! what do I see? *six pages of symptoms!* As it is impossible to copy all these, let us choose amidst this

by Dr. Faivre.

symptomatological series some effects which are not so common-place, that one could not find any phthisical patients without them; for instance, let us choose "general drawing pains, especially of the limbs; vertigo and sufferings of the head, hoarseness, acid eructations, abundant flatulence, constipation, frequent desire to urinate and wetting the bed, extraordinary influence of voluptuous ideas, &c." I omit some still better than these.

Well, you will ask, what have you observed of all this? What have I observed, indeed? Just nothing, my dear colleague, nothing at all; not even the *deficiency of cerumen in the ears*, which I find mentioned by our author in italics as a characteristic, but the importance of which, I confess, entirely escapes my comprehension.

I have varied my experiments by making healthy subjects drink this carbonised water, and have drunk whole litres of it myself, but never obtained any pathogenetic effect whatever. I have said above that some patients had consumed half a litre per day for months together; and I never saw a single case, out of 300 or more who tried it, where the least of the above sufferings were experienced.

What must we conclude from all this? That all this pretended pathogenesy of *Carbo vegetabilis* is a mere dream of sick brains, and that it is infinitely probable that it is just the same with *Lycopodium*, *Sepia*, and all the rest. As for table salt and radishes, innocent condiments of our broth in their palpable form, I must be allowed to wait some time before I have confidence in their therapeutic activity when in their 30th dilution.

See thus, in fact, to what a degree of scientific degeneracy hypothesis leads when substituted for simple *objective observation*! If there is any one thing evident in the materia medica, it is the glaring inequality of the pathogenetic power of the same dose of the various medicinal agents; one gramme of *Quinine* is easily digested; one gramme of *Nuxvomica* kills in a few hours; one gramme of *Hydrocyanic acid* strikes one dead. Very well; in Hahnemann's therapeutics *Quinine*, *Lycopodium*, *Phosphorus*, *Carbo veg.*, *Silica*, radishes, violets, &c., are all administered in the same

manner, or nearly so, because they tell you the dynamism of those medicines is exalted by dilution in one as well as the other. This is unintelligible; but what of that? You have only to exercise an act of faith; and when you enter on that track one more or one less does not cost any more, and makes no change in your position.

[NOTE.—Nothing could be more easily foreseen than this charming result! The diluted charcoal of our Aristarchus was merely charcoal in the crude state, the “raw material,” not attenuated by the homœopathic method. When we have a mind to repeat an experiment it must be repeated under the conditions of the originator; we do not take the responsibility of it (on n'en fait pas la charge). But *such* experiments are dangerous; it is more politic to make a joke of him and to oppose to him a terminus of permanent rejection, than to repeat his experiments simply and candidly. —*Editor of “Art Medical.”*]

POST-PARTUM AFFECTIONS.

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M.R.C.S., L.S.A., L.M.

(Continued from Vol. XXVII, p. 365.)

HAVING dwelt in my preceding article on some of the functional affections to which the parturient female is liable, I purpose in the present one to treat of some which are either dangerous to life or to the functions of the reproductive organs, or the future well being of our patient.

1. *Subinvolution of the uterus.* Usually the uterus returns to its normal size in the unimpregnated state in about six weeks after delivery, the various structures being broken down by fatty degeneration, and being either discharged as lochia or absorbed as fat. Occasionally, however, an arrest of this natural disintegration takes place and

we have the condition known as subinvolution, *i. e.* retarded involution or reduction, present. This, I believe, is far more frequently present than is generally supposed and is a constant cause of retro- or anteversion and subsequent sterility. The cause is some inflammatory action taking place in the uterine tissues giving rise to congestion and non-contraction of the uterus with an interference with such alterations as naturally take place after parturition. The fatty metamorphosis is a *sine quâ non* for the perfect diminution of the uterus, and it is readily arrested by such imprudences as excite inflammation; the most notable being too early rising after confinement, premature sexual intercourse, impoverished or improper diet.

The prominent symptoms as leucorrhœa, irregular or profuse or painful menstruation, general debility, aching in the lower part of the back, bearing down of the uterus, impeded micturition, &c., will indicate the seat but not the nature of the pathological derangement, and we can only detect this by a careful physical examination of the uterus through the abdominal walls, per vaginam by the finger and with the uterine sound. The symptoms are obscure at first and generally over-looked by the patient until prolonged ill health induces her to seek medical assistance. They may be traced to a severe lying-in or bad getting up. I will, however, illustrate the semeiology and treatment of the disorder by the following case.

CASE 1.—Mrs. B—, æt. 39, engaged me to attend her in her eleventh confinement, some two and a half years ago. She was the wife of a labouring man and her diet was of the most wretched character, bread and tea being its chief constituents. Labour set in about seven one morning, and I was immediately sent for. The os was beginning to dilate, but I could not detect the presentation; it was not, however, cephalic. I gave her *Puls.* 30, one globule dry on the tongue, and waited for half an hour. I could then perceive that the presenting part was a shoulder, and as the liquor amnii had not escaped, I determined to turn by Braxton Hicks' bimanual method as soon as the os was sufficiently dilated. Repeat *Puls.* 30 every ten minutes.

In the course of an hour, the os was the size of a five shilling piece. I then carefully searched for and found the breech externally with my right hand, and placed the fingers of my left, in the form of a cone, within the os and against the presenting shoulder. Much to my delight, the exercise of but very slight pressure enabled me to raise the shoulder, and with it the head, by the left fingers, and to depress the breech with the right hand. I fortunately seized one leg and brought it through the now patent os, and left the case to nature. The operation was expeditious and painless. Pains were regular, steady, and efficient; and in half an hour a fine living child was born. I tied the cord and gave the child to a nurse, for I saw a fearful change of expression in the countenance of my patient. The placenta was extruded immediately, and with it a deluge of blood, which saturated the clothes on the bed, blanched the patient, and made her pulseless. I gave *Crocus* ʒ, two drops in brandy and water, mixing half a pint and giving it to the nurse to administer every five minutes, while I attended to the uterus. I passed my left hand into the large flabby organ, and after many anxious minutes succeeded in slightly grasping it with the right. Still the hæmorrhage continued, and I shall never forget the horrible spectacle the poor woman presented, for she became much convulsed, and so frightened the attendants that they rushed out of the room. Fortunately, the husband was in the house, and gave the medicine. I kept up pressure for two hours, and then became quite exhausted, but not before the poor creature had rallied from the third convulsion. I applied firm pressure over the now contracted uterus, kept the pelvis well elevated, and bathed with cold water; forced strong beef tea with brandy down the throat, and continued *Crocus* ʒ every two hours. She had frequent attacks of syncope for thirty-six hours, but they passed off under nutrients and stimulants, and *China*, and though weak and anæmic, she was in a favorable state, considering her severe losses, at the end of a month. She then began to sit up in bed, and day by day increased in strength, and was fairly convalescent at the end of another month. I should say that she did

not suckle the child, for two reasons; firstly, she had no mammary secretion, and secondly, the child died; for in the fright induced by the convulsion, the nurse snatched at the navel string and removed the ligature, and the babe bled to death.

I ceased attendance on Mrs. B— at the termination of the second month, and did not see her until another month had elapsed. She then complained of great weakness, anorexia, palpitation in cardiac and hypogastric regions, bearing down pains, sensation of a heavy body flopping about in pelvis, and profuse *watery leucorrhœa*. The diet was unavoidably most scanty, and I was unable to improve it. I prescribed *Caulophyllin*, 3 \times trituration, one grain three times a day. There was manifest improvement in all the symptoms in six days; rep. *Caulophyllin*, one grain twice a day. She did not visit me again for six weeks, when she came complaining of the unwieldy bulkiness of her body. Her symptoms did not point to any uterine trouble, but I requested permission to make a careful examination when she was undressed. To this she unhesitatingly consented. I found a large, painless, smooth, pyriform tumour in the hypogastrium, which a simultaneous exploration per vaginam proved to be the enlarged uterus. The os uteri was very open, and the lips enlarged and raw. The uterine sound entered five and a half inches, and showed the organ to be also retroverted and flexed.

I carefully replaced it, and gave her *Calc. carb.* 30, three times a day, a small pilule in solution. I continued this remedy for a fortnight, and then omitted for fourteen days, resuming it again. At the end of six weeks I made another examination, and was pleased to find considerable reduction of the uterus, which was in its natural position. All medicine was discontinued, and I met my patient some weeks afterwards, when she told me the menses were re-established satisfactorily, and she felt quite well. I asked for an examination, much to her surprise, but she, after much persuasion, consented, and the uterus was then normal in size and *in situ*.

Remarks.

1. The efficacy of *Crocus* 1 \times in the alarming post-partum hæmorrhages is, to my mind, one of the most pleasing pieces of practice. I have verified its power over uterine hæmorrhage many times, and always have it in my *obstetric case*, and should never feel comfortable without it at any confinement. I adhere to the dilution indicated, because I have never tried any other, and have never known it fail. I can speak as favorably of *Trillium* 1 in the hæmorrhage succeeding abortion; why *Crocus* should not be as useful here I know not, but from experience I can say it does not act so well. Perhaps *Trillium* would suit both classes of hæmorrhage, but I have not tried it, and never shall in post-partum cases, unless I have not got any *Crocus* with me, for it would be the height of moral delinquency to experimentalise at such a time. I do not condemn the administration of any other drug or a different potency—they may be, and probably are, equally efficacious—I only give the results of my own experience, and it has not been limited. Some may think the pressure had much to do with the restraint of the hæmorrhage: I have no doubt it had, but I should not like to trust to it alone. I have seen cases where no pressure has been exerted that have done well with *Crocus*, and probably no allopathic sneerer at my small dose would undertake the treatment of such a case as the above if he were restricted to the sole use of *Ergot* or pressure. I much prefer the intelligent grasp of the hand to pressure effected by a book, or basin, &c.

2. The presence of a *profuse watery leucorrhœa* is, I suspect, pathognomonic of sub-involution. I have always found such a condition present whenever this symptom has been prominent. It is well removed by *Caulophyllin* 3 \times trituration, but the medicine should not be continued more than a fortnight, for it is apt to induce medicinal aggravation. How frequently we notice symptoms due to a pathological cause removed by suitable homœopathic treatment! In the above the leucorrhœa was dependent

on the relaxed atonic condition of the uterine vessels, and yet it is cured though the cause remains.

3. The efficacy of *Calc. carb.* in a high dilution has pleased me much in cases of sub-involution. I have seen many cases in Australia, and three or four in England. I first tried *Sepia*, then *Sulphur*, both high and low, but without effect; *Rhus* also failed to do good. I then made a careful analysis of the symptoms, and thought *Calc. carb.* indicated by them, by its specific effect on the uterus, and by the leuco-phlegmatic temperament of most of the sufferers from it. I now use it in a routine way, always prescribing in the 30th dilution and with success; it is a careless slipshod method, but the result justifies the means. I should be glad, indeed, if my *confrères* would put on record their treatment and success.

(Two cases of *super-involution* were unimproved by careful and prolonged *treatment*.)

Phlegmasia alba dolens.—Most probably the differences of opinion as to the nature of phlegmasia dolens can be reconciled by admitting that all are in their turns correct. Thus, in one case we have distinct evidence of the extension of an uterine phlebitis to the femoral trunks of the affected side; in another the fons et origo mali is a vitiated condition of the circulating fluid rather than a primary affection of the veins; in another the lymphatics are chiefly in fault at first, and secondarily the veins; while in a still further class we have the nerves alone, or the veins, nerves, and lymphatics apparently attached simultaneously. Further research may eliminate some of these, and we shall be able to classify them into the two orders of (*a*) phlebitis, and (*b*) septicæmia. I have met with several cases, and as two occurred at the same time in my practice, and illustrate the differences we occasionally meet with in this disease, I will narrate them.

CASE 1.—Mrs. C—, æt. 28, the wife of a farmer, engaged me some two years ago to attend her in her confinement, which she expected daily. On asking the character of her previous labours, I learnt that they had

been pretty good (she had had four), except for an attack of milk leg after the first. From this affection she had suffered many months, and had really never quite got over it. Just as I was leaving the house, she told me she had had during the last three months six gushes of blood from the vagina, but as they were not attended with pain, she did not suppose they were of any consequence. I enjoined perfect rest in the recumbent posture, and non-stimulating diet, and gave her some *Crocus* 1^r to take immediately the hæmorrhage reappeared, and to send for me without delay. Two days afterwards I was called to see her. There was a large quantity of blood clotted under the nates, but no bleeding was going on. She had taken two doses of *Crocus* as directed. I made an examination, and found the placenta lying over the os. Pains were irregular and ineffective, but soon improved after taking a few globules of *Puls.* 30 in solution. Of course there was bleeding with each pain, but as it was slight, I waited till the os was sufficiently dilated for me to adopt Barnes's mode of removing the placenta from the *cervical zone*. This I readily accomplished, and the head came well down at the same time, and mechanically prevented any more loss of blood. The operation was well borne without *Chloroform*, and there was not any complaint of undue pain. Labour progressed well, and terminated quickly—the child was alive. After extrusion of the placenta there was considerable hæmorrhage, but it was easily stopped. I left when the uterus was well contracted and the pulse good. *Arnica* 3, one drop every two hours. Next morning everything seemed favorable to speedy convalescence, but in the evening I was sent for. She had had a rigor, and a sudden cessation of lochia, with pain in the hypogastrium. She had imprudently taken some ginger beer in the morning, but did not suppose that had anything to do with her sufferings, nor did I. I have no record of the other symptoms, but my prescription was *Acon.* 3, with *Bell.* 3, alternately every two hours. Next morning no improvement. *Bell.* 30 with *Castor oil*. On the next day there was relief from the bowels, but an additional symptom of pain in her left calf,

which she recognised as the certain precursor of a milk leg. I felt the femoral vein hard as whipcord, and there was already some swelling of the leg. In the evening of this (the fourth) day, the leg was double the size of the other. *Puls.* 30, every three hours, and a good fomentation of plain water. This treatment was of no avail, and after persevering with it for three days and nights, I gave *Hamamelis* ϕ gtt. i, every two hours, and as a lotion \mathcal{R} *Hamamelis* ϕ \mathfrak{z} ss lx, *Aquæ tepid*, \mathfrak{z} xvi. Speedy relief was obtained, and by the end of six weeks I permitted Mrs. C— to get down stairs. I had to prescribe *Rhus* 30 for a fortnight, which I suppose was for the paralytic weakness so often if not always present.

CASE 2.—I was summoned about this time to a pauper's wife in labour with her second child. It was perfectly natural, and at the end of the tenth day I paid my last visit as I thought. The lochial discharge was free and milk in abundance. In a fortnight I was sent for. The woman had been out *at broad work*, *i. e.* digging in the Fens, and felt very ill. There was no milk whatever, and as the tongue was dry and brown, skin hot, eyes jaundiced, abdominal pain and meteorism and cessation of lochia, with pulse 150, small and thready, I thought of puerperal fever. Her chief complaint, however, when rational (for she had delirium), was of a severe pain shooting from the calf of the left leg to the heel. *Bell.* 3, every two hours and free stimulants.

Next morning the pain extended up to the thigh, groin, and abdomen, and there were red streaks in the direction of the lymphatics; *no swelling or hardness of femoral vein.* *Rep. Bell.* 3, in alternation with *Ars.* 3. During this day the leg swelled enormously and she had pain in left arm-pit; but as I did not see her or hear of it till my visit next morning, I know not its exact position or character. When I saw her the left arm was greatly swelled and she had severe rigors. Suppuration was taking place near the left inguinal ring and in the left popliteal space. \mathcal{R} . j *Quinæ arsen.* 3 \mathfrak{x} , every two hours one grain. Brandy and egg flip *ad libitum*, and beef-tea injections. Next day I opened two

large boggy masses in above-mentioned places, and gave exit to a quantity of stinky, grumous matter. Rep. *Quina arsen.* 3^x, and apply a lotion of *Permanganate of potash* to the abscesses. On the following day she had frequent rigors, bilious vomitings, cold clammy perspirations of very offensive odour, and pain in hepatic region; I opened an ill-defined collection of matter in left axilla. Rep. *Omnia*.

Her condition was, I need scarcely say, most critical, and but for lavish use of stimulants and *Quin. arsen.*, she must have sunk. The smell in her room was so intolerable, though there was free ventilation, that I often vomited. In four days' time she had dysenteric symptoms and passed a large quantity of semi-purulent stuff per anum. The tongue began to clean forthwith and all her symptoms were alleviated. *China* 1^x, gtt. iij, every three hours. I now bethought me of the leg which I had not examined for some days. The wounds I had made were healed, but the leg was as large as ever, and the femoral vein was quite hard and evidently obliterated. All the characteristic symptoms of phlegmasia alba dolens were present. For ten days *China*, as above, was continued, and the improvement was so great I began to discontinue daily visits, and determined to try the effects of *Hamamelis*. I accordingly gave one drop of the mother tincture every six hours, and applied a pad of spongio-piline wet with *Hamamelis* lotion (℞j to ℞xvj) over the femoral vein. My patient persevered most religiously for two days with the medicine, but was then obliged to discontinue it, as it made her head throb and caused a *pricking pain in the region of the heart*. I therefore sent her the *third* dilution, which she bore well. After persevering with the *Ham. v.* internally and externally for three weeks, the leg began to decrease in size and gradually mended till, at the end of five months after her delivery, it was normal in size, though weak and clumsy. I hope it may never fall to my lot to have another such a case, but if one should, may it terminate as satisfactorily! I cannot conclude this hasty outline without saying that to Dr. Thomas's writings I am indebted for my knowledge of the

use of *Hamamelis* in this affection, and to Kafka's splendid book for the suggestion of *Quinae arsen.*

3. *Metritis*.—I have no doubt that simple idiopathic post-partum metritis is extremely rare. I have, however, met with one case which I cannot but think was such. It occurred in a young primipara who was attended by a cautious old midwife. Delivery was well accomplished, and the girl did well until the third day. Her husband then, in an intoxicated state, dragged her out of bed, and of course frightened her very much. The weather was cold and she was chilled. I saw her the next morning; the lochial discharge was stopped, but not the milk. Pulse 120 and hard; severe bearing-down pain, tenderness over uterus, burning hot vagina, headache, &c. I was all but new to homœopathy, and could not believe Croserio, who says in his invaluable little book—"The prognosis will always be very favorable when the inflammation has not attained to the peritoneum, for there is no disease more easy to treat than this, of which all the symptoms are found perfectly expressed in *Nux vomica*." I still thought *Acon.* most indicated, and gave it for twenty-four hours, when I resorted to *Nux vomica* 30. I dissolved twelve globules in twelve teaspoonsful of water, and gave one every two hours, and by the time she had taken all the doses she was well. I was perfectly astonished.

4. *Peritonitis*.—Most usually the morbid action has extended to the peritoneal covering of the uterus before the accoucheur is called in, unless he was present at the delivery. The disease then assumes a more serious aspect. But I must here premise the frequency with which we meet with *False Peritonitis* now-a-days; and the care with which we should analyse symptoms before prescribing. A case will here best illustrate my meaning.

CASE.—Mrs. S—, whom I attended last year on June 1st. The child was still-born and putrid. My patient had frequent attacks of syncope during labour, but progressed favorably and sat up in bed on the tenth day. I saw her in the morning and found her skin soft, pulse fair, appetite good, and lochia in proper quantity. In the evening her

husband came to tell me she was very ill. I visited her and found her in a state of frenzy with distressing abdominal pain, which, however, occasionally quite left her. The pulse was quick and tongue dry; the skin hot, but perspiring. There was no irregularity in diet to account for the pain. Mrs. S— was of a hysterical temperament. I gave her six grains of *Atropia*, 3ʳ in twelve teaspoonful of water, of which solution she took one teaspoonful regularly every four hours, and occasionally when the pain was severe. She obtained speedy relief and did not require further medical treatment.

True Puerperal Peritonitis.—Fortunately I have only met with one case of this disease, and as it was, in my opinion, a typical one, I will give it. I see there is a tendency to shelve this form of the complaint and merge it in the large class *Puerperal Fever*, but to this I strongly object, for it occurs idiopathically, as the following case proves.

CASE.—March 25th.—R. Johnson, æt. 20, confined forty-eight hours previously of an illegitimate child, sent for me at two p.m. I found her lying on her back, with her knees drawn up, pained anxious countenance, face red, eyes congested, skin hot and dry, pulse 100 hard. Tongue white and coated. She shrieked aloud on account of a burning pain which occupied the whole abdomen, and pressure was insupportable. She had had a severe rigor twelve hours before I was sent for and a good deal of vomiting. Fear of death was prominent. *Acon.* 30 globules iij in a wine-glassful of water, and one teaspoonful every half hour. *Hot bran poultice to abdomen.*

March 26th.—Decided improvement, but she could not bear the poultice, and diarrhœa with colic had come on. I gave *Colocynth* 30 in same way.

March 27th.—Better. Repeat.

March 28th.—Quite well, but weak. *China* 3 td.

I followed Croserio in the above two cases with great care and perfect success. If the disease presented itself again, I should expect to have to study *Bryonia*, *Mercurius*, *China*, and other remedies, but I should fully expect to

cure my patient if great nervous prostration had not set in.

5. *Puerperal Mania* is conveniently divided into three classes—1. Congestive, 2. Inflammatory, and 3. Anæmic. Of course there is no such subtle subdivision in nature, but each case presents for especial notice symptoms which mostly can be placed under one or other head.

CASE 1.—I was requested by the police once, when in New South Wales, to visit a woman who had been in the lock-up some short time with *Delirium Tremens!* She had been plied with *Opium* largely, but without avail. As I had some months before been consulted by this woman, and had carefully auscultated her chest, and knew both from her own account and that of her friends that she was very abstemious in her habits, I felt sure her present malady was not delirium tremens. Her more prominent symptoms were restless, anxious, and at times desponding, expression of countenance. Sullenness alternated with violent outbursts of passion against her *husband and child*; pupils contracted (? *Opium*); head hot; skin dry and pungent; tongue dry and coated and bowels constipated. Her whole mutterings were of husband and child. No evidence of recent delivery was known to the police. I therefore gave her a large warm water injection, and after I had dislodged a large mass of hardened scybalæ, I sent for her husband, and from him learnt she had been prematurely confined of a still-born child, six weeks back, and had been fretting ever since. The only complaints she made were of a sensation as of a nail in the temples, with tremblings of the limbs and almost total want of sleep. After a fortnight had elapsed she began to upbraid him for giving her medicine in her food, whereby she had aborted, and he fancied she was either drunk or mad. Unfortunately, soon after this phase had set in, she was visited by a gossiping neighbour, who gave her a “Thimbleful of the Crature,” and learning all her woes, spread them abroad till the police heard of them and, without medical advice, removed her to the lock-up. For some days she was visited by a practitioner who handed her over to me as a suitable patient for the hypodermic injection

of morphia. I preferred, however, *Ignatia* 3, one drop to be taken every two hours.

I have omitted to say she was phthisical, but, as is so common, this attack of mania had, so to speak, arrested all the symptoms as cough, dyspnœa, pain in the chest, &c.

By degrees her excitement ceased, and she became both more orderly and lucid, but on the fourth day of my attendance I was obliged to give *Stramonium* 6, two drops on sugar, for the stupefying headache, with occasional loss of consciousness and alternate loquacity which came on. This medicine soon relieved her symptoms, and my next prescription was, after four more days had elapsed, R *Ta. Actea racemos.* 1^x, guttæ v. *ter die*, for a melancholic tendency and *a sense of goneness in the epigastric region.* In a few days she was removed to her home, and I saw her occasionally during the month. Her maniacal attack was cured, but phthisis had rekindled, and hæmoptysis set in. Her subsequent illness, though interesting, has no reference to the disorder of which I am writing, so I will merely say that I think all similar cases may be treated, with great hope of success, in a like manner. To such as have a *penchant* for the trituration of the active principles of drugs, I can confidently recommend *Macrotin*, 2^x or 3^x, instead of *Actea racemosa.*

CASE 2.—On September 20th, 1864, I was called to attend a primapara who had been in labour some six hours, according to the statement of the messenger. When I reached the house there were great symptoms of prostration; small quick pulse, dry tongue, clammy perspiration, and occasional vomiting of greenish mucus. There was almost complete cessation of pains, though the os uteri was well dilated and the presentation normal. There was an olive-coloured discharge from the vagina, so indicative, according to Ramsbotham, of the commencing exhaustion which necessitates the use of the forceps. I sent home for my instruments, and gave *Arsenicum* 3 every ten minutes in solution. Under this treatment Mrs. A— soon rallied, pains came on, and, as the soft parts were well relaxed, Nature, unaided by instruments, expelled the child. The

uterus contracted thoroughly at once, and I left my patient with a few doses of *Arnica*, one of which she should take every two hours. The next morning she was restless and sleepless, had delirium and illusions, with quick pulse, hot head, and dry skin. Face was congested. *Bell.* 3, one drop to be taken every two hours, commencing two hours after two doses of *Aconitum* 3.

The *Belladonna* removed most of the above symptoms, but did not prevent a development of hatred of child and melancholia. This state of things came on about five days after the birth of the child. *R* *Platina* 3, one grain three times a day.

September 28th.—No alteration, except that bowels have acted, and the lochial discharge is ceasing. No milk. Tongue is clean, appetite fair, and more complete intervals of lucidity. *Rep. Platina*.

30th.—Much the same; only, in addition, she complains of a sense of *goneness* in the epigastrium, *R* *Ta. Actea racemosa* 1 $\frac{1}{2}$, five drops three times a day.

October 7th.—Decidedly improved in every respect. Repeat. From this date I ceased to take notes of the case, but improvement gradually progressed and she became perfectly well: I attended her in a subsequent confinement, and she had no symptoms of mania.

I afterwards ascertained that the symptoms of prostration were due to the fact that she had been in labour three days before I was sent for and not six hours. Strangely enough, the sister of this patient came under my care for acute suppression of the menses, arising from bathing in cold water. Much to my surprise *Aconite* and *Pulsatilla* did not avail either to re-establish the function, or to prevent unpleasant head symptoms. *Belladonna* did also but little good, and, in sheer despair, I gave *Actea racemosa* 1 $\frac{1}{2}$, five drops every four hours. This remedy did wonders for a time, but in about two months' time she relapsed, and was taken from my care. Skilful allopathic treatment was useless, and she became demented and died in an asylum.

PELVIC CELLULITIS. I beg to refer such as care to read what I have to say about *pelvic cellulitis* to the last number

of this Journal, page 161. My remarks are embodied in a paper I had the honour to read before the British Homœopathic Society. The discussion on it is at any rate interesting.*

PELVIC HÆMATOCELE. Under this term I would include hæmatocele, whether occurring as uterine, peri-uterine, or retro-uterine. In the only case I have seen the hæmorrhage took place into the cul-de-sac between the uterus and rectum.

I was called in consultation by a medical friend to see Mrs. S—, who had been confined about ten days previously of a still-surviving child. The labour was natural. Inflammation of the uterus set in on the third day and baffled my friend's treatment, much to his surprise, for *he had touched the gums!* The pain continued very severe in the hypogastric region, and the vagina hot and dry, and there was no discharge. On the sixth day she was seized with sudden, burning, rather deep-seated pain in left iliac fossa, and urging to urinate; the symptoms came on after some slight exertion. My friend was sent for immediately, and giving his opinion to the husband that some internal hæmorrhage was going on, requested my co-operation. When I reached the bedside of the patient, some twelve hours after the first attack of pain, there was considerable collapse and distension of the lower part of the abdomen. We gave *Camphor* and stimulants, and on exploring per vaginam and per rectum we detected a large, non-fluctuating tumour which had pushed the posterior wall of the vagina before it, and indistinctly communicated with the swelling in the abdomen which seemed more particularly to incline to the left iliac fossa, in which the pain was chiefly seated. Of course a very minute examination was impossible, but it was certain that we had a suddenly-formed tumour, rapidly increasing in size, displacing the uterus (the os was lying immediately behind the symphysis pubis), non-fluctuating, and giving rise to alarming collapse. What could it be but blood?

* At p. 170, in reply to Dr. Madden, I am made to say that the occurrence of genuine membranous croup is denied. This would be nonsense. What I said was that its occurrence in New South Wales has been denied.

We discussed the probability of its being pus, for there had been well-marked metritis. There had not, however, been rigors; the swelling was both sudden and increasing; the collapse was that of hæmorrhage. Under these anxious circumstances we determined to apply ice, cold *Arnica* lotions, and give *Arnica* internally. I stayed with the lady all night and she gradually swelled more and more, until I thought of *Hamamelis*. Of this I gave five drops of the mother tincture immediately, and a lotion of ℥ss to ℥xvj to the abdomen constantly. From that time she began to rally, and I did not repeat the medicine internally until my friend came at 6 a.m. Improvement was continuing, *Ham.* 1^x, gtt. ij *every two hours*. At night my friend met me and we considered progress was being made, and, therefore, *repeat omnia*. The next morning the case, to my great annoyance, was entrusted entirely to me. I repeated *Hamamelis* 1^x for three days, and then gave *Sacch. lactis*. I watched the case for a fortnight, and, as far as I could judge, there was only an absorption of the fluid part of the blood. Contraction took place in the hæmatocele, and the uterus partially righted itself. *Arnica* 12, pil. j *ter die* was given one week, and then omitted for another week, and so continued for six weeks. At the end of that time there was great diminution in the size of the abdomen, and decidedly less retro-uterine tumour; but still an abnormal condition remained. As both patient and husband wished to give up treatment for a time, I ceased attendance. About three months afterwards I was called to visit Mrs. S— again. She had miscarried; both fœtus and placenta were expelled, and there was no superabundant hæmorrhage. On the third day peritonitis set in, and after a severe illness of fourteen days' duration, a large discharge of blood and pus per anum initiated a protracted convalescence. A subsequent vaginal examination convinced me that the peritonitis had commenced in the cyst enclosing the hæmatocele, for the retro-uterine tumour was gone, and the uterus was in its proper place. I have not given the treatment adopted for the peritonitis, but may say it was chiefly by *Mercurius corrosivus* 3^x and *Bell.* 3.

I see in Bernutz and Goupil's *Clinical Memoirs of the Diseases of Women*, vol. i, page 95, a sneer at homœopathy, because a case treated by that "purely expectant treatment" terminated fatally! How forgetful of the general fatality of their own cases of hæmatocele our quondam associates are! I think my case should inspire us with hope of being able to combat both the primal effusion and the sequelæ so likely to ensue. To sum up, *Hamamelis* will control the hæmorrhage, *Arnica* promote absorption of the clot, *Mercurius* modify the peritoneal inflammation, and *China* help good diet to recruit the flagging strength.

(*To be continued.*)

FORCE, PROTOPLASM, AND STIMULUS.

By DR. DRYSDALE.

CHAP. I.—INTRODUCTORY AND HISTORICAL.

IN the course of the series of articles on specifics, lately written by me, I have been forced to refer to Fletcher's principles of physiology and pathology,* as the only basis for a rational explanation of many difficult problems. These works are now little, if at all, known in the medical world, no doubt, partly by reason of the fragmentary nature in which they now exist, owing to the untimely death of the gifted author, which thus left the exposition of a large part of his principles to the imperfections of posthumous editing. Since their publication the progress of physiological science in matters of detail has been immense, and, therefore, no general work which does not include all these will be looked upon otherwise than as antiquated. Although the same may not apply to general principles, yet these must be shown to be in harmony with any subsequently discovered law or great principle which may largely affect the sciences of physics and chemistry. Such is the law of the conservation and equivalence of force, and unless

* *Rudiments of Physiology, Elements of Pathology.* Maclachlan and Stewart, Edinburgh.

Fletcher's doctrines of the nature of life, and the important part played by stimulus be brought into harmony with it, they will find no acceptance. The existence of such harmony must be declared by a living voice, as we can hardly expect a presumedly antiquated book to speak for itself to the uninterested general reader. I had hoped that ere now some fully qualified professed physiologist would have stepped forward to perform this duty, but, having waited in vain for many years, it seems to devolve upon me as the sole surviving editor of any part of Fletcher's works, though I am conscious that such a task can be but imperfectly accomplished by a physician in active practice, whose scanty hours of leisure are perpetually exposed to interruption.

The first step was, of course, to make myself fully acquainted with the nature of the doctrine of conservation of force, and its bearing on physics and chemistry; this being done, I presumed that all that would be then necessary would be to present Fletcher's theory with such comments and modifications as might be desired requisite. But it soon appeared that this would render him intelligible to a comparatively small number of readers. For, on studying the subject, I found no compendious and complete history and exposition of the doctrine in our language adapted to the general run of medical men.

In fact, the doctrine itself is in process of evolution, and the data are scattered in the original memoirs of the men who are now engaged in working it out, chiefly in this country and in Germany. Even in the most recent compendious treatises on physics and chemistry, we can scarcely say that it is fully treated of by itself, though in Brooke's 'Natural Philosophy' and the last edition of Fownes's 'Chemistry,' it is incorporated with the subjects in detail, which cannot be said of the majority of such works.

The same may be said of works on physiology, although in Carpenter's seventh edition, there is a chapter on the balance of the vital economy, in which it is taken for granted that the reader understands the principle. This is taking a good deal for granted.

Grove's classical work on the correlation of the physical forces will at once suggest itself as sufficient; but it is not so, as that work is addressed to readers having a more profound preliminary knowledge of physics than most of our profession can boast of, in fact, in shoots over our heads; and, besides, it does not extend the law to the domain of physiology. The same applies to the treatises of Brooke and of B. Jones and Watt's edition of Fownes, and Tait's 'Thermodynamics,' and whoever is master of the subject as expounded therein may at once pass on to where the connection between physical and vital phenomena is discussed. It is true B. Jones's 'Croonian Lectures on Matter and Force,' being addressed to medical men, might be expected to supply the want.

But this work, besides presupposing too much preliminary knowledge in the reader, contains, we think, erroneous views on some very important points, to contest which would require reference to much information not contained in it, and the sources of which may not be open to the reader. Therefore, I think that whilst this subject, and the difficulties felt by a medical man on approaching it, are still fresh in my mind, a short historical and explanatory article, drawn from the study of the under-mentioned* works may be acceptable to medical readers.

In illustration of the present transition state of physical science in respect to this doctrine, let me adduce the following quotation from the last edition of Arnott's 'Physics,'

* *Die Mechanik der Wärme*, by J. R. Mayer. Stuttgart, 1867. (Contains a collection of all the works of this author.) *Abhandlungen über die Mechanische Wärmetheorie*, von R. Clausius. Two vols., 1864 to 1867. Arnott's *Physics*, 1864. Miller's *Chemical Physics*, 4th ed. Odling's *Manual of Chemistry*. Tyndall on *Heat*, 3rd edit. *Phil. Mag.*, 1840 to 1870, containing papers by W. Thomson, Joule, Rankine, Regnault, Helmholtz, Faraday, Waterston, Tait, Verdet, Colding, Akin, Bohn, Heaton, Maxwell, Challis, &c. Carpenter on "The Correlation of Physical and Vital Forces," *Quart. Journ. of Science*, 1864. Bence Jones, *Croonian Lectures on Matter and Force*. Williamson on *The Atomic Theory*. C. Brooke, *Natural Philosophy*, 1867. Fownes's *Chemistry*, 10th ed., 1868. Fick, *Die Naturkräfte*, 1869. "Renaissance de la Physique Cartesienne," par Bertrand, *Journal des Savants*, 1869. "L'esprit de la Physique Moderne," par A. Laugel, *Rev. des deux Mondes*, Sept., 1858. *Sketch of Thermodynamics*, by Professor Tait, 1868. Ganet's *Physics*, by Atkinson, 1868. Helmholtz's "Lectures," *Med. Times*, 1864.

in which is inserted a short statement of the new doctrine, while, at the same time, the old theories of familiar phenomena have not been remodelled in accordance with it.

“The latent heat of common air is made sensible in the *match syringe*. In this, which is a tube closed at the bottom, the piston is driven down quickly and strongly, so as to compress very much the air which is underneath it, and the heat then condensed with the air is sufficiently intense to light a small piece of tinder attached to the bottom of the piston.”—*Arnott's Physics*, 1864, part i, p. 21.

Here the heat is supposed to preexist in the air, and simply to be given out owing to the change of capacity induced by the compression of the air. The new doctrine is very different, for according to it the heat is newly generated, and represents the exact amount of the force used by the arm in compressing the air. This force is not destroyed as was formerly supposed, in overcoming the resistance, but undergoes transformation into heat. But the arm itself derives its force from an exactly equivalent amount of vito-chemical change in the nerves, muscles, and blood, involving a corresponding consumption of these materials. The store of force-yielding blood must be replenished from the food; that again is all derived mediately or immediately from plants. These, again, derive their whole store of force which enables them to build up the complicated organic products serving as food for animals, from the heat and light of the sun. Whence then the heat of the sun, and how is it maintained?

The new doctrine is competent to answer this with a high degree of probability. By the splendid hypothesis of Mayer the contraction of the nebular mass of the matter of our solar system is exhibited as a sufficient cause of the original heat of the sun. The rush of this vast mass of matter through such immense distances is competent, according to the calculation of Helmholtz, to generate in the sun a heat of 28,000,000 degrees, cent., the far greater portion of which must have been dissipated long before the earth assumed its present state. For it is also a part of the

doctrine in question that all forms of force or energy are mutually convertible, but, practically, the final result of all such transformations is into heat or light. These, as is well known, are perpetually radiating into the surrounding medium; and hence, with the exception of such portions as are absorbed by plants and chemical action, the tendency is finally to be dissipated into space. This dissipation of the sun's energy is perpetually going on at an enormous rate, of which we can form some conception by a knowledge of the fact that the total amount of it intercepted by the earth is equal to only the 2,300,000,000th part of the whole.

How, then, is it renewed? The theory of Mayer is competent to explain this also; for it has been shown that the continual falling into the sun of the masses of asteroids, and other meteoric matter known to be circulating in our solar system, would be sufficient to generate an adequate amount of heat which it has been shown no chemical process such as combustion could possibly do. Ultimately, however, a time must arrive when, by the action of the natural forces resulting in the continual dissipation of energy, and the exhaustion of the meteoric matter, the final extinction of life, heat, and light in our system must ensue, realising the vision of the poet—

“The bright sun was extinguished, and the stars
Did wander darkling in the eternal space.”

Even now speculation is not arrested, for theories have been formed as to the possible restoration of this lost energy. The sun, then a cold, dark body, moving, as now, through space at the rate of 411,000 miles a day, may encounter a similar moving body, when the force of the collision will generate an amount of heat sufficient to dissipate the mass into the nebular state. Or, again, by the daring and beautiful, hypothesis of Rankine, it is supposed that the interstellar æther does not fill infinite space, but beyond its boundaries there is an infinite void. When the waves of radiant heat reach the boundary of the ether they will be totally reflected, and ultimately reconcentrated into foci. “At each of these foci the intensity of the heat may

be expected to be such that should a star (being at that period an extinct mass of inert compounds) in the course of its motions arrive at that part of space, it will be vaporised and resolved into its elements; a store of chemical power being thus reproduced at the expense of a corresponding amount of radiant heat."* (*Ph. Mag.*, IV, vol. iv, p. 360.)

Thus, or in some such way, may the cycle of changes of a sun and planetary system be again begun, and so on for ever and ever, as far as science can teach us, for to her matter and force are eternal and indestructible, and of a beginning or an end she can tell us nothing. Such is the programme of but a small portion of the rôle to be played in science by the grand doctrine of the conservation and equivalence of force. The whole turns on the *discovery* of what is termed the *mechanical equivalent of heat*. To comprehend the significance of this statement let us revert to the state of mechanical science during last century. A rapid advance then took place in the invention of machinery, and during that time a number of ingenious persons turned their minds in this direction before the fundamental principles of mechanics were fully understood; and seeing the practical gain of power from the use of the lever, screw, pulley, &c., they hoped by some clever arrangements to effect a real gain of driving force, or, in other words, obtain "perpetual motion." As alchemy was the parent of chemistry, this search, though futile in its effect in itself, led to the discovery of the great principle now under consideration. For, ere long, by study and experiment, the true principles of mechanics were evolved, and the laws which

* Clausius (vol. i, p. 323) has discussed this hypothesis in a profound mathematical article, and pronounces it untenable according to the laws of heat. But the human mind craves for an answer to the question, Is the energy of the universe being perpetually dissipated in the ever-diminishing wavelets of heat and light for ever and ever? or has the interstellar æther an end, beyond which nothing but infinite void exists? In which case what becomes of the force of the undulations of heat and light? Can it be annihilated there any more than here; if not, must it not be reflected in some form of force, and so restored to the material universe? Has no means been devised to "gather up the fragments that remain, that nothing be lost" in the housekeeping of the Almighty?

govern them were stated with precision. On this point, after giving a variety of illustrations of mechanical equivalence from machinery driven by various powers, Helmholtz* says:—"From these examples you observe, and the mathematical theory has corroborated this for all purely mechanical, that is to say, for moving forces, that all our machinery and apparatus generate no force, but simply yield up the power communicated to them by natural forces—falling water, moving wind, or by the muscles of men and animals. After this law had been established by the great mathematicians of the last century, a perpetual motion, which should only make use of pure mechanical forces such as gravity, elasticity, pressure of liquids and gases, could only be sought after by bewildered and ill-instructed people."

But the question was still undetermined with respect to the other natural forces—heat, electricity, magnetism, and chemical action. Did the same law apply here? and what was the real relation between them and mechanical motion, which they can all produce? Might there not still be possible some ingenious combination of these forces from which a real gain of power might be got? for example, by turning the electro-magnetic machine we obtain a current of electricity; by that we might decompose water; and by collecting the resulting oxygen and hydrogen might we not by their combustion obtain a flame which, if directed on a piece of lime, would produce the well-known Drummond light? at the same time great heat is given out, and might not that be used to boil the water and thus drive a steam-engine sufficiently powerful to turn the magnet? In this way should we not obtain a splendid light by a self-acting machine? There are many persons, even among those who boast of the enlightenment of our age, who could not answer off-hand that such a result was impossible, and there are not many persons who could show why it is so. When we pass to the more complex and (as yet, in many respects) mysterious phenomena of the organic world we find that, even among physiologists, there are still many who are not

* "On the Interaction of Natural Forces." (*Phil. Mag.*, IV, vol. xi, p. 495.)

prepared to admit that no amount of force of any kind, even to the turning of a hair, can come out of any animal body beyond the exact amount that went in, as food, air, and heat.

The question of the possible gain of power by the interaction of the so-called "imponderable forces," was brought to an issue by the repeated efforts of inventors to obtain the greatest possible power from the application of the principle of the steam engine. The chief, if not the only, practical way in which mechanical work can be got by heat is through the expansion of gases and vapours; and as the rate of expansion of all these is nearly the same, while the boiling point of liquids varies greatly, might not these differences be taken advantage of for the actual gain of motive power? If not, why not? and what is the true law which governs the proportion between work done and fuel expended in a heat engine? Singularly enough this was discovered before its explanation could be given, just as the practical limits of the power of the syphon and the pump were known before the true nature of suction was discovered, and it was referred to the supposed "horror of a vacuum" existing in nature. This discovery was announced in an essay by Sadi Carnot, published in 1824, entitled *Reflexions sur la Puissance Motrice du Feu*. According to Regnault this work attracted little attention at the time in France, but more recently its importance was recognised by W. Thomson and R. Clausius, who confirmed, with some modifications, a law therein laid down by Carnot, and since called by his name. The substance of this law is shortly this—that it is only when heat passes from a warmer to a colder body that work can be done, that this is independent of the nature of the working substance, and is in proportion to the difference of the two temperatures.* What is chiefly interesting to us at present is to

* Carnot's law :—"The ratio of the maximum mechanical effect to the whole heat expended in an expansive machine is a function solely of the two temperatures at which heat is respectively received and emitted, and is independent of the nature of the working substance." The same modified by the dynamic theory of heat, and adapted to it by Thomson and Clausius.—"The maximum proportion of heat converted into expansive power by any machine is a func-

note the manner in which Carnot attempts to explain how work is produced from heat. We must remember that at that time heat was supposed to be an imponderable material substance called caloric, which could be contained in greater or less quantity in any body, and could be transferred from one body to another, and could even exist in two very different states described as latent and free; but that the total quantity of it existing in the world could never be increased or diminished, because no kind of matter could either be created or annihilated. With these views of heat how could its work-producing powers be explained? Carnot says—

“If a body after having experienced a certain number of transformations be brought identically to its primitive physical state, as to density, temperature, and molecular constitution, it must contain the same quantity of heat as that which it initially possessed; or, in other words, the quantities of heat lost by the body under one set of operations are precisely compensated by those which are absorbed in the others. This fact has never been doubted; it has at first been admitted without reflection, and afterwards verified in many cases by calorimetrical experiments. To deny it would be to overturn the whole theory of heat in which it is the fundamental principle.”

I have not seen his work myself, but we have it on the authority of Regnault and Clausius that Carnot really believed the entire quantity of heat came out undiminished. This we know now to be false, and the experiments on which he relied to be incorrect; but supposing it to be true that the whole heat came out undiminished, and that work done depended solely on the passage of heat through the medium from a warmer to a colder body, how then does he account for the motive power? He can find no better mode of explanation than by comparing the sinking down of a mass of caloric to a lower temperature to the similar falling down of a mass of water, and producing motive power in the same way. He uses in fact the term, “une chute de calorique,”

tion solely of the temperatures at which heat is received and emitted by the working substance, which function for each pair of temperatures is the same for all substances in nature.” (From Rankine’s paper on “The Mechanical Action of Heat.” (*Phil. Mag.*, IV, vol. vii, p. 249.)

as a parallel expression of "une chute d'eau." (Clausius I, p. 298.)

Now, it is quite true that, if all bodies in nature had the same temperature, it would be impossible to convert any portion of their heat into mechanical work; and also that the heat of a body, which we are unable to cool further, cannot be changed into another form of force. (Helmholtz.)

It has also been erected into a principle by Clausius (I, p. 134) that "heat can never of itself pass from a colder to a warmer body," and, therefore, a compensating equivalent of force must be expended—not gained—if a body is cooler below the surrounding media. On the other hand, also, though heat by its nature is perpetually striving to pass to colder bodies by conduction and radiation, and although every doing of work by it is accompanied by, and proportionate to, the fall from one temperature to another, nevertheless, as W. Thomson observes, the converse holds good, and it may very well happen, as, in fact, it does happen, that heat may pass from a warmer to a colder body without doing any work (or else work that is perpetually wasted in doing nothing), as is the case in countless instances of simple conduction and radiation. Therefore Carnot's hypothesis affords no explanation of the cause of heat doing work; and the fact that nothing better could be offered by a man of such talent affords an excellent illustration of the obscurity in which the question was enveloped.

From this time for about sixteen years no further advance took place in the theory of the subject, and though the true nature of heat had virtually been discovered by Rumford and Davy long before, it still failed to receive acceptance. Gradually, however, it dawned upon the minds of scientific inquirers that the great desideratum was an exact numerical relation between the imponderable forces. Accordingly, between the years 1839 and 1843, several men of science were working in this direction simultaneously and quite independently of each other. Of these we may here mention Séguin, and Colding, merely for the sake of historical accuracy; for though by speculation and experiment they made an approach towards the true conception of the subject,

yet they cannot be credited with having fully apprehended the law of equivalence of force, or having contributed to its final establishment. The glory of this discovery belongs to Julius Robert Mayer, of Heilbronn, and James Prescott Joule, of Manchester, who arrived at it simultaneously and independently of each other. As it is usually the case, the question of disputed priority has been raised, but, as I think will be shown, without reason, and the German and Anglo-Saxon branches of Teutonic race may rejoice equally in being able to count two such men among their sons; for it may be safely predicted that future generations will look back upon them in the same way that we regard Galileo, for the importance of this discovery entitles them to rank second only to Newton and Copernicus.

Apart from the intrinsic interest of the narrative we shall probably understand the subject best by following the footsteps of the discoverers. We shall commence with Mayer, who had the advantage of a slight priority of publication, and who has an additional claim upon our interest, inasmuch as he belongs to our own profession. It is remarkable that the first intimation of this discovery should have come not from the physicists, with all their apparatus and opportunities, but from one who, like ourselves, was placed in the most unfavorable circumstances for continuous experiment and research.

Before giving an abstract of the original paper enunciating the discovery, it will be well to give a *résumé* of the train of thought which led him to it, as contained in a later publication.

In the preface to his explanatory paper he says, "Why one occupied like myself as a physician in practice should have ventured to put forth my word in this important question is sufficiently stated in the work itself. May competent judges who know the difficulties with which the cultivation of a new field in science is accomplished extend a lenient judgment to my labours! *Ars longa, vita brevis.*" Dated, "Heilbronn, in the month of Christ, 1850." These words at once bespeak our sympathy.

§ 1. In an introductory chapter he now proceeds to

explain wherein the *à priori* method of the ancients, especially Aristotle, failed to discover the true relations of historical phenomena; and also to insist upon the necessity of experiment and exact numerical relation in all scientific research.

He tells the history of the discovery as follows:—In the year 1840 he was surgeon of a ship, carrying a crew of twenty-eight. The voyage to Batavia lasted a hundred days, during which time the crew remained in good health. Whilst at sea the temperature was on the whole cool, and varied within a range of 15° Cent. in the twenty-four hours. But on their arrival at Batavia the average variation was scarcely 5°, and the temperature was high and the air sultry. An acute inflammatory affection of the lungs now broke out among the crew. He bled copiously, and was struck by the fact that the blood from the vein of the arm *had such a bright colour that he feared he had punctured an artery.* This was only observed in newly-arrived Europeans, for after acclimatisation the blood resumed its ordinary dark colour in the veins.

“This phenomenon riveted my full attention. Setting out from Lavoisier’s theory that animal heat is the result of a process of combustion, I regarded the double change of colour, which the blood undergoes in the capillaries of the greater and lesser circulation, as a sign perceptible to the senses, a visible reflection of the oxidation going on in the blood. To maintain an equable temperature in the human body, the extraction of heat within it must stand in a proportional relation to the loss of heat from it, and thus also with the temperature of the surrounding medium; therefore the production of heat, and the oxidative process, and also the *difference of colour* between *arterial and venous blood*, must, on an average, be smaller in the tropical than in the colder zones.” (page 250.)

He also explains further, in another place, that the difference of colour arises from the fact that the blood-corpuscles still continue to take up in the lungs the quantity of oxygen they were accustomed to do in the colder regions, which not being now required for the production of heat is not consumed in the systemic capillaries, and hence the

bright colour of the venous blood.* But this disproportion, as above said, lasts only a short time.

A great portion of the blood being devoted to the production of heat it becomes of importance to know exactly the balance between the consumption of material and the heat obtained. Now, there are two ways in which heat can be developed: 1st, that in which animals produce it directly; and, 2nd, that in which it is produced indirectly through muscular action by way of friction and the like, even at a distance. It, therefore, became of importance to know "whether the directly developed heat alone, or whether the sum of both the directly and indirectly produced heat is to be put to the credit of the oxidative process," p. 251. This question goes to the root of the matter, and must be answered quantitatively.

The physiological combustion theory implies that the amount of heat evolved from any given quantity of matter burned is *invariable* and independent of any accessory circumstances. So no possible influence of the living organism can augment it, or, in fact, make heat out of nothing. The sum of the heat can, therefore, never be greater than that allowed by the chemical action; "hence the total heat developed in the organism whether directly or whether mediately through mechanical motions must correspond quantitatively, or be equal to the oxidative changes. Thence follows also, by the same necessity, *that the heat generated by a living body through mechanical processes must stand in an immutable quantitative relation to the work expended thereon*; and from this, again, it follows that an immutable quantitative relation between heat and work is a postulate of the physiological combustion theory of heat," p. 253. He was thus pushed on to investigate the general question of

* This observation has been singularly neglected by pathologists. Quite recently, however, we have a most important observation by Dr. Richardson on the effect of the weather on the mortality of capital operations in surgery, which seems to have a bearing on the subject. He attributes the surgical fever and death to abnormal increment of heat caused by the impairment of those conditions which produce equalisation of temperature through evaporation or other means, while the production of heat by oxidation still goes on at the former rate. (*Med. Times*, Jan. 29, 1870.)

the relation between heat and work, and was convinced that the mechanical equivalent of heat must soon be discovered, and ere long he himself fell upon a mode of determining it.

“In order to make my discovery secure against eventualities, I put together the essential particulars in a short article, which I sent to Liebig in the spring of 1842, with the request to have it published in the *Annalen der Chemie und Pharmacie*, where, in fact, it was published in vol. xlii, p. 233 (May, 1842), under the title “*Bemerkungen über die Kräfte der unbelebten Natur.*”

As this paper, besides its intrinsic merits, is of historical interest, I give here an abstract of it.

§ 2. He begins with the proposition “Forces are causes, and in respect to them, the axiom *causa æquat effectum* finds full application.” In a chain of causes and effects no link can be wanting, hence the first property of all causes is their indestructibility. If one link, say *c*, has produced an effect equal to itself *e*, it ceases to exist as *c*, and so on through the whole chain. Therefore, all these quantitatively equal links must be regarded as different forms of the same object. “The power of taking on different forms is the second essential property of all causes. Both properties being comprehended, we say causes are (quantitatively) indestructible, and (qualitatively) convertible objects.” But there are two divisions of causes in nature, between which no transference can occur, viz. those possessing impenetrability and weight, *i. e.* material, and those without, *i. e.*, the imponderable forces. “Forces are therefore *indestructible, convertible, imponderable objects.*”

“A cause which brings about the raising of a weight is a force; its effect (the raised weight) is, accordingly, equally a force; or, expressing this relation in a more general form, *separation in space of ponderable objects is a force*; since this force causes the fall of bodies, we call it *falling force*. Falling force and fall, or, more generally still, falling force and motion, are forces which are related to each other as cause and effect—forces which are convertible one into the other—two different forms of one and the same object. For example, a weight resting on the ground is not a force; it is neither the cause of motion, nor of the lifting of another weight; it becomes so, however, in proportion as it is raised above the ground: the cause—the distance between a weight and the earth, and the effect—the quantity of motion produced, bear to each other, as we learn from mechanics, a constant relation. Weight being regarded as the cause of the falling of bodies, gravitating force is spoken of, and so the notions of *property* and of *force* are confounded with

each other; precisely that which is the essential attribute of every force—the *union* of indestructibility with convertibility—is wanting in every property: between a property and a force, between weight and motion, it is therefore impossible to establish the equation required for a rightly conceived causal relation. If weight be called a force, a cause is supposed which produces effects without itself diminishing, and incorrect conceptions of the causal connection of things are thereby fostered. In order that a body may fall, it is no less necessary that it should be lifted up than that it should be heavy, or possess weight; the fall of bodies ought not, therefore, to be ascribed to their gravity alone.”

We see in numberless instances a motion cease without causing another motion or raising a weight, and as a force once existing cannot be annihilated, but must merely be changed into another form, the question is, therefore, what other form can the force of falling bodies or ordinary motion put on? Experiment alone can tell us this, but to try it properly we must choose materials which, while they destroy motion, will themselves undergo the least possible change. If we try the experiment by friction of metallic plates on each other, we find, as movement is arrested, *heat* is developed. Is then the motion the cause of the heat? “In order to attain to certainty respecting this relation, we must sift the question, whether in the numberless cases in which by expenditure of motion heat appears, the motion may not have another effect than the production of heat, and the heat another cause than motion?”

When we regard the enormous quantity of motion that may be brought to a stand by the friction of two metal plates, could any one expect to find in the abraded particles even a trace of the vanished force, and reduce it from them? Nevertheless, the motion could not have been annihilated any more than it could have originated from nothing. In short, without the recognition of the causal relation between heat and motion all explanations fail. No mere change of aggregation, nor of the capacity for heat, will suffice for explanation; nor will the mere change of volume. As is well known, you may melt two pieces of ice by friction *in vacuo*, but will any amount of simple pressure convert ice into water?*

“The author found that by strong agitation the temperature of water could be raised. The water thus heated (12° and 13°

* A negative reply is not absolutely correct, for dead pressure on ice at or near the freezing point will produce melting. But this is no exception to the general laws of force, for pressure on water lowers the freezing point by counteracting the expansion which takes place on freezing. Also water contracts on being heated from 0° to 4° Cent., and it was found by Joule that a pressure of twenty-four atmospheres causes between those temperatures a certain amount of cooling.

Cent.) occupies a greater volume after the agitation than before ; now, whence comes this amount of heat which may be developed by repeated agitation in the same apparatus as often as we please?"* He then goes on adducing other examples, showing by the disappearance of heat and arising of motion the apparently causal relation between them, and among other remarks has this: "The locomotive with its train may be likened to a distilling apparatus; the heat under the boiler is converted into motion, and that again is given back in the axles and wheels as heat.

"We bring to a close our theses—which are necessary consequences of the fundamental principle *causa æquat effectum*, and are in complete harmony with all the phenomena of nature—with a practical conclusion. For the solution of the relations between the force of gravity (fallkraft) and motion, the distance fallen

* The paragraph continues thus:—"The hypothesis of thermic vibrations inclines to the position that heat may be the effect of motion; it does not, however, estimate this causal relation at its full value, but lays the chief weight on inharmonious (unbehagliche) vibrations." He continues the argument that if no other effect can be found for extinguished motion than heat, and no other cause for the heat than motion, we may conclude their causal connection, rather than suppose an effect without cause, and *vice versâ*. He then notices the natural connection between the force of gravity, motion, and heat, and the necessarily proportional relation among them, and then says, "[Nevertheless, as little as it can be deduced from the connection between gravity (fallkraft) and motion, that the essential nature of falling-force is motion, just so little does this conclusion hold for heat.] We might rather draw the opposite conclusion, that to be able to become heat the motion—be it a simple or a vibrating one, like light, radiant heat, &c.—must cease to be motion" (p. 10.) Professor Tait quotes this passage, omitting the part above in brackets, and makes this remark—"Mayer does not accept the conclusions deduced by Davy and Rumford from their experiments and now almost universally followed." It is abundantly evident in the sequel that Mayer does accept the vibratory theory of heat; but that is not the point under discussion here. For it is well known that Davy and Rumford failed themselves; and the whole scientific world have failed with them to see the true nature of the imponderable forces as a whole till the exact numerical relation of heat and motion was pointed out by Mayer and Joule. That is the point here insisted on, and it is to bar any chance of Davy's theory disproving the equivalence that the above remarks tend. In truth Mayer takes the comprehensive view of force from the beginning which is now done under the term energy; and he rather avoids any speculation as to the exact nature of heat, in order to keep the argument clear. The cause of gravity is not known (attraction between the particles of matter being a mere mathematical assumption), but the motion of a falling body comes within the law of equivalence of force. Pray, why did Mr. Tait leave out the first part of the sentence above? Does he believe that the cause of gravity is a vibration? This question is discussed by Mayer at pp. 279—282, and such criticisms as the above are answered by anticipation twenty years ago.

through in a given time, *e. g.* the first second must be determined by experiment; just in the same way must the relation of heat to motion be determined quantitatively. For example, we must find out how high above the ground a certain weight must be raised, that its falling force should be equivalent to the warming of an equal weight of water from 0° to 1° Cent. That such an equation must actually exist in nature may be regarded as the *résumé* of the foregoing. By application of the foregoing principles to the relations of temperature and volume of the gases, we find the sinking of a column of mercury, which compresses a gas, to be equal to the heat developed by the compression, and from this it follows—the relative capacities for heat of atmospheric air at constant volume and constant pressure, being taken as 1 to 1.421—that the falling of a certain weight from a height of about 365 metres, must correspond to the heating of an equal weight of water from 0° to 1° Cent.” He then concludes with a sentence remarking how small, on this computation, is the work done even by the best steam-engines in comparison to the heat of the furnace.*

§ 3. Such is now the celebrated original essay of Mayer. It is very short, occupying barely twelve pages. As might have been expected from the preliminary train of thought we have indicated, it approaches the subject from fundamental philosophical principles. It first distinguishes between the inherent *properties* and the *forces* of matter, defining the latter as indestructible, equivalent, and convertible objective existences, the proof of this being made to hang on the exact numerical relation between heat and movement. Speculation on the nature of heat is avoided, and all stress is laid on the general doctrine of the equivalence and conservation of force in all its forms. From its condensed and apparently fragmentary character, which was partly forced upon him by the difficulty of obtaining space for publication,† its importance was not discerned at the

* A translation of this paper is contained in the *Phil. Mag.*, IV, vol. xxiv, p. 371.

† Mayer speaks with gratitude and respect of Liebig, and gives him the credit of being one of those whose minds were working in the same direction as he, and that he referred the heat produced mechanically by a steam engine solely to the effect of the combustion, and said the latter can never be exceeded by heat produced by the work of the engine. We cannot allow, however, that Liebig clearly apprehended Mayer's doctrine in his *Animal Chemistry* in 1846, and even in Gregory's *Turner's Chemistry*, 1847, to which Liebig's name is attached, the

time. This was, perhaps, fortunate for his own fame, as it gave him the opportunity of working out the subject alone, and showing, by his subsequent essays, that he had apprehended the full scope of this grand doctrine from the beginning. Had he given the full calculation the result might have been different. He has done this in his later publications, and I think we cannot do better than follow him in studying this one point exhaustively.

§ 4. There were two practicable modes of solving this problem,—1st, To find the quantity of heat consumed, *i. e.* put out of existence, when work is done by a medium, such as a gas expanding; and 2nd, the quantity of heat generated by the expenditure of work in friction. To apply the first method to such a complicated machine as the steam engine involved insuperable difficulties, so he turned at once to the more definitely known ratio between temperature and the expansion of gases. It has long been known that if a certain quantity of air be heated at constant volume, *i. e.*, in a vessel strong enough to prevent its expansion, or, in other words, under a sufficiently *increased pressure* from without, it will require a certain quantity of heat to raise its temperature to a given degree. But if the same quantity of

remarks on heat of chemical combinations (p. 185) show that the doctrine had found no entrance into his mind. We are told by Helmholtz that Mayer was at first repulsed by the physicists, and could with difficulty obtain room for his first condensed paper. Afterwards his subsequent works were published in the form of separate essays, and overlooked for long amid the flood of books constantly poured forth. In consequence of his treatment and the pressure of his mental labour, soon after 1851 "his overtasked brain gave way, and a cloud settled over the intellect which had accomplished so much," as is expressed by Tyndall. For a while he was secluded from the world, but happily his health was again restored, and he has come forward to take his proper rank in the scientific world. Though he does probably owe the acceptance of his first paper to Liebig, still we see by subsequent events how grudgingly it was accorded, and most likely a longer paper would have been rejected. We can fancy the supercilious tone of the physicists and chemists towards him at first. "What could a country doctor have to tell us about such matters?" The tables are now turned, and the country doctor's name will go down to posterity through all time, while the editors of the leading journals of the day, if their names survive at all, will be to him as hewers of wood and drawers of water.

air be heated in a yielding bag or under a movable piston, so that it is allowed to expand against the pressure of the atmosphere, *i. e.*, at *constant pressure*, it will require a known greater amount of heat.

§ 5. The ratio between the heat at constant volume to that at constant pressure was given by Dulong and Petit, as 1 to 1.421. That is to say, if it requires 10 grains of fuel to raise the temperature 1°, in the former case it would take 14.21 in the latter. What is the cause of this remarkable phenomenon? It was formerly almost universally attributed to the increased capacity for heat possessed by the more rarified air. By Mayer, on the other hand, the surplus heat was held to represent that consumed in doing the work of raising the piston, or of expanding the bag against the weight of the atmosphere. The actual calculation, which was published in the '*Organische Bewegung*,' p. 29, may now be given.

§ 6. "The cubic centimetre of air at 0° Cent. and barometer 0.76, weighs 0.0013 grains; at constant pressure heated 1° C., it expands $\frac{1}{273}$ th of its volume, and thus raises a column of Mercury of one square centimetre surface and 76 centimetres high by the degree of $\frac{1}{273}$ th of a centimetre. The weight of this column amounts to 1033 grains. The specific heat of air at constant pressure is, according to Delaroché, and Berard, = 0.267 water, being = 1—; the amount of heat which our cubic centimetre of air takes up in order to be raised from 0° to 1° at constant pressure is thus equal to the heat by which 0.0013×0.267 or 0.000347 of a gramme of water may be raised 1°. According to Dulong the amount of heat which the air takes up at constant volume is to that at constant pressure as 1 to 1.421; hence the amount of heat which our cubic centimetre of air at constant volume takes to raise it 1° is $\frac{0.000347}{1.421} = 0.000244$ degrees. Therefore the difference between the two, *i. e.* $0.000347 - 0.000244 = 0.000103$, is the degree of heat by the consumption of which the weight, 1033 grammes, was raised $\frac{1}{273}$ th of a centimetre. By re-

duction of these figures we find that 1 gramme of water heated 1° Cent., or

One unit of heat = 1 gramme raised $\left\{ \begin{array}{l} 367 \text{ metres.} \\ 1130 \text{ Paris feet.} \end{array} \right.$ ”
(page 30.)

This, again, reduced to English feet pounds, and Fahrenheit's scale, gives 668·6 as the equivalent of heat. Now, the average of Joule's first thirteen experiments, in 1843, gives 838, and the individual figures vary from 587 to 1040. Consequently, Mayer's original one was almost as near the true number as Joule's. But this does not give a correct idea of the completeness of Mayer's method, for the data on which he calculated, though furnished by the highest authorities at the time, have been corrected. No one can possibly revise all the data he must use; there must be division of labour in the vast fields of natural science, so we can only judge the method by re-calculating by the more recent data. I give, therefore, the formula of Clausius, who repeated Mayer's estimate on a slightly different plan in 1850, and got the figures 370. But in 1864 he adds a note requiring the following alterations. The co-efficient* of expansion of gases is made $\frac{1}{273}$. The specific heat after Regnault is 0·2375: the ratio of specific heat at constant volume to constant pressure is 1 to 1·41.† I give here the formula re-calculated according to these changes.

§ 7. The pressure of the atmosphere (·760' m.) on a square metre amounts to 10333 kilogrammes; the volume of 1 kilogramme of atmospheric air under the above pressure, and at 0° Cent. is equal to 0·7733 cubic metre. Hence

* The coefficient of expansion of gases means the number by which is expressed the amount of expansion from one degree of heat. This has been found to be equal at all temperatures and for all the permanent gases—a law which is usually attributed to Gay Lussac, though Professor Tait recently says erroneously, and its discovery is really due to Charles. The amount was stated by Gay Lussac and Dalton as $\frac{1}{267}$; then by Rudberg at $\frac{1}{272}$, the amount adopted by Mayer; lastly, Magnus and Regnault make it $\frac{1}{273}$, the number now generally adopted, *i. e.* all gases expand $\frac{1}{273}$ of their volume at 0° Cent. for each degree Cent. of heat.

† Clausius, I, p. 76.

$$\frac{10333 \times .7733}{273} = 29.27.$$

The specific heat of air is now taken at 0.2375, and the ratio at constant volume to that at constant pressure as 1 to 1.41. Therefore,

$$\frac{1.41 \times 29.27}{.41 \times 0.2375} = 423.8 \text{ kilogrammetres.}$$

$$\text{In Fahr. and ft. lbs. } \frac{5 \times 423.8 \times 3.28}{9} = 772.24 \text{ ft. lbs.}$$

The same calculation made by Tyndall with air in Fahr. and English foot pounds is	771.4 ft. lbs.
The same repeated by Orme with hydrogen, gave 423.653 kilogrammetres, or	771.98 ft. lbs.
Joule's final result of six years of experiments by the direct method of fluid friction is.....	772 ft. lbs.

The coincidence of all these numbers not only removes every shadow of doubt as to the relation of work and heat, but also shows the perfection of Mayer's original method.

The mere statement of these results conveys, to all but physicists, a very inadequate impression of the difficulties and importance of the subject. It is, therefore, desirable to follow it out in detail, and as I am writing for the busy practitioner I may call to mind the opinions respecting specific and latent heat which were then current.

§ 8. It is well known that the thermometric temperature of a body affords us indication of the actual quantity of heat which such a body contains; or, rather, which must be communicated to that body in order to raise its temperature to any given amount, and which it gives out on cooling. All bodies differ in this respect; mercury, for example, requires above thirty times less heat to raise its temperature than water, and as they are all compared with water, as 1, this relation of any body is called its *specific heat*, or its capacity for heat, which latter term was consistent with the material theory of heat. What interests us here is the fact

that the same bodies are susceptible of alterations of specific heat under certain circumstances, and it was by means of these alterations that the phenomena under consideration were attempted to be explained.

“A soft iron nail may be made red hot by a few dexterous blows on an anvil, but the experiment cannot be repeated until the metal has been *annealed*, and in that manner restored to its former physical state.” (Fownes, p. 61.)

“The specific heat of a piece of soft copper was found to be from 0.09501 to 0.09455; the same copper after hammering had a specific heat of from 0.0936 to 0.0933; on being again thoroughly annealed, so as to recover its former density, its specific heat was from 0.09493 to 0.09479, or almost the same as at first. (Miller, i, p. 303.)

Such facts were thought by Black to be confirmatory of the material theory of heat; and it certainly does seem as if the hammering had forced out the heat from the iron like water from a sponge, and that a fresh supply was taken up when it was put in the fire. Thus the production of heat and cold by friction, compression, and expansion might be held to be explicable by the alterations of specific heat. But the unlimited production of heat by Rumford from the friction of metals overthrew this with respect to solid bodies as a general principle, and the above phenomena must be ascribed to some merely partial molecular disarrangement. In spite of Rumford's discoveries the material theory, as we know, still held its sway, and continued to be applied in explanation of the relation of heat to the expansion and compression of gases. For example, if compressed air be allowed to expand suddenly, a perceptible stream of cold is produced; and liquefied *Carbonic acid* so treated produces cold so intense that portions of the acid are frozen into flakes like snow. Likewise the first strokes of the air-pump produce a cloud in the receiver from the chilling of the expanding air. On the other hand, sudden compression of air is attended with the development of heat, as in the “match syringe” already alluded to. The alterations of specific heat were still supposed to be the cause of these phenomena. It was thought that the rarefied air required combination with a greater quantity of heat for the greater

repulsion of its particles, and *vice versa* with respect to compressed air. The so-called "latent heat" of fluidity and vaporization was explained on much the same principles. In proof of the above we may quote a very remarkable statement of Faraday given by Tyndall.

§ 9. "I have recently found a case mentioned by Faraday, *Researches in Chemistry and Physics*, p. 221, where the effect referred to in the text was, in substance, observed. Faraday's explanation of the effect is a most instructive instance of the application of the material theory of heat. The observation was made at the Portable Gas Works, in 1827. 'It frequently happens, writes Faraday, 'that gas previously at the pressure of thirty atmospheres, is suddenly allowed to enter these long gas-vessels (cylinders), at which time a curious effect is observed. That end of the cylinder at which the gas enters becomes very much cooled, whilst, on the contrary, the other end acquires a considerable rise of temperature. *The effect is produced by change of capacity in the gas*; for as it enters the vessel, from the parts in which it was previously confined, at a pressure of thirty atmospheres, it suddenly expands, has its capacity for heat increased, it falls in temperature, and consequently cools that part of the vessel with which it first comes in contact. But the part which has thus taken heat from the vessel being thrust forward to the further extremity of the cylinder by the successive portions which enter is there compressed by them, *has its capacity diminished*, and now gives out that heat, or a part of it, which it had a moment before absorbed.' I have italicised the phrases which express the old notion. The difference in capacity here assumed is now known to have no existence."

§ 10. This, be it remembered, was in 1827, and is not to be wondered at, seeing that it was the current belief of the day in spite of Rumford and Davy. But it is truly astonishing to find the very same doctrine taught in the three chief educational manuals of our students published within the last year or two. We have already mentioned Arnott's explanation of the match syringe; and in the tenth edition of Fownes's *Chemistry*, edited by B. Jones and Watts, we find—

"It has been already said that when a gas expands, heat becomes latent. If a gas on expanding be not supplied with the requisite heat, its temperature falls on account of its own free heat becoming latent. On the other hand, if a gas be compressed, this latent heat becomes free, and causes an eleva-

tion of temperature, which, under favorable circumstances, may be raised to ignition. Syringes by which tinder is kindled are constructed on this principle." (Fownes, p. 58.)

Again, in Brooke's edition of *Golding Bird*, 1867, we find, "if four or five atmospheres of moist air be condensed into a strong vessel, and allowed to cool down to 50° or 60°, on allowing a small escaping current to impinge on a bad conductor, a small particle of ice will be deposited; this arises from the increased capacity of the expanding air for heat, whereby it is able to deprive the accompanying vapour of its heat."

In the very opposite page Mr. Brooke gives Regnault's law, that the specific heat of gases does not vary with their temperature or pressure. I can only explain these discrepancies on the ground that, as these are all new editions of old works, the former phraseology has been inadvertently retained. We can easily conceive how bewildering such discrepancies must be to a student of the present day.

§ 11. The subject itself is, in fact, very intricate, as in almost all examples of the kind we are familiar with, the true cause of cold by expansion and heat by compression is present as well as the apparent one; and we can with difficulty divest our minds of the idea that the rarefaction of air, *per se*, is a cause of cold, and *vice versa*. Accordingly, this is the current notion. Likewise the use of the old terms, "latent heat" and "capacity for heat," tends to throw confusion into all treatment of the subject. These difficulties will be explained by the dynamic theory of heat further on; but, in the mean time, we can easily perceive how they must have pressed upon Mayer, in 1841, when, in fact, the above views represented the opinion of the whole scientific world, and we may appreciate the magnitude of the discovery achieved by the young surgeon, just returned from a tropical voyage and in the first year of his settlement in practice. How did he divine the truth in opposition to the voice of the great authorities of the day? Hear him.

§ 12. "When heat is applied to a gas under constant pressure, the free heat of the gas is increased, and at the same time a calculable quantity of heat becomes *latent*, thereby the gas expands, and by this means a quantity of *vis viva* is generated proportional to the pressure and the space passed through. Now, as soon as we can find out how much of the heat becomes

latent is to be put to the credit of the expansion of the gas, then we know also the remainder of the latent heat which corresponds to the evolved *vis viva*. Now it was demonstrated by Gay Lussac by experiment, that the specific heat of a gas which streams out of a receiver into a vacuum undergoes no perceptible change. Hence it follows that a gaseous body opposes no perceptible resistance to the separation of its particles, and that by the rarefaction of a gas *per se*, *i. e.* when no evolution of force takes place, no heat becomes latent. Therefore *the whole* of the heat which becomes latent during the expansion of a gas, is the equivalent for the *vis viva* generated. It follows from the principle of the indestructibility of heat, which nobody has ever doubted, that the amount of heat thus become latent must again become free, if by means of the now acquired *vis viva* of motion heat be generated in any manner. Motion is latent heat, and heat is latent motion. A special application of this general principle is the well-known law of Dulong; that the amount of heat which is obtained by the compression of the gases is dependent on the force expended alone, and not upon the chemical nature, nor the temperature, nor the tension of these gases." (page 283.)

§ 13. We thus see that the clue of Ariadne, which guided him through the labyrinth, was the fact of the expansion of gases *in vacuo* without loss of heat. At once, to his mind, this explained the whole mystery; the increase of the *capacity for heat* was evidently a mere figment of the imagination, as here was rarefaction without cold; but, also, *no work* was done in the expansion. Was not, therefore, the work done in expanding a gas under constant pressure the cause of the cold, and not the mere rarefaction? Yet there was nothing new in this experiment of Gay Lussac's: it was known to the scientific world for years. The fact was observed in practice a hundred times a day in the portable gas works, where it was seen, and described, and misinterpreted by Faraday himself. Why, then, did it not give the key to the true theory of force before the time of Mayer? Why, indeed! This is the question asked of all great discoveries. It is true the claim of Mayer to the discovery of the law of conservation of energy has been disputed on the very ground that he did not perform any new experiment* at the outset. But with no reason; for

* Tait at p. 19 speaks of Colding having been led to the idea of conservation of energy by metaphysical reasoning, but that he appealed to experiment, and

were not the experiments already done to his hand by the greatest chemists of the day? The discovery lay in the interpretation of them; and that the merit of this truly

although his results are not to be compared with Joule's, "still Colding evidently went to work in the right way, and deserves an amount of credit to which Séguin and Mayer have no claims." Thus, though he will not name him with Joule, yet he is far above Mayer, owing to *experiments*. Nothing like leather, we see! and we also see how, on occasion, a professor of the so-called exact sciences can be as narrow-minded and prejudiced as his neighbours. As to the mere fact of making experiments, we can see what a really great authority on the subject says in this extract from Helmholtz's letter to Tait himself:—

"The progress of natural science depends upon the constant formation of new inductions from known facts, and the comparison of these inductions, so far as they lead to new consequences, with reality by means of experiment. There can be no doubt of the necessity of this second step; it often requires an extensive application, both of labour and talent, and it brings the greatest credit to him who executes it well. But the glory of the discovery belongs to him who hits upon the new idea; the subsequent experimental verification is often a mere mechanical procedure. And we must not unconditionally require that the discoverer of the idea should necessarily be bound to carry out the second part of the work, for we should thus have to reject the greater part of the work of mathematical physicists. Even W. Thomson published a series of theoretical investigations about Carnot's law and its consequences before he had made a single experiment connected with it, and it would not occur to any of us to value these investigations lightly in consequence."

The subject of Colding's claim possesses an interest in itself, so I may give here the following outline of his views from his own paper in the *Phil. Mag.*, IV, vol. xxvii, p. 56. He sets out with this idea of the relationship of the forces of nature:—"As the forces of nature are spiritual and immaterial entities, whereof we are cognisant only by their mastery over nature, these entities must, of course, be very superior to everything material in the world; and as it is obvious that it is through them only that the wisdom we perceive and admire in nature expresses itself, these powers must evidently be in relationship to the spiritual, immaterial, and intellectual power itself that guides nature in its progress; but, if such is the case, it is consequently quite impossible to conceive of these forces as anything naturally mortal or perishable. Surely, therefore, the forces ought to be regarded as absolutely imperishable." Starting from these principles he performed a number of experiments to be alluded to presently. In 1843 he published his theory and results under the title of *Theses Concerning Force*, wherein he calls attention to the instances already known of heat being disengaged by friction and compression, and points out that these all imply a relation between mechanical energy expended and heat developed, but whether they were in exact proportion had not been ascertained. To determine that he constructed an apparatus and performed a number of experiments amounting to 200. The results he thought

belongs to Mayer must be plain to all who have followed his previous train of thought. It was, in fact, because his mind was prepared, and he was looking for the answer that he found it in the above experiments; for ever since he observed the redness of the venous blood in Batavia he had been pondering over the subject, and with a confidence in deductive reasoning from fundamental principles amounting to true genius, he broke through all the obstacles raised by were sufficiently accurate to show the principle was right, and he closed the discussion with the argument that, otherwise, the *perpetuum mobile* would be possible. Afterwards he continued his experiments with improved apparatus till 1847, when he published them. In 1856 he wrote an article on the general relationship between the intellectual powers and the forces of nature. This contains cosmical and physical speculations based on the doctrines of the indestructibility of force; it traces the gradual preparation of the earth for the abode of man by the progression of geological, phytological, and zoological changes. Then he supposes a similar progression of the physical forces, and concludes—"not only was it necessary for the ground to be thus prepared and cultivated before human beings could live on the earth, but also that it was in like manner necessary that the forces themselves should be prepared and cultivated before they could take on the forces of intellectual life. But, if so, I think it must be satisfactory to us to see that, according to the principles of the perpetuity of energy, we arrive at the conclusion that the intelligent life of man must be intelligent life for ever."

It is plain such unphysical and even mystical speculations cannot be brought into competition with the reasoning of Mayer, who had also the priority; and as regards the discovery of the M. E. H., Mayer's claims do not rest on personal experiment, but, as we know, on the method of the two specific heats. But when we look into Colding's experiments we perceive his claim runs Joule very close, for we find, as he was an engineer, he constructed an apparatus by which he was enabled to measure the quantity of mechanical power lost, and the quantity of heat disengaged by friction, between brass on the one hand, and brass, zinc, lead, iron, wood, and woollen cloth on the other under different pressures and with different velocities. The result was, that the heat disengaged was always in proportion to the mechanical energy lost; "and if we look more nearly at the figures given in my treatise, which I only presented as a preliminary one, it will be seen that, independently of the materials by which the friction and the heat arose, an amount of mechanical work equal to 359 kilogrammeters should be able to raise the temperature of 1 kilogramme of water 1° Cent., which is very near the proportion (365) that Mayer in 1842 supposed, but did not prove to be right." We cannot wonder that Helmholtz and Verdet give priority to Colding as an experimentalist, for these were published a few months prior to Joule's paper (though unknown to him). But the credit of the actual and final establishment of the discovery by experiment is universally given to Joule.

pre-existing opinions, and discovered in the above well-known facts the true relation between heat and work.

This train of reasoning has already been given in § 2, and may be said to culminate in the axiom, *Causa æquat effectum*.* If in mathematics and metaphysics this may be

* On this, Tait, who has taken upon himself the office of Devil's advocate against Mayer, has the following:—

“But when we find, in modern times, conclusions, however ably drawn without experiment from such a text as ‘*Causa æquat effectum*,’ we feel that the writer and his supporters are, as regards method, little in advance of the science of the darker ages. This is one of the fundamental characteristics of all the writings of Mayer, and therefore we may for the present leave them unnoticed, though we shall afterwards have occasion to consider them as furnishing a most admirable development of the consequences of an unwarranted assumption. For, while there can be no doubt that the works of Mayer contain highly original and profound deductions from his premises, deductions of a most important character as regards the system of the universe, it is certain that those premises were unjustified by experiment, and therefore that his method was not merely unphilosophic, but even inconsistent with true science.” (p. 47.)

* * * * *

“Mayer, therefore, and others who have followed a course similar to his, cannot be considered as having any claims to the credit of securely *founding* the science of energy; though their works have become of great value as developments and applications, since the science has been based upon correct reasoning, and rigorous experiments.” (p. 48.)

Fully to appreciate the intention of these remarks, the reader ought to know that they come at the end of a dissertation on the errors and absurdities of the methods of the ancient philosophers and of modern metaphysicians such as Hegel, who attempts to solve the problems of physical science by mere speculation. In particular “the extravagant dicta and preposterous nonsense” that were imagined, and gravely taught respecting light, &c., are held up to ridicule. Even the philosophers who spoke of nature abhorring a vacuum, and who searched for the perpetual motion, are extolled in comparison; because they performed experiments, futile and ridiculous though they were. It is among the former class that Mayer is placed in the above quotations, and if the advocate's style [see note to § 37] of writing history is allowable, this method is not devoid of cleverness. Probably few of his readers are acquainted with the writings of Mayer; and there still prevails a good deal of ignorant prejudice, (though happily fast melting away), against the Germans as mystics and muddle-headed dreamers. Having begun the study of this subject with perfect impartiality, and fresh from the perusal of Mayer's works, I was greatly astonished at reading these passages, and my eyes were opened to the evil of writing scientific history in the spirit of a partizan; an evil which cannot fail, to recoil upon the writer himself in the loss of confidence it engenders

regarded as a mere truism, yet when applied to the physical forces, and conjoined with the axiom that every such cause (*i. e.* force) is expended or put out of existence in the exact

Incorrect is no word to apply to these statements. To say they are unlike the reality is to say little. The fact is they are entirely the opposite of the truth; Mayer, throughout his works, exhibits the qualities of the modern physical philosopher, *viz.*, the avoidance of all speculation as to the ultimate nature of things, and the constant appeal to fact, experiment, and exact measurement. He shows the rock of *à priori* speculation on which the ancients split, and more particularly alludes to Aristotle, who, in attempting to explain the lever, took refuge in the assertion that the circle was such a wonderful thing, that it was easy to understand how movement in a circle should produce wonderful effects! But that if instead of wasting his extraordinary talents in meditating on the fixed point and advancing line as he calls the circle, he had simply taken the trouble to ascertain the numerical relation between the length of the lever and the force exerted, he would have laid the foundation of an important department of human knowledge. (p. 240.)

In this way he goes through the chief departments of science, and shows that it was by exact measurement and numbers that all real progress was ever made, and not by hypothesis on remote causes of the nature of things. And he instances the exceptional perfection which astronomy attained in early ages, as being the result of observations and measurements of time which are essential to the existence of that science.

It is true that at certain stages of the discovery in science we are obliged to fall back on general principles, as Professor Tait in his next paragraph admits, while he says that any hypothesis can only be used as suggestive of further experiments. This is precisely what Mayer does, as has already been expressed by Helmholtz [see note § 13]. The caution of Mayer as a physical philosopher is illustrated by the following remarks, at p. 24:

“If the conversion of heat into work be here laid down, it is meant as the mere statement of a fact, and the transformation itself is by no means explained. A given quantity of ice may be converted into a corresponding quantity of water; the fact stands firm and quite independent of all fruitless questions about the how and why, and of empty speculations on the ultimate cause of the states of aggregation. True science is content with positive knowledge, and willingly leaves to poets and natural philosophers the solution of eternal riddles by help of the imagination.”

Indeed, his extreme caution has been blamed, for he hesitates to admit the ordinary physical assumptions which are prevalent as to the nature of matter and force. Tyndall writes—

“On one point Mayer allowed his caution to cripple his philosophy. He evidently feared to have anything to do with *atoms* or their motions, and hence could hardly be said to have realised the complete physical conception of the dynamical theory of heat. Probably, however, many share his caution and adhere to the external facts without seeking to penetrate the molecular actions which underlie them.” (*Phil. Mag.*, May, 1863.)

ratio of the effect it produces or the work done; in other words, is transformed into it; then it becomes a most fruit-bearing principle. By means of it Mayer concluded that in the case in point, where work was done by expansion under constant pressure, an equivalent amount of the cause of that work in heat must be consumed; not remaining combined with the expanded gas, to be given out undiminished in the condenser, as Carnot and the rest supposed. This was confirmed by the counter experiment of expansion *in vacuo*, where no work being done no heat is consumed. Here the work was already done when the air was pumped out beforehand, and you no more require the same work to be done twice than you can get the same work twice over out of any power such as waterfall, fuel, or gunpowder. Mayer's conclusions have been confirmed to the very letter by subsequent experiments of others, and the general progress of physical science.

§ 14. In 1844 the now illustrious physicist, Joule, who independently was working in the same direction either simultaneously with, or very shortly after Mayer, repeated the experiments in question, described by himself in the following words: (*Phil. Mag.*, 1857.)

"It had long been known that air when forcibly compressed evolves heat; and that, on the contrary, where air is dilated heat is absorbed. In order to account for these facts, it was assumed that a given weight of air has a smaller capacity for heat when compressed into a small compass than when occupying a larger space. A few experiments served to show the incorrectness of this hypothesis; thus I found that by forcing 2956 cubic inches of air, at the ordinary atmospheric pressure, into the space of 136½ cubic inches, 13°·63, of heat* per pound of water were produced; whereas by the reverse process of allowing the compressed air to expand from a stop-cock into the atmosphere, only† 4°·09 were absorbed instead of 13°·63, which is the quantity of heat which ought to have been absorbed according to the generally received hypothesis?"‡

* This amount of heat was gained by a mass of 45 lbs. 3 ozs. of water, 20½ lbs. of brass, and 6 lbs. of iron, composing the apparatus.

† The cold of expansion was produced by the rushing out of 2723 cub. in. of air from the space of 136½ cub. in., which at the same time produced mechanical power enough to raise 3352 lbs. one foot high.

‡ In his original account of this experiment (*Phil. Mag.*, III, vol. xxvi, p.

Again, (Tait, p. 22),

“Joule, repeating in a greatly improved form an old experiment of Gay-Lussac, compressed air to twenty atmospheres or so in a strong vessel, which was afterwards screwed to another previously exhausted. A very perfect stop-cock prevented all passage of air from one to the other until it was desired. The whole was placed in a vessel of water, which was stirred to bring it to a uniform temperature. On opening the stop-cock, the air rushed from the first vessel to the second, so that in a short time the pressure was the same in both. On measuring the temperature of the surrounding water again, *no change was perceptible*, at least after the proper corrections, determined by separate experiments, had been made for the amount of heat produced by the stirring, &c., during the operation.”

Thus, these crucial experiments were repeated with the accuracy necessary for exact results; and we perceive there was no loss of heat when no work was done.

As a further test, Joule also observed that when “the second reservoir was full of water, the air in entering was obliged to expel it, and thus perform work, and the temperature sank owing to an absorption of heat.” *Ganot*, p. 394.

§ 15. It is desirable now to explain the difficulties which will still be felt by many respecting those phenomena which were formerly attributed to alterations of specific heat. To do so we must anticipate somewhat in detail the theoretical explanation of the nature of heat as a mode of motion, following chiefly Clausius and Tyndall.

According to the dynamic theory of heat, which is now universally adopted, it is supposed to consist in a peculiar oscillatory or vibratory motion of the particles of matter. This motion may be communicated directly from one set of particles to another, or from one body to another, which is called conduction; or it may be transferred by undulations in the ether, or medium, which pervades not only the whole

381) Joule says, “It is quite evident that the reason why the cold in the experiments of table iv [the expansion experiments] was so much inferior in quantity to the heat evolved in those of table i [compression experiments] is that all the force of the air, over and above that employed in lifting the atmosphere, was applied in overcoming the resistance of the stopcock and was then converted back into its equivalent of heat.”

interstellar space, but the interstices of ordinary matter; this is called radiation.

§ 16. It was noticed in the experiments of expansion of air *in vacuo* at § 9 that although on an average no work was done and no heat absorbed, yet in different parts of Faraday's, of Gay Lussac and Joule's cylinders, one portion became chilled, while the other became heated in exactly the same proportion. In this case the particles of air enter the empty cylinder with a certain velocity to generate which a certain quantity of the oscillatory motion, *i. e.* heat, is sacrificed and transformed into the motion of translation, thus causing a certain degree of cooling. But the particles thus rushing forward produce, by their friction on each other, and their impact on the walls of the vessel, an amount of heat exactly equal to the motion of translation which is again annihilated.* Thus we have a certain small amount of work done and heat consumed, which is immediately compensated by the transformation of that work into heat again by friction. This is at once an illustration and explanation of the mode in which heat can be changed into work, and *vice versa*. It is also plain that the now-doubled bulk of the gas with the same temperature is incompatible with the notion of the increased capacity for heat of rarefied air.

The evolution of heat in the match syringe is also to be referred to the friction of the particles of air upon each other and the sides of the vessel, and being dependent on the force used by the arm of the operator is an instance of the transformation of work into heat. And with an apparatus properly arranged an unlimited quantity of heat may be produced by friction on the same portion of air, which is incompatible with the altered specific heat theory. A difficulty has been raised by the appearance of the cloud in the air-pump at the first few strokes owing to the chilling of the air, as here, apparently, cold is produced while no work is done. But the whole of the work is not done by

* This production of heat by the rushing of air into a vacuum has been incidentally proved and measured by Tyndall in his experiments on what he calls "the dynamic radiation of gases" at p. 343.

the arm of the operator, for the gas itself has to do some in raising the valve and pressing out the particles which escape, and which is uncompensated by subsequent impact or friction. Again, the progressive diminution of heat experienced as we ascend from the surface of the earth has been attributed to the mere rarefaction of the air. But this is not the case; for as far as expansion goes, it is performed under the condition of doing the work of lifting the whole superincumbent column of air. There are other causes, likewise, at work, such as the heat communicated from the earth to the lower strata of the atmosphere, and the greater resistance opposed by these strata to radiation from the earth, while the upper strata are much more diathermanous, and allow of a more rapid cooling of the surface.

§ 17. The expansion of liquefied *Carbonic acid* was noticed at § 8 as a cause of the production of cold, and to a certain extent placed in the same category with the foregoing. But here a different class of phenomena comes under consideration, viz. those referring to the "latent heat" of fluidity and vaporization of solids and liquids, and to their specific heat as contrasted with that of the permanent gases. In the case of solids and liquids a very large quantity of the heat added is neither sensible to the thermometer, nor does it perform any apparent work. In the liquefaction of ice, for example, as much heat is imparted as would raise 79·4 times that weight of water one degree; while to convert a pound of water at 100° C. into a pound of steam, at the same temperature, 537·2 times as much heat is required as would raise a pound of water one degree in temperature. Likewise, when in its liquid state, water requires an immense amount of heat relatively to other bodies in order to raise its temperature, whilst it manifests very little physical change.

By the dynamic theory of heat it is held that in these instances the heat is consumed or put out of existence in doing what is called "interior work" (Clausius, i, p. 23), which consists partly in overcoming the presumed attraction of cohesion, and partly in altering the state of aggregation of the particles, and forcing them into new positions. The

nature of these changes and the forces engaged in what is called "interior" work are as yet unknown. And though in many cases an external resistance to these changes is at the same time encountered, as, for instance, to expansion, thus accounting for a certain portion of heat; in others no change whatever is apparent. For example, in the "heating of water from $3\frac{1}{2}^{\circ}$ to $4\frac{1}{2}^{\circ}$ C.—that is, one degree—its volume at both temperatures is the same; there has been no forcing asunder whatever of the atomic centres, and still, though the volume is unchanged, an amount of heat has been imparted to the water sufficient if mechanically applied to raise a weight of 1390 lbs. a foot high."

In all these instances the equivalence of heat to work obtains, and when the temperature sinks, the forces, whose counteraction constituted interior work, again come into play, and their potential energy is reconverted into heat. As expressed by Tyndall, "as regards steam, the heat is consumed in pulling the liquid molecules asunder, conferring upon them a still greater amount of potential energy, When the heat is withdrawn, the vapour condenses, the molecules again clash with a dynamic energy equal to that which was employed to separate them, and the precise quantity of heat then consumed reappears" (p. 144).

Therefore, as a rule, all the heat, communicated to solid and liquid bodies, which is consumed in interior work, is given up again on cooling by a spontaneous and self-acting process. In solid and liquid bodies there are thus three things that heat may effect, 1st, those changes in the aggregation and position of the molecules which is called interior work; 2nd, the overcoming of external resistances to those molecular changes, viz. exterior work; 3rd, the increase of those vibratory motions of the molecules which constitute thermometric or sensible heat.

From the foregoing it appears that in the same category may be arranged the so-called "latent heat" of liquefaction and vaporisation, and also a great part of what is usually called "specific heat," and that, in fact, all the real heat a body contains is the thermometric. Therefore

we may consider the *true* specific heat, or capacity for heat, of a body to be that quantity which is required to raise its temperature, independent of what is consumed for interior or exterior work. Accordingly it is maintained by Clausius (p. 267) that although, for example, the specific heat of water is double that of ice, and more than double that of steam, nevertheless, the true capacity for heat of hydric oxide in its three states of ice, water, and steam, is the same, and that this rule holds good with all other substances. Therefore, to determine the true capacity for heat of any substance it must be tried in the form of super-heated vapour, *i. e.*, in the state of a perfect gas, in order to avoid the complication of interior work, and at constant volume to avoid that of exterior work. In confirmation of this position I may adduce the observations of Tyndall, who says, "Liquid water and the solid ice are pervious and impervious to the same rays of heat, a result which indicates that the quality of the absorption is not influenced, in this case, by the difference of aggregation" (p. 290).

He extends the same statement to aqueous vapour (p. 405), and after his splendid series of experiments on the absorption of heat by various liquids and vapours, he establishes the law that the absorption and radiation of heat is *molecular* for each substance, and is the same for that substance in the three states of aggregation, *viz.* solid, liquid, or gaseous (p. 390).

§ 18. It is now abundantly obvious that in the case of solids and liquids, the amount of work done by the heat communicated could not be gauged with sufficient uniformity by the exterior work to render them fit agents for discovery of the mechanical equivalent of heat. The same applies to vapours near their point of condensation, for they have then a certain amount of cohesive attraction, the overcoming of which constitutes interior work. There remain now the non-condensable, or as they are also called, permanent or perfect gases. It is upon the proposition that in these no interior work takes place, that Mayer's determination of the mechanical equivalent of heat rests, for in that case the whole difference between the specific heat of

gases at constant volume and at constant pressure, corresponds to exterior work done; and granting that these amounts are accurately ascertained by experiment, his mode of calculating the equivalent of heat is a perfect one.

§ 19. In his first essay of February, 1850, Clausius, after an analysis of the subject, according to all the then known data, concludes that "a permanent gas absorbs, when it expands under constant pressure, only so much heat as is used in the doing of the exterior work thereby performed" (p. 47). This because any interior work required for the expansion of a gas is inappreciably small (*verschwindend klein*). Also he concluded that the quantity of heat contained in a gas was independent of its density. These involve a confirmation of Mayer's proposition, but it does not rest on reasoning and calculation alone, for experiment has finally established the truth of it. Regnault, after a lengthened investigation, found "that for pressures ranging between one and twelve atmospheres the specific heat of *equal weights* of a non-condensable gas, such as air or hydrogen, is uniformly the same, and is independent of the density." (Miller, i, p. 309.)

As regards temperature, we know that in all solid and liquid bodies the specific heat increases with the increment of temperature, and Delaroche and Berard (whose authority prevailed when Mayer wrote) taught that the same was the case with respect to the gases; but again Regnault has determined by experiment that for all temperatures between -30° and $+200^{\circ}$ Cent. the specific heat is constant. (Clausius, i, p. 292.) For example, the same quantity of heat is required to raise the temperature of any gas one degree, whether from 0° to 1° or 90° to 91° or 150° to 151° or any other temperature. The exact determination of the specific heat of gases has been a difficult problem in experimental physics. Again, when Mayer wrote the estimate of Delaroche and Berard for air, viz. $\cdot 267$, was held to be more accurate than the previous ones of Crawford, Lavoisier, and Laplace; but great doubts of its accuracy prevailed. Rankine, in 1850, calculated it from Joule's equivalent of heat, at $\cdot 24$, and in 1852, this was verified by experiment by

Joule. In 1853 Regnault fixed the specific heat of air at constant pressure at $\cdot 2375$, which is now generally adopted. The determination of that at constant volume is a still more difficult and complicated problem, and has generally been arrived at indirectly. The ratio between the two which is now generally accepted is 1.41 to 1. Finally, it may be stated that Mayer's proposition is admitted by Rankine, Joule, and all the leading physicists of the day.*

§ 20. From the above it may be stated that a gas heated at constant volume exhibits one of the few examples where the true specific heat corresponds to the total heat communicated, and the latter is all employed in raising the temperature, while none is consumed in interior work. On the other hand, when the gas is allowed to expand at constant pressure, the additional heat required is all consumed in exterior work.

This relation of the two specific heats of gases is, therefore, one of the most perfect means of demonstrating and measuring the conversion of heat into work. Hence, we are constrained to admire the marvellous sagacity of Mayer which prompted him to choose this method in the face of all the difficulties then surrounding the subject. We are, therefore, the more astonished that these difficulties have been made the ground of denying to Mayer the merit of the discovery at all. It is said the actual number obtained by Mayer was incorrect;† and, besides, that it was a mere

* Also the following are among the experimental conclusions of Regnault: "The motive power produced by the expansion of any elastic fluid is always in proportion to the loss of heat undergone by this fluid in the part of the machine where the power is produced." "When elastic fluids of different natures produce an equal amount of power, they must lose equal quantities of heat." (Regnault, *Phil. Mag.*, IV, vol. xvi, p. 269.)

† "Even if he had in 1842 possessed accurate data, and had, therefore, been fortunate enough to obtain an approximate result instead of a very inexact one, his determination could never have been called more than a happy guess founded on a total neglect of correct reasoning." (Tait, p. 18.)

This is another specimen of the injustice of Professor Tait towards Mayer, of whose reasoning the reader can judge for himself, and whose deductions have been confirmed by experiment to the very letter.

We observe throughout his work that Professor Tait continually couples the names of Séguin and Mayer together as if their claims were equal, evidently

assumption that the whole work of compressing a gas was converted into heat, as it might (Tait, p. 34) have been employed in overcoming interior forces, and thus stored up as mechanical power. This last has already been answered

for the express purpose of disparaging Mayer; a proceeding surely unworthy of a successor of Leslie in the chair of natural philosophy. A few words on this subject may prove not unwelcome to the reader. In 1839 Séguin, nephew of the celebrated Montgolfier, from whom he is said to have got his ideas about heat, published a book upon the political economy of railways, which contained some remarks on the theory of the steam engine. Among these are the following:—"I believe I have remarked that there exists a kind of relation between the heat and force produced;" and again, having remarked on the difficulty of the ordinary material theory of heat to account for the work while the quantity of heat is undiminished, he says, "It appeared to me more natural to suppose that a certain quantity of heat disappeared in the production of the power, and reciprocally; and that the two phenomena are bound together by conditions which assign to them invariable relations." Then he goes on to say that the fact of the cooling by expansion of a gas, and the heating by compression, tend to confirm that opinion, and continues, "Je vais donc raisonner dans l'hypothèse que l'abaissement de température de la vapeur lorsqu'elle se dilate, représente exactement la quantité de puissance qui apparaît alors." (J. Bertrand, p. 672.) In another place, according to Tait, he says that, when steam has done work, it should not heat the condenser so much as when none is performed. From these it appears that Séguin is entitled to great credit, as he was probably the first who apprehended the idea theoretically. But he did not discover the M. E. H., nor push the matter to a practical conclusion; and as his book was not on physical science his speculations remained barren of result, and would have lain unknown but for the discovery of Mayer and Joule. In the *Phil. Mag.*, IV, vol. xxiv, Mr. Joule makes the following remarks upon Séguin:—"He (Séguin) gives a table of the quantity of mechanical effect produced, corresponding to the loss of temperature of steam on expanding. From this it appears that 1° Cent. corresponds with 363 kilogrammètres." At the time of the Mayer controversy in 1863-4 (§ 38, note), this statement attracted the attention of Tyndall, who referred to the original work of Séguin, and after quoting the above table, showed that it merely exhibits the expansive power of steam corresponding to a given temperature. Thus in one column of the table headed, "Effet produit en kilogrammes élevés à 1 mètre," the first figure here is 7270 kilogrammes, and under "température correspondente" stand 20°. Now, by dividing 7270 by 20, we certainly get 363, and so on the rest. Thus we would apparently get the mechanical effect due to a single degree. "All this," says Tyndall, "seems very plain; and did no text accompany the table, and had not M. Séguin in that text explicitly defined his own terms, we might be justified in assuming that he meant the number 363 to stand for the M. E. H. in the same sense as Mayer did. It is only necessary, however, to read the foregoing pages to see that Mayer and

by Mayer's reasoning from the expansion *in vacuo*, which is so convincing that it amounts to simple common sense; and lest any ambiguity should remain from some exceptional power of air storing up potential energy in interior work, as was the case with the freshly-heated iron nail that misled Black (§ 8), that was met by adducing the law of Dulong at § 12. And in respect to the erroneous figures,*

Séguin are speaking of two totally different things; that the degrees of the one are not the degrees of the other; that the "temperatures correspondantes" of the latter, which refer to his compressed steam, are not thermal units at all; and that there is no determination whatever of the M. E. H. in the above table. The number 363 has been found *for* Séguin, not *by* him; he never made the division which results in this quotient." In consequence of this explanation Joule, in August, 1864, frankly admits his mistake in the following words:—"After the perusal of this article I freely admit that I erroneously took the degrees in the fifth column of Séguin's table for thermal units in kilogrammes. I regret this oversight, the more particularly as it seems to have misled others who have since written on the subject." Tait, however, returns to the charge, and finds some other data in Séguin from which he (Tait, not Séguin) calculates the M. E. H. and makes it 650. Tyndall, however, states that afterwards, viz. in 1847, Séguin gives a calculation of his own, without explaining how he did it, and gets as the M. E. H. a number from 395 to 529. His data were afterwards shown to be erroneous, and Regnault's subsequent experiments on the specific heat of steam defeated his calculations. Then his friend, Mr. Grove, repeated them with Regnault's data, and got as the M. E. H. 1666. It is, therefore, abundantly obvious that Séguin did not discover the M. E. H., and according to Verdet no such claim is put forward in his behalf by his countrymen, who are not generally thought to be backward in claiming at least their own share of the glory of discoveries.

* Tait implies that Mayer's results are beyond the limits allowable for experimental error. This opinion does not appear to be shared by other physicists. At any rate that prince of experimenters, Joule himself, does not agree with it, in respect to his own results. For at p. 41, *Phil. Mag.*, 1843, he says of his own original first thirteen experiments, "I admit there is a considerable difference between some of the results, but not I think greater than may be referred with propriety to mere errors of experiment." These results varied from 587 to 1040 ft.-lbs., and the average was 838. This constitutes an error of 8½ per cent. too high, which Tait, forgetting his rôle of counsel against Mayer, pronounces to be wonderfully accurate for a first series.

Again, Joule, in *Phil. Mag.*, 1842, February, in a paper on the relative heat of combustion of different elementary bodies, found the experimental result 25 per cent. below the calculated amount. After enumerating several practical difficulties, he concludes, "It will, I think, be admitted that experiment agrees with the theory as well as could have been expected."

that cannot be held to vitiate his claim as a discoverer, for he announced the convertibility of heat into work at a constant numerical ratio, the determination of which was liable to the usual chances of experimental error. A similar style of reasoning would invalidate the doctrine of the indestructibility of matter, for no chemical analysis has ever yet given 100 per cent.

§ 21. We now pass to the second mode of proof alluded to at § 4, viz. the more direct mode, by measuring the quantity of heat produced by the expenditure of a known quantity of work in friction. This method required the use of complex and delicate machinery, as well as the uninterrupted attention and the technical skill of the professed physicist, all of which were beyond the means and opportunities of a young surgeon in the first year of his practice. But if he had neither the means nor the apparatus, he had, like the celebrated painter, brains in full measure. So he cast about him for a suitable instance of the incidental production of heat in the machinery subservient to the ordinary wants of life. Had he not the heating of the millstones, and the flour in flour-mills, and of the rollers and seeds in oil-mills, and the perpetual evolution of heat in the axles of all moving wheels, the heating of cannon while boring? &c. But none of these seemed so well

Now, Mayer's first calculation was 14 per cent. too low, owing to the experimental error, not of his own, but of Delaroché and Berard.

Although Mayer's claims do not rest upon experiments performed by himself, yet it is not quite correct to say he made none, for he alludes to several, one for instance respecting the development of heat by the union of *Chlorine* with *Ammonia*, p. 47. And at page 284 he mentions his invention of a dynamometer which he hopes may compete with that of Prony.

The following expressions of Mayer himself are apposite, if restricted to his experiments alone, although with the modesty often united to true genius he extends them to the whole of his labours.

"The proof of this conclusion by the method of experiment, the establishment of it in all its details, the tracing of a complete harmony subsisting between the laws of thought and the objective world, is the most interesting but also the most comprehensive problem that it is possible to find. What I have accomplished in this direction with feeble means, and without the slightest encouragement or support from without, is certainly not great, but *ultra posse nemo obligatus*." (p. 255.)

adapted for the purpose as a machine which involved fluid friction, in spite of the dicta of the text-books of chemistry which denied the production of heat to the friction of fluids. Accordingly, he turned his attention to a neighbouring paper mill. At this very time, though unknown to each other, Joule was commencing his now celebrated experiments with fluid friction, though under very different circumstances; for he was trained in the school of Dalton, and had sufficient means and appliances at command. The following is Mayer's observation given in his own words:

§ 22. "I made observations on four pulping cylinders in a paper mill. In each cylinder was contained about 80 lbs. of paper pulp, and about 1200 lbs. of water. The temperature of the pulp rose steadily from the time of setting in. The surrounding temperature showed 15° Cent.; in thirty-two to forty minutes the heat of the pulp rose from 14° to 16°. The highest temperature observed, which was uniformly maintained for several hours before drawing off, amounted in one cylinder to 30°. If we now reckon that by one horse-power, about 27,000 lbs. are raised one foot high in one minute, then the heating of 1280 lbs. of water (not counting that of the apparatus), 1° in sixteen minutes must be the equivalent of 3·16 horse-power, which agrees with sufficient accuracy with the computation of the manufacturer, viz. that a total of about five horse-power is required for driving one cylinder. Now, does the mechanical effect yielded by the five horses vanish into nothing in the machine? The fact speaks—*it becomes heat.*" (page 37.)

This observation is not put forward by Mayer with any pretensions to the rigid accuracy required for determining the mechanical equivalent of heat, but is merely adduced as a counter-proof of the foregoing method by gaseous expansion.*

* This is exactly parallel to Rumford's celebrated experiment on the boring of cannon, in respect to which Joule has the following remarks in the paper noticed at § 34. "Referring to his third experiment, he remarks that the 'total quantity of ice-cold water, which with the heat actually generated by friction, and accumulated in two hours thirty minutes, might have been heated 180°, or made to boil = 26·58 lbs.' In the next page he states that 'the machinery used in the experiment could easily be carried round by the force of one horse (thought to render the work lighter, two horses were actually employed in doing it.)' Now, the power of a horse is estimated by Watt at 33,000 foot-pounds per minute, and therefore if continued for two hours and a half will amount to 4,950,000, which, according to Count Rumford's experiment,

§ 23. Such is an outline of the development of Mayer's discovery as a contribution to physics. He next proceeded to its application in the more congenial field of physiology, where, it soon appeared, it was destined to work as great a revolution as in physics. This was done in the work called *Die Organische Bewegung*, published in 1845, which in reality should be considered the first work in which he had the opportunity of properly explaining his views; for "the forces of inorganic nature," analysed at § 2, may be regarded as a mere preliminary note, hurried forward to secure priority, and cramped for want of space. He now fully develops the doctrine of the conservation and equivalence of force in the widest sense in which it is at present understood, and among numerous calculations and illustrations, some of which have been given above, he selects twenty-five experimental examples of the transformation of the different physical forces into each other. In the latter part he uses the mechanical equivalent of heat to measure the forces engaged in vital processes, and lays the foundation of the doctrine of the balance of forces in the living economy which characterises the most modern school of physiology, represented in this country by S. Houghton, E. Smith, Frankland, Parkes, and others.

To give all that is interesting in this part would simply be to translate the whole essay; but as a specimen, I may note the application of the principle to the antagonistic or complementary position of heat and work in the living body. In the inorganic part he gives that as respects steam-engines, gunpowder, &c., and states that in the former, probably, scarcely more than 5 per cent. of the total heat is used as work; while in the latter about 9 per cent., and makes here the acute remark that a gun fired with ball cartridge heats less

will be equivalent to 26.58 lbs. of water raised 180°. Hence the heat required to raise a lb. of water 1° will be equivalent to the force represented by 1034 foot-pounds. This result is not very widely different from that which I have deduced from my own experiments related in this paper, viz., 772 foot-pounds; and it must be observed that the excess of Count Rumford's equivalent is just such as might have been anticipated from the circumstance, which he himself mentions, that "no estimate was made of the heat accumulated in the wooden box, nor of that dispersed during the experiment."

In reference to this, Tait says the horse-power is now taken at 30,000 ft.-lbs., which would bring the M. E. H. to 940 ft.-lbs.

than with blank cartridge—a remark we shall see paralleled in physiological processes. On entering the subject the genius of the true philosopher shines out conspicuously in the following words:—‘As to the *how* a muscle effects the metamorphosis of chemical difference into mechanical action we cannot say. In numberless instances the transformations of matter and force in the inorganic and organic worlds take place before our eyes, and yet each of these processes contains a mystery impenetrable to human understanding. The sharp definition of the limits of human investigation is a problem of practical value for science, while the efforts to penetrate by hypotheses into the depths of the order of the universe form a foil to the striving of the adept.’ (p. 99.)

By keeping in mind these general principles he, in 1845, laid the foundation on which has been built the distinctive part of modern physiology in such a way that, though much has been added, little has been changed. Though he recognises the great complexity of the chemical processes in the living organism, yet, as most of them are too little known for calculation, he has to fall back on the oxidation of the carbon as the source for quantitative determination on which his calculations rest, observing that in future they can be altered by simple reduction when the necessary data are discovered. This, and the M. E. H., being 14 per cent. too low, give a certain error in amount to all his calculations, but the principle remains the same. Now, in the development of the subject which has since been made, the moving force of all vital actions is expressed as not consisting in oxidation alone, but in the disengagement of active force by all chemical processes in which stronger affinities than before are satisfied. Thus, force becomes free in the form of heat when sugar falls down from the complicated composition $C_6H_{12}O_6$ to the simpler compounds 2 of *Alcohol* and 2 of *Carbonic acid*, $2C_2H_6O$ and $2CO_2$. The number and variety of such transformations is great, and we can imagine a considerable amount of force extricated in vital processes without the aid of extraneous oxygen at all. But we can easily see that such would be a most wasteful life, as nothing but a full supply of oxygen can extract the whole potential energy by bringing the organic matter down to the simplest compounds possible, viz. water, *Carb. acid*, and urea. Likewise these transformations are not all downwards, but some are synthetic, *i. e.* built up from simpler to more complex compounds, such as protagon and hæmoglobin, which thus require the conversion of free into potential energy. Therefore, though some vital processes are independent of oxidation, yet it is essential to maintain the average amount of force, and as no kind of transformation can possibly equal the disengagement of force due to oxidation down to binary compounds, it becomes the absolute measure of the disengagement of force in the living body, and the law is thus expressed: viz. the quantity of *vis viva* developed (permanently) by the living body must be equal to the difference between the

heat of combustion of the food and the heat of combustion of the excretions. Again, the vital processes resulting in the excretion of *Carbonic acid* and those in absorption of oxygen, though they exactly balance, are parallel and independent, not the same act, nor even necessarily simultaneous; *e.g.* in muscular exertion the surplus amount of exhaled *Carbonic acid* over that in repose is much greater than the absorption of oxygen in exertion exceeds that during repose (Pettenkofer and Voit). Likewise there is no proof that the combination with oxygen, nor any single metamorphosis in the *living matter*, is of a kind known as chemical; but the final result as to extrication of force must be exactly the same; for a given quantity of matter of a certain complex composition passing down to known simpler binary or ternary compounds must give up the same force by whatever road it travels. Now, to return to Mayer. In mammals, at least, the whole free force extricated comes out in the form of heat or mechanical work; so he proceeds to apply his measure of value to certain vital actions with remarkable and interesting results. He it was who first calculated the share of work and heat which go to the chemical changes involved in the daily and hourly work of a horse, and explained the difference of quantity of food required for the animal when at rest and at work. In like manner he shows that for a man there is consumed in work 0.19 lbs. of carbon a day, or 3.2 grains a minute. A bowler throwing an 8-lb. bowl with a velocity of 30 feet per second expends the force of $\frac{1}{10}$ grain of carbon oxidized. In climbing a mountain 10,000 feet high, a man consumes about $2\frac{1}{2}$ oz. of carbon, and so on.

But work is not the only force-product of oxidation; there is also heat. And it is plain that as the total amount of force producible by the chemical change is fixed, what is used for work must be taken from heat, and *vice versa*. This is in accordance with experiment, and calculation, and common observation. Muscles at rest are, in respect to heat, like other parts, but at each contraction heat in the nascent state becomes latent, *i.e.* converted into motion; and if now the arterial circulation and the chemical processes are not increased in equal proportion, then the disengagement of heat must be *less* than at rest. At p. 107 he calculates that the loss of heat in the mass of the voluntary muscles must amount to $\frac{1}{160}$ th of a degree C., and therefore, after working, a perceptible decrease of heat must take place. Accordingly he finds reported by Douville that the heat of a negro working in the sun stood at 39.75, while at rest it amounted to 40.2.

But in almost all cases during exertion there is increase of general circulation and change of matter; so the total heat is increased. The active part becomes turgescient, and a vein opened there would pour out more blood. The respiration and the heart's action are increased, owing to the increased demand for oxygen. Hence, in estimating the increased amount of pabulum consumed in forced labour, we must take into consideration the increase of

heat necessarily produced. After an elaborate calculation of the ratio between food, work, and heat, in horses, prisoners, and soldiers in the different conditions of labour and rest, he arrives at the following conclusions:—"1st. The greater consumption in the working organism of combustible food suffices, even keeping in view the *plus* of heat generated, to account for the production of mechanical effect in the natural way. 2nd. The carbon expended by mammals at forced labour in the production of mechanical work amounts at the maximum to only one fifth of the total expenditure; the remaining four fifths are used for heat production" (p. 71). These calculations have since been confirmed. Edward Smith measured accurately the carbonic acid exhaled in motion and rest, and found it five times greater during forced labour than in repose; and, according to Hirn, during forced labour the hourly absorption of oxygen is increased five-fold. Upon this Helmholtz makes the following calculation:—The heat produced by chemical processes in the human body during one hour is about 1°·2 Cent. This would raise its weight to a height of 1760 feet. We could by severe walking do this in an hour; therefore the work done in forced exertion is equal to the ordinary heat of repose. But the heat-production in exertion is five times that of repose; therefore one fifth goes to work, and the other four fifths cause increased heat.

In spite of these obstacles, Mayer brings some examples where the antagonism of heat to work has become matter of common observation. "Daily experience teaches this. It is a well-known saying that to get far you must begin with slow steps. The proverb says, *festina lente*. The workman seeks to avoid perspiration to save his strength, and the driver does not like to see his horses *heat*. In common language it is said, Sweat wastes strength." (p. 68.)

And, again, while noticing the general increase of temperature from exertion, and consequent sweating, he says, "*But it is remarkable that the parts in the greatest state of activity are wont to sweat the least*. Robust peasant girls, whose hands get into profuse perspiration by knitting and the like, can do heavy field-work without the skin of their hands and arms becoming even moist. The sweating of parts like the head, which do no mechanical work during bodily labour, is alluded to by Moses when God speaks to Adam—'In the sweat of thy face shalt thou eat bread.'" (p. 110.)

Mayer's observations have been confirmed by actual experiment, for Becquerel, Breschet, and Helmholtz have shown that the changes of matter in muscles can produce heat, and Haidenhain has demonstrated that the amount of heat stands in relation to the mechanical work done by the muscle, so that when it contracts it extricates less heat the heavier the weight that is raised by its contractions. (Kühne, *Physiol. Chemie*, p. 313.) Billroth and Fick found that the high heat of tetanus was pro-

duced in the muscles, and in cases of tetanus the muscles were hotter than the rest of the body, the heat in fatal cases reaching to 111° Fah. This confirms also another remark of Mayer's, that in delirium, epileptic convulsions, and in the tricks of jugglers in which muscular action takes place without doing real work, little expenditure of force takes place, and in trismus almost none. So the effect comes out as heat (p. 123). We know also that in the state of rest muscles develop a current of electricity which is immediately brought into equilibrium, and most likely becomes heat; but as the muscle becomes active the electricity diminishes, and on full action ceases altogether. We thus again see the reciprocity of work and other forms of *vis viva*.

Mayer next, with extreme ability, deduces three important propositions by means of the quantitative relations of the chemical changes and evolved *vis viva*. In these, although he does not anticipate all the discoveries in matters of detail which have been since made, yet he maps out the boundaries within which the truth must lie.

1st. "The muscle is only the instrument through which the transformation of force is brought about, but it is not the matter by the metamorphosis of which the effect is produced." This he proves by calculating the quantity of carbon required to be burned to obtain the equivalent of the known work of the muscles, and shows that if it was derived from the muscles, their whole mass in a labouring man would be consumed and require renewal in eighty days. But the case is much stronger with the heart, and according to the data of Valentin and Poiseuille, the ventricles would be consumed in three and a half days. This is totally opposed to the known pathological and microscopic facts respecting the renewal of tissue.*

2nd. Although the amount of work of a single contraction is, in proportion to the mass of a muscle, owing to the chemical changes of the matter contained in it, yet "the enduring power of doing work is proportional, not to the mass of the muscle, but to the mass of the blood circulating through it" (p. 105). This he shows by calculation and examples such as this:—If we stand on one foot, by the muscles of the calf we can easily raise the body one and a half inch. This about equals the work of one systole of the ventricles of the heart, but if you try to do this isochronously with the pulse, you will very soon have to give up the competition. The reason is the enormously greater

* Beale thinks it "not improbable that in the higher vertebrata the very same elementary fibres continue in action for years," and adds "the idea that the contractile material could be removed or replaced in a few days or weeks could only be supposed by those who were ignorant of or determined to ignore the results of anatomical investigation altogether." (*Med. Times*, Feb., 1869.)

supply of arterial blood to the heart, which gives the needful store for renewal of the change of matter furnishing the force.

3rd. "Not the hundredth part of the oxidative process is performed outside the walls of the blood-vessels" (p. 89). This he shows thus:—Nutrition is carried on by imbibition of the interstitial exudation from the blood-vessels, but can the quantity of oxygen carried by this exuded fluid suffice for the chemical changes equivalent to the work done by the muscles? On measuring it by Majendie's calculation of the quantity of the lymph, it is wholly inadequate. As to how force set free in the capillaries can be transformed into work in the muscles, he makes no attempt to explain, but leaves it as a problem as yet inscrutable.

Since then (1845) much has been done in this field, and nearly all is in harmony with the above. The 2nd is amply confirmed in every theory now obtaining. The 1st completely demolished the theory of Liebig then in vogue and which has been disproved in many different ways since; such as the demonstration by Voit, Fick, and Wislicenus that the urea is not increased by muscular exertion. The 3rd, however, is a more difficult question, and one that has scarcely yet received full attention. Mr. Heaton has written upon the subject (*Phil. Mag.*, May, 1867), and after repeating Mayer's calculation, with the more correct data of Bidder and Schmidt, in respect to the lymph, comes to the same conclusion that the exuded fluid cannot possibly furnish nearly the quantity of oxygen required. Now, besides being incompatible with the theory of Liebig, Playfair, and Ranke, this also goes against that of Traube, Fick, and Wislicenus, who derive muscular power from the oxidation of the fats and carbo-hydrates also outside the vessels; and of Donders, who attributes it to both classes of compounds. But Dr. Broadbent, in July, 1869, answers that it is an assumption that the oxygen can only leave the capillaries in solution in the exudate. On the contrary, by the laws of diffusion an interchange of oxygen and carbonic acid can take place through the capillary walls without any current of fluid, just as happens in the lungs, and such being the case, the arguments for extravascular oxidation predominate. This may be, but still it does not settle the question, and the nature of the systemic blood change (or internal respiration) is still involved in difficulty, and it is most likely that, as above said, direct oxidation does not take place at all. This was not apparently distinctly apprehended by Mayer, but if we admit that; after all his principles may be found in harmony with the most recent theory of muscular action put forward chiefly by Ludimar Hermann.* The following is his view of the chemical changes involved in the extrication of force in muscular movement:—"The muscle contains at each instant a store of a complicated nitrogenous substance, 'inogen,' dissolved

* *Grundriss der Physiologie.*

in the muscle-contents, which is capable of a splitting* up with evolution of force; the products of this splitting up are, among others, carbonic acid, lactic acid, and a contracting albuminous body, myosin. The splitting up takes place slowly during rest, spontaneously; suddenly at the temperature which produces heat-tetanus; it is also suddenly augmented by 'stimuli;' this sudden augmentation is the essential point in the state of activity. When this substance is exhausted there is no more muscular action possible" (p. 226). This substance, "inogen," has not been isolated, because it splits up as above by every chemical treatment as yet tried. A continual restitution of this substance must be taking place, as well as the removal of the products, and it is found that *Carbonic* and *Lactic acid* speedily impair and stop muscular action, though urea does not. Hence the necessity of rapid circulation. The restoration takes place by the synthesis of the inogen from oxygen and another not isolated or named non-nitrogenous substance, and the myosin. The latter, therefore, remains, and thus undergoes a kind of chemical circulation. This theory would account for the chemical change sufficient for the required *vis viva*, also for the occurrence of contraction for a short time without oxygen, and even out of the body, while a large supply of arterial blood is essential for *continuance*; for fatigue from predominance of exhaustion over nutrition, also for the exclusive consumption of non-nitrogenous materials in muscular action, and for the acid reaction of muscles in activity.

The main point in any theory is to account for the quantity of *vis viva* evolved even if we cannot show the method of the conversion of it into work which is not done here, and in all theories that still remains hidden. The weak point in this chemical theory is also to explain the action of the stimuli which we cannot understand as producing even the necessary decomposition, far less the oxidative synthesis of the inogen. That can only take place by a vital process, and most likely through that usually ascribed by Beale to the masses of protoplasm of the secreting organs. In the case of muscular motion he considers the act of contraction a function of the non-living part, but he (in the Oxford lectures, 1869) gives no theory of the mode, nor does he account for the quantity of force evolved. But he agrees with Brücke and Kühne's view of the nature of the primitive fibre, viz. that it is not a fibre at all, but a tube of sarcolemma containing a fluid,—the plasma which coagulates after death into myosin and serum,—and the flesh-prisms,†—soft solid bodies maintaining a definite

* Spalten—to split up—is applied to the decomposition of compounds without oxidation.

† The flesh-prisms (or sarcous elements of Bowman) are found in both kinds of muscular fibre, and it is to their more regular arrangement in the striped muscles that the characteristic appearance of these is owing. They are not found at all in the true protoplasm, i.e. the living or germinal matter of Beale,

arrangement in an unknown manner (*Physiol. Chemie*, 282). It is the alterations of position of the flesh-prisms which produce normal contraction while the coagulation of the myosin produces *rigor mortis* (Brücke, Kühne). Hermann, on the other hand, holds healthy contraction, tetanus, and *rigor mortis* to be all degrees of the same process, which is a very weak point in his theory.

In fine, as any theory must show sufficient chemical change and consumption of oxygen, and as the transference of abstract "force" from an oxidation performed in the capillaries is not thinkable; if Mayer's theory is to be reconciled with subsequently discovered facts, it seems to involve the assumption that the formation of any such substance as inogen must take place in the capillary walls. We know that during the circulation through the arteries the blood loses some of its oxygen, and, even in the blood out of the body, the white corpuscles continue to undergo vital development with absorption of oxygen for a time. Now the outside of the sarcolemma is studded with masses of protoplasm which, according to Beale, belong to the nerves and capillary arteries, chiefly the latter, which masses were before him erroneously looked on as connective-tissue corpuscles. We can, therefore, easily conceive these to produce the oxidative synthesis of the inogen or any similar substance whose splitting up is to furnish the needful *vis viva* for muscular functions. At the same time, by a perfectly independent process, though simultaneous, the products, viz. carbonic and lactic acids, &c., are absorbed into the capillary veins. We have, thus, an oxidative synthesis within the vessels by a vital process, whereas a purely chemical process, consisting of simultaneous oxidation and splitting up in the non-vital sarcolemma-contents under the influence of stimuli is not conceivable. Against any theory of combustion it must also be kept in mind that the evolution of carbonic acid exceeds the consumption of oxygen in active muscles, the venous blood of which contains 3 per cent. less oxygen and 4.1 per cent. more carbonic acid than that of muscle at rest (Hermann, p. 135).

Another interesting point treated of by Mayer is the distinction between fatigue from real work and merely profitless though irksome muscular movements. In the former case there is the expenditure of a real something, viz., in lifting upwards or moving in any other direction our own or any other body, we

who accordingly ascribes its movements to a totally different cause. The very fluid state of the contents of the sarcolemma was proved to Kühne by the accidental entrance of a parasite into a fibre which he was watching. It moved about with perfect freedom, and even was seen to displace some flesh-prisms even to a right angle, showing they were not fibres extending from end to end, among which it could move like a snake in standing corn. What restores them to their place and keeps them there is not known. (Kühne, p. 281.)

consume a measurable object equal in the former case to $m \cdot h$, *i. e.* the product of the mass into the height, and in the latter mv^2 , *i. e.* of the mass into the square of the velocity. This is equivalent to a known quantity of food transformed. So the appetite should correspond to the work done, and not to the mere sense of fatigue from over tension of the nerves. Mayer distinguishes between these and gives the example of a student who may be wearied with standing all day at a desk, but will walk smartly up a hill in the evening for recreation. Also by holding the arm in an irksome position for long, or making purposeless movements wherein the nerves are fatigued, the muscles recover at once with a little rest, and the rest of the body is not affected, whereas in real over-fatigue from walking or working, not only the limbs exercised, but the whole body is incapable of further exertion. In my medical practice these observations have been forced on me as matters of fact, and I have been accustomed to impress the necessity of real walking exercise on idle self-indulgent people who complained of want of appetite, while, at the same time, they were "always tired" with their household occupations. I have hitherto been accustomed to tell them that nerve-fatigue was not necessarily exercise, without being able to explain exactly the reason.

I may finish this part of the subject by merely noting that Mayer first pointed out the true relation of light to the function of plants, and quoting Tyndall's dictum on his services to physiology.

"Thus does this remarkable man, at a time when the writings of the most celebrated scientific professors were beset with mysticism as regards the operations of the vital force, pour light upon the darkness and bring the processes of the animal body into harmony with the great law of conservation, which he himself, alone and unaided, had thought out."—(*Phil. Mag.*, p. 41, July, 1864.)

§ 24. In the foregoing works Mayer of necessity makes frequent allusions to the forces governing the motions of the heavenly bodies. He now proceeds to apply to them his new-found measure of force, which like another telescope has opened up for us sources of knowledge, the possibility of which had scarcely even been hoped for. In 1848 he published his *Dynamik des Himmels*,* or *Celestial Dynamics*, a work which, if possible, surpasses his previous ones, and of whose merit no words of mine can give any adequate idea; it must be read and studied in order to be appreciated. But I cannot refrain from a few reflections on his career during these seven eventful years of his life. We see him

* Translated in the *Phil. Mag.*, IV, vol. xxv.

in 1840, as a ship's surgeon in Batavia, struck with the unusual colour of the venous blood ; and from that moment he never loses sight of the fact. He ponders deeply over it, and follows up the train of reflections inspired by it during the tedium of the return voyage. Instead of yielding to the languor induced by the monotony of the passage in the trade winds, when the sails are not perhaps shifted for days, or the sultry calms of the equator, his mind is ever active. He watches the flight of birds, the course of fishes, the direction of currents and winds, and, in short, stores his mind with the facts of physical geography which are, seven years later, to serve him in such good stead in his *Celestial Dynamics*. No doubt during this time the grand conception of the conservation of force was gradually maturing itself in his mind, and immediately on his settlement at Heilbronn he proceeds to submit his hypothesis to the test of extant experiments and ascertained facts to which, most probably, he had previously had no access on board ship.

His first paper contains in reality the whole doctrine in a compressed form, and the others may be looked upon as merely developments of it ; his whole works, in fact, read like one book, so continuous is the train of reasoning. The solidity and boldness with which he grasped the full doctrine from the very first distinguish him above all others, and form a great contrast to the hesitating and tentative way in which Grove, Carpenter, Faraday, and even Joule himself, first touched upon the subject. With marvellous rapidity he discovers a principle which shall profoundly influence physics ; he then applies it to physiology, and begins a new era therein ; then carrying it into astronomy, he finally wrings from the heavens what Herschel calls 'the great secret' of the source of the sun's heat and light. When we reflect that hitherto the progress of chemistry has only served to deepen, if possible, still further this apparently unfathomable mystery, we are almost overwhelmed with the greatness of the discovery which has brought it within the range of legitimate scientific speculation.

§ 25. It would be out of place to go into the meteoric theory of the sun's heat in detail in this place.* It may

* Those who have not access to the original will find an account of Mayer's Meteoric Theory of the Sun's Heat in Tyndall's book on *Heat*, pp. 477—483. An abstract is also given in *Knight's British Almanack* some five or six years ago. Two most interesting papers on the same subject are given by Sir W.

very shortly be stated that he first shows the total impossibility of any chemical means such as combustion either producing or maintaining the sun's heat and light. Next he shows the competency of mechanical causes to do so. Supposing the matter of the sun falling together from an immense distance with the entire pull of gravitation, sufficient heat would be generated to supply the sun at its present rate of emission for 20,000,000 years. So far—viz. as regards the origin of solar heat—all subsequent writers agree with Mayer; and their opinion is summed up by Sir W. Thomson as follows:—"Meteoric action is not only proved to exist as a cause of solar heat, but it is the only one of all conceivable causes which we know to exist from independent evidence" (*Age of the Sun's Heat*). But there is not the same agreement with respect to the sustenance of the sun's heat. Mayer showed that the numerous meteoric bodies continually traversing our system could, by falling into the sun, keep up its heat; and he thought it probable that this was the cause. Mayer included meteoric matter from all parts of the solar system, but thought the chief source to lie in that zone of meteoric matter known as the zodiacal light, and which has been termed by Herschel "an illuminated shower, or, rather, tornado of stones." However, W. Thomson showed that no material quantity of meteoric matter to feed the sun's heat can come from beyond our earth's orbit, because the increased solar attraction would have already produced a perceptible shortening of the year, which has not been confirmed by history. Therefore any such meteoric matter must be already within our orbit, and, he thinks, very near the sun. But Leverrier has further found that from the slight disturbance of the planet Mercury, any such matter must be comparatively small in quantity, and insufficient to keep up the heat. The same is confirmed by the undisturbed passage of such attenuated bodies as comets very near the sun.

Other speculations more or less plausible are given by W. Thomson, Helmholtz, and others, but they all rest on the production of heat by mechanical causes. However this question may be finally settled, we perceive that Mayer has gathered the

Thomson, one in the *Phil. Mag.*, IV, vol. viii, and the other in *Macmillan's Mag.* for March, 1862, entitled "Age of the Sun's Heat." In the first of these Mayer's name is not mentioned, and in the second the only allusion to him is that the meteoric theory "appears to have been first proposed in a definite form by Mayer." Of course, after the discovery of the mechanical equivalent of heat it was open to any one to make these calculations for himself; but one would have thought that the first complete essay on the subject, such as Mayer's, which had been published fourteen years before, merited something more than that scanty acknowledgment. In 1853 Mr. Waterston, of Hull, apparently independently, sketched out a similar theory, and of this the above paper of Sir W. Thomson is said to be merely an expansion.

first fruits of the application of the mechanical equivalent of heat to astronomy.

I may not inappropriately conclude this sketch of Mayer by saying that the *Celestial Dynamics* has received its meed of general admiration. J. Bertrand, after giving an analysis of it, speaks of it in high terms of eulogy; and Tyndall terminates his notice of it in these words:—

“But the sketch (of the meteoric theory, &c.) conveys no adequate idea of the firmness and consistency with which he has applied his principles. He deals with true causes; and the only question that can affect his theory refers to the quantity of action ascribed by him to these causes. . . . It is a noble speculation; and depend upon it, the true theory, if this or some form of it be not the true one, will not appear less wild or astonishing.” (p. 483.)

§ 26. Let us now turn to Joule's share in this great work. He, like Mayer, went through a preliminary stage, and the experimental investigations on which he was engaged, dating from 1840, had all a bearing on the discovery which he made in 1843. After a series of researches undertaken in the former year, tending to show the existence of a ratio between the heating, chemical, and mechanical powers of the Voltaic apparatus, he published in 1841 a paper entitled “On the Heat evolved by Metallic Conductors of Electricity, and in the Cells of a Battery during Electrolysis.” (*Phil. Mag.*, III, vol. xix, p. 260.) Now, like Mayer, true to the principles of modern physical philosophy, instead of referring that to the properties of any hypothetical essence common to them, he seeks to find the exact numerical relation between them. Here he had the advantage over Mayer, inasmuch as he could appeal to original experiment.

In this paper the object was to ascertain if the heating of a metallic wire by the Voltaic current was exactly in inverse proportion to its conducting power, and especially if the resistance to conduction was the sole cause of the heating effects. By a number of experiments he proves that this latter is the case, and likewise that ‘when a current of Voltaic electricity is propagated along a metallic conductor, the heat evolved in a given time is proportional to the resistance of the conductor multiplied by the square of the electric intensity.’ (p. 264.)

This important law was also discovered independently by Jacobi, Lenz, and Reiss, and, as shown at p. 64 of Tait, accords with the principle of conservation of energy.

Joule shows, also, at p. 275, "that the total Voltaic heat is proportional to the number of atoms (whether of water or zinc) concerned in generating the current;" and also that the heat evolved by the resistance to a Voltaic current is almost exactly the same as that produced by the combustion of the amount of the chemical decomposition which produced it.

In a paper published in February, 1842 (*Phil. Mag.*, III, vol. xx, p. 98), he proves by experiment that the quantities of heat which are evolved by the combustion of the equivalents of bodies are proportional to the intensities of their affinities for oxygen. (p. 111.)

§ 27. These data lay the foundation for the next paper, in which he was led step by step to discover the "mechanical value of heat," as he terms it, corresponding to the expression *equivalent*, first used by Mayer, and now universally adopted. The paper in question is entitled "On the Calorific Effects of Magneto-electricity and on the Mechanical Value of Heat." (Read before the British Association at Cork on August 21st, 1843, and published in *Phil. Mag.*, III, vol. xxiii, p. 263.)

He first notices that if we consider heat as a vibration there is no reason why it should not be induced by an action of a simply mechanical character, such as the revolution of a coil of wire before the poles of a permanent magnet. But still it had not been decisively ascertained "whether the heat observed was *generated*, or merely *transferred from the coils* in which the magneto-electricity was induced, the coils themselves becoming cold." Now, he had already shown "the heat evolved by the Voltaic battery is definite for the chemical changes taking place at the same time; and that the heat rendered 'latent' in the electrolysis of water is at the expense of the heat which would otherwise have been evolved in a free state by the circuit—facts which, among others, seem to prove that *arrangement* only, not *generation*, of heat takes place in the Voltaic battery." (p. 263.)

He, therefore, set to work to clear up this point by experiment. His mode was by causing a small electro-magnet to revolve between the poles of a powerful electro-magnet.

A similar experiment is now shown in a striking manner by Foucault and Tyndall. The latter describes it at p. 33 under the singular title of "Friction against pure Space," and states that the *rationale* of the resistance to motion is not yet fully understood, but the fact is certain, and the resistance is sufficient for the

development of heat. Joule's experiments are complicated and difficult to describe without seeing the apparatus or drawings of it. So the reader had better refer to the more accessible work of Tyndall, where a plate is given, and the main point, viz. the evolution of heat, is illustrated.

But, besides that, Joule's experiments display an extraordinary amount of ingenuity and labour, for the revolving body is at one time an electro-magnet, at another a bar of iron, and at another the same coated with copper. The driving force was also varied, being at one time the hand, at another a separate electro-magnetic battery. After a long series of experiments embodied in accurate tables, he says, "Having proved that heat is generated by the magneto-electrical machine, and that by means of the inductive power of magnetism we can destroy or increase at pleasure the heat due to chemical changes, it became an object of great interest to inquire whether a constant ratio existed between it and the mechanical power gained or lost," p. 435. Or, as he says in another place, subsequently,* "Whenever a current of electricity was generated by a magnetic electrical machine, the quantity of heat evolved by that current had a constant relation to the power required to turn the machine; and, on the other hand, that whenever an engine was worked by a Voltaic battery, the power developed was at the expense of the calorific power of the battery for a given consumption of zinc, the mechanical effect having a fixed relation to the heat lost in the Voltaic current."

§ 28. To measure this relation he ascertained the exact force required to turn the revolving electro-magnet by the falling power of known weights, and this done he had in his hands the means of solving this problem. For example, in the first experiment, "to maintain the velocity of 600 revolutions per minute, 5 lbs. 3 oz. had to be placed in each scale; but when the battery was thrown out of communication with the electro-magnet, and the motion was opposed solely by friction and the resistance of the air, only 2 lbs. 13 oz. were required for the same purpose. The difference, 2 lbs. 6 oz., represents the force spent during the connection of the battery with the electro-magnet in overcoming magnetic attractions and repulsions."

With this datum, along with others already in his possession, he was enabled to calculate the amount of heat corresponding to the surplus mechanical power. After the necessary corrections for the specific heat of the glass, the water, and the iron, he found the figure of 896 foot-pounds for 1° of Fahr. In another experiment in which the difference of falling power amounted to 3 lbs. 12 oz., the total heat evolved amounted to 9°·92. But the heat due to the chemical reaction alone, when the revolving electro-magnet was stationary, was only 5°·38, the difference, viz. 4°·54, therefore, belonged to the mechanical force due to the above

* *Phil. Mag.*, IV, vol. xiv, p. 2111, Sept., 1857.



falling power. By reduction, this gives 910 foot-pounds as the equivalent of heat.

The experiments in this department amounted to thirteen, and the mean result is as follows :

“The quantity of heat capable of increasing the temperature of a pound of water by one degree of Fahrenheit’s scale is equal to, and may be converted into, a mechanical force capable of raising 838 lbs. to the perpendicular height of one foot.” (p. 441.)

He terminates the paper by pointing out two of the practical conclusions which may be drawn from “the convertibility of heat and mechanical power into one another;” these are, that the quantity of work that corresponds to the combustion of a given quantity of fuel can now be calculated; and according to known data the best steam-engines do not utilise more than one tenth part of the heat; and also that electro-magnetic machines cannot, in an economical point of view, supersede steam.

§ 29. He adds a postscript which contains some very interesting matter.

“We shall be obliged, after all, to admit that Count Rumford was right in attributing the heat evolved by boring cannon to friction and not (in any considerable degree) to any change in the capacity of the metal. I have myself proved experimentally that *heat is evolved by the passage of water through iron tubes*. My apparatus consisted of a piston perforated by a number of small holes working in a cylindrical jar containing 7 lbs. of water. I thus obtained 1° of heat per lb. of water from a mechanical force capable of raising 770 lbs. to the height of one foot—a result which will be allowed to be strongly confirmative of our previous deductions. I shall lose no time in repeating and extending these experiments, being satisfied that the grand agents of nature are by the Creator’s fiat indestructible; and that, wherever mechanical force is expended an exact equivalent heat is always obtained.” (p. 442.)

It is remarkable how near this result of the first fluid-friction experiment approximated to his final determination. But he was himself very far from being aware of its great accuracy; on the contrary, he continued to adhere to the higher estimate for several years.*

* Nevertheless, Mr. Tait, with his usual injustice, contrasts this as Joule’s first result with Mayer’s of 668; the truth being that Joule’s own average

We perceive now that the grand general bearing of the subject has begun to dawn upon his mind. He passes at once to the science of physiology, and noticing that Haller attempted to account for the portion of animal heat that Crawford's hypothesis left unexplained, by the friction of the blood in the blood-vessels, he observes:—

“It is unquestionable that heat is produced by such friction, but it must be understood that the mechanical force expended in the friction is a part of the force of affinity which causes the venous blood to unite with oxygen, so that the whole heat of the system must still be referred to the chemical changes. But if the animal was engaged in turning a piece of machinery, or in ascending a mountain, I apprehend that in proportion to the muscular effort put forth for the purpose, a *diminution* of the heat evolved in the system by a given chemical action would be experienced.”

It is very interesting that a similar train of thought occurred to Mayer at the very first, when he noticed the red colour of the venous blood at Batavia, as may be seen at § 1, where the total force of both heat and work are referred to oxidation. With regard to the loss of heat on ascending a mountain, it is certainly a very remarkable example of correct scientific deduction in opposition to common observation. We all know the effect of exercise in increasing the activity of the circulation and respiration, and all those functions comprising the *opus vitale* resulting in increase of animal heat. This under ordinary exertion, and even the ascent of a moderate elevation, especially when *not* fasting, more than counterbalances the loss of force given out as work. But, according to the accurate experiments during an ascent of Mont Blanc in 1869, it was found by M. Lortet that his temperature, from being 36° Cent. at Chamounix descended gradually as he mounted up, until at the summit it became as low as 32°; when in a state of immobility, however, it remained at 36°, as at Chamounix. During the muscular efforts necessary for climbing the temperature may descend by 4°, or even 6° Cent., which is an enormous

was 888, that is to say, 8½ per cent. above, while Mayer's is 14 per cent. below the true figure.

descent, but after a few minutes' rest it regains nearly its normal point.*

Joule concludes with a remark which has not been fully appreciated yet, viz. that the heat evolved in chemical action is not caused by the attraction of affinity, but it is rather the mechanical force expended by the atoms in falling towards one another which determines the quantity of heat evolved.

§ 30. His next paper appeared in 1845 (*Phil. Mag.*, III, vol. xxvi, p. 369), "On the Changes of Temperature produced by the Rarefaction and Condensation of Air." We have here the description of the experiments whose results have been already given at § 14.

From the compression experiments he obtained 823 and 795 foot-pounds. These, he says, were so near the 838 lbs. of the 1843 paper, in which "latent heat" could not be suspected, that he is confirmed in the theory "that the heat was the manifestation in another form of the force expended in the act of condensation." (page 375.)

From the cold produced in the expansion experiments, he deduces the equivalents 814, 820, and 760 foot-pounds. His only general remark in this paper is that the phenomena herein described are incompatible with the material theory of heat.

§ 31. His next paper was in September, 1845 (*Phil. Mag.*, III, vol. xxvii). Here he states that he had abandoned the electro-magnetic method, and continued the experiments with fluid friction mentioned at the end of his paper in 1843. The plan he now adopts is that of a horizontal paddle working in a cylinder. The result of the present series of experiments is 890 foot-pounds. But he now adopts as the equivalent the mean of this and his former results, viz. 817 foot-pounds (p. 206). Here he remarks that waterfalls must generate heat, and calculates that the water at the foot of Niagara must have gained one fifth of a degree. Here also appears for the first time the remarkable calculation of the *absolute zero* of heat.

"Assuming that the expansion of elastic fluids on the removal of pressure is owing to the centrifugal force of revolving atmospheres of electricity; we can easily estimate the absolute quantity of heat in matter. For in an elastic fluid the pressure will be proportional to the square of the velocity of the revolving atmospheres; and the *vis viva* of the atmospheres will also be proportional to the square of their velocity, consequently the pressure will be proportional to the *vis viva*. Now the ratio of the pressures of elastic fluids, at the temperatures of 32° and 33°, is 480 to 481, consequently the zero of temperature must be 480°

* *Phil. Mag.*, vol. xxviii, p. 472.

below the freezing point of water." (*Phil. Mag.*, III, vol. xxvii, p. 207.)

Afterwards, as we shall find, he abandons the hypothesis of electric atmospheres, but applies these calculations to the motions of the molecules themselves, and gives their actual velocity.

§ 32. In June, 1846 (*Phil. Mag.*, III, vol. xxviii), we find this paper, "Experiments and Observations on the Mechanical Powers of Electro-magnetism, Steam, and Horses," by Scoresby and Joule. The greater part of this paper is merely technical, and consists of experiments confirming Joule's previous estimates of the working powers of electro-magnetic and steam engines.

"A horse, when its power is advantageously applied, is able to raise a weight of 24,000,000 lbs. to the height of one foot per day. In the same time (twenty-four hours) he will consume 12 lbs. of hay and 12 lbs. of corn. He is, therefore, able to raise 143 lbs. by the consumption of one grain of the mixed food. From our own experiments on the combustion of a mixture of hay and corn in oxygen gas, we find that each grain of food, consisting of equal parts of undried hay and corn, is able to give 0.682 to a pound of water, a quantity of heat equivalent to the raising of a weight of 557 lbs. to the height of a foot. Whence it appears that one quarter of the whole amount of *vis viva* generated by the combustion of food in the animal frame, is capable of being applied in producing a useful mechanical effect, the remaining three quarters being required in order to keep up the animal heat, &c."

This is the only general remark, and it certainly presents a great contrast to the stage at which Mayer had by this time arrived, for *The Organic Motion* was published the year before. Joule had, however, as yet not heard of Mayer.

§ 33. "On the Mechanical Equivalent of Heat, as determined by the Heat evolved by the Friction of Fluids," by J. P. Joule, September, 1847 (*Phil. Mag.*, III, vol. xxxi, p. 173). The apparatus used was, as before, a paddle moving in a drum filled with water. He obtains now 781.5 foot-pounds. Then reflecting that, as sperm oil is the liquid used by engineers as the best for diminishing the friction of machinery, it would be well calculated to afford a decisive proof of the principle contended for, he used it in a series of experiments, having first accurately determined its specific heat. The result was almost exactly the same as

with water, being 782 foot-pounds. The mean of these, viz. 781·8, is the equivalent he now adopts.

Here we notice for the first time his use of Mayer's term, the *mechanical equivalent of heat*.

§ 34. We now come to his final paper on the subject, which was read before the Royal Society June 21st, 1849, and published in the *Phil. Trans.*, 1850, p. 61. Here he gives a short review of what has been done by Rumford, Davy, Dulong, and Faraday in proof of the immateriality of heat. In particular he notices the law of Dulong,* mentioned at § 12, as of the "utmost importance in the development of the theory of heat, inasmuch as it proves that the calorific effect is, under certain conditions, proportional to the force extended." Then he says, mentioning Mayer for the first time, "In 1834 Dr. Faraday demonstrated the 'identity of the chemical and electrical forces.' This law, along with others subsequently discovered by that great man, showing the relations which subsist between magnetism, electricity, and light, have enabled him to advance the idea that the so-called imponderable bodies are merely the exponents of different forms of force. Mr. Grove and M. Mayer have also given their powerful advocacy to similar views." Then after a short recapitulation of his previous series of experiments with electro-magnets, he alludes as follows to his fluid-friction experiments:—"From the explanation given by Count Rumford of the heat arising from the friction of solids, one might have anticipated, as a matter of course, that the evolution of heat would also be detected in the friction of liquid and gaseous bodies. Moreover, there were many facts, such as, for instance, the warmth of the sea after a few days' stormy weather, which had long been commonly attributed to fluid friction.

"Nevertheless, the scientific world, preoccupied with the hypothesis that heat is a substance, and following the deductions drawn by Pictet from experiments not sufficiently delicate, have almost unanimously denied the possibility of generating heat in that way. The first mention, as far as I am aware, of experi-

* We have already seen the importance of this as the testing clause in Mayer's demonstration, § 12.

ments in which the evolution of heat from fluid friction is asserted, was in 1842, by Mayer, who states that he has raised the temperature of water from 12° to 13° C., by agitating it, without, however, indicating the quantity of force employed,* or the precaution taken to secure a correct result."

After alluding seriatim to his former experiments with fluid friction, during the six years that had now elapsed, he enters on his final series, which display the accumulated accuracy and skill resulting from long experience, and worthily crown his work. A complete description with a plate † of the apparatus is given. He enumerates the immense variety of precautions taken to obviate possible sources of error, viz. to prevent the escape of heat; to determine the specific heat of the apparatus, even to the thermometers; to allow for the elasticity of the strings, the friction of the rollers, the vibration of the apparatus, and even the noise produced. In the friction experiments with cast-iron he says, "The force required to vibrate the string of a violoncello, so as to produce a sound which could be heard at the same distance as that arising from the friction, was estimated by me, with the concurrence of another observer, at 50 foot-pounds."

The experimental results are summed up as follows:—

40	experiments with water,	giving a mean of	772·692.
50	„	mercury	„ 774·083.
20	„	cast-iron	„ 774·987.

On account of certain corrections still to be allowed for he finally adopts the figures 772. He brings to an end this classical work with the following conclusions:—

"1st. The quantity of heat produced by friction of bodies, whether solid or liquid, is always proportional to the quantity of work expended. 2nd. The quantity of heat capable of increasing the temperature of a pound of water (weighed *in vacuo*, and taken at between 55° and 60°) by 1° Fahr.,

* From this it appears he had not seen Mayer's *Organische Bewegung*, for there the horse-power is given, and the whole observation on the paper mill is exactly parallel to Rumford's on the boring of cannon, § 22.

† The description and figures may be seen in several manuals of physics and chemistry, viz. *Ganot's Physics*, *Fownes' Chemistry*, 10th edition, and *Miller's Chemistry*, 4th edition, vol. i, p. 243.

requires for its evolution the expenditure of a mechanical force represented by the fall of 772 lbs. through the space of 1 foot."

"These experiments," says Tyndall, "rank among the most remarkable that have ever been executed in physical science. They form of themselves a strict demonstration of the dynamical theory of heat."

§ 35. These conclusions were adopted by the whole scientific world, and the doctrine became established. Mayer also in the same year, 1850, finished his series of essays with the truly philosophic treatise called *Remarks on the Mechanical Equivalent of Heat*. The subsequent experiments by Favre, Person, and Foucault, in France, and Icilius in Hanover, merely confirmed the results of Joule without adding to their conclusiveness.

The history of the discovery may be said to close here, for the principle being now the property of the scientific world in general, its application becomes part of the progress of the different parts of physical science, over all of which it exercises a most important influence.

§ 36. A few words remain to be said as to the reception given by the scientific world to the authors of this discovery. Since 1850 we may say the palm has been awarded by acclamation to Joule as the experimental demonstrator. Among the individual testimonies to his merit we may quote the following. J. Bertrand writes :

"Joule, faithful to the experimental method of Galileo and Newton, affirms nothing that he has not verified, and reserves for conclusions the absolute theorems and the general laws which are principles for Mayer. Joule measures with as much patience as talent; he estimates the amount of the physical forces in the course of their metamorphosis, and without affirming that they ought to remain constant, he gradually arrives at the proof that they are so. The conclusions of his researches cannot be contested, and more than one mind devoted to rigorous exactness, which the brilliant assertions of Mayer were unable to convince, have been obliged to regard the precise demonstrations of Joule as indispensable" (p. 674). Tait says, at p. 66, "The experimental foundation of the principle in its generality, and the earliest suggestion of some of its most important applications, belong unquestionably to Joule. Trained to accurate experiment in the school of Dalton, the pupil has not only

immortalised himself, but has added to the fame of his master." Verdet says, "You will not refuse to see in the now-classic work of Joule, the experimental proof of the exactitude of the new principles" (*Phil. Mag.*, May, 1863). Tyndall thus speaks of him: "The man who through long years, without encouragement, and in the face of difficulties which might well be deemed insurmountable, could work with such unswerving steadfastness of purpose to so triumphant an issue, is safe from depreciation. And it is not the experiments alone, but the spirit which they incorporate, and the applications which their author made of them, that entitle Mr. Joule to a place in the foremost rank of physical philosophers" (*Phil. Mag.*, May, 1863). Further testimonies might be quoted, but on this point there is no dissentient voice.

§ 37. It is otherwise with Mayer, for, owing to the mode of publication of his chief essays, and other reasons, his labours were overlooked, and due credit withheld from him, especially in this country. Time, however, and the intrinsic excellence of his works, have obtained justice for him, as the following, among many testimonies that might be cited, sufficiently show. One of the first to recognise the true position of Mayer was Helmholtz, who, in 1854 (*Phil. Mag.*, XI, p. 489), writes :

"The first man who correctly perceived and rightly enunciated the general law of nature, which we are here considering, was a German physician, J. R. Mayer, of Heilbronn, in the year 1842. I believe that Mayer must be considered as a man who independently, and for himself, discovered this thought, which has produced the grandest recent advance of natural science" (Tait, vii). The French historian of this subject, Verdet, also gives him the position of priority in respect to the whole doctrine, and likewise to the discovery of the mechanical equivalent of heat by the method of the two specific heats, which he says is perfectly exact in principle. And in respect to his views of solar influence on organic life, he thus speaks :—"These ideas, introduced for the first time into science, in 1845, by J. R. Mayer, gave an impulse to the progress of general physiology, assuredly equal to the progress which resulted towards the end of last century from the discoveries of Lavoisier and Senneber on respiration." Bertrand writes :—"J. R. Mayer's book will remain, I venture to affirm, one of the most important productions of our epoch. I have given principle and object ; but the developments of them are as ingenious as profound, and place without contradiction its author among the most illustrious discoverers" (p. 665). "Mayer went further in affirming, amid all these devious paths,

the necessary and absolute equivalence among the different forms of the same energy, or, according to his language, between the different manifestations of the same force." (p. 663.)

Then, after analysing "The Celestial Dynamics" with expressions of great admiration, he concludes thus:—"The preceding pages summarise very incompletely the beautiful work of Mayer. It is to him, I repeat, that appertains the honour of having affirmed and developed clearly the *ensemble* of those principles which are now accepted by all." (J. Bertrand, p. 671.)

Professor Fick says (*Naturkräfte*, p. 3), "It is to a German physician, J. R. Mayer, that incontrovertibly belongs the merit of having first communicated in a distinct form the fundamental idea of this doctrine, and accompanied with precise quantitative determination. This was in May, 1842. With this date begins a new epoch in natural science."

But it is to Tyndall that in this country we are indebted for a knowledge of the great merits of Mayer. "Without external stimulus, and pursuing his profession as town physician in Heilbronn, this man was the first to raise the conception of the interaction of natural forces to clearness in his own mind. And yet he is scarcely ever heard of in scientific lectures, and even to scientific men his merits are but partially known. When we consider the circumstances of Mayer's life, and the period at which he wrote, we cannot fail to be struck with astonishment at what he has accomplished. Here was a man of genius working in silence, animated solely by a love of his subject, and arriving at the most important results, sometimes in advance of those whose lives were entirely devoted to natural philosophy."

In deprecation of any attempt to place either of these men in the position of exclusive claimant of the honour of the discovery, Tyndall says further:—"I would here state, once for all, that I should not think of putting Mayer above Joule, or Joule above Mayer. In the firmament of science they are in my opinion a double star, the light of each being in a certain sense complementary to that of the other." (*Phil. Mag.*, July, 1863.)

"In reference to their comparative merits, I would say that, as seer and generaliser, Mayer in my opinion stands first—as experimental philosopher, Joule."

This, I think, may be accepted on the general opinion of competent judges.*

Finally, he has recently received one of the highest honours that can fall to the lot of a scientific man in being elected Corresponding Member of the Paris Academy of Sciences, in place of Matteucci, deceased.

* The merits of Mayer were for some time not recognised even in the land of his birth, and in England they were for long entirely ignored, and are

§ 38. To sum up, it may be observed that the history naturally divides itself into two distinct periods, viz. those before and after the epoch 1839 to 1843.

scarcely yet generally known. Except by Carpenter, who gives it as his opinion that "Mayer was the first who appreciated the full practical bearing of the doctrine, and assumed broadly in all its generality;" and by Lionel Beale, who also was early aware of his merits, he receives little justice by physiologists, and is not even mentioned in several of the compendiums in the hands of our students. For example, in Fownes's tenth edition the whole credit of the discovery is given to Joule, and Mayer's name (wrongly spelt) occurs only once, as follows:—"Meyer showed that the temperature of water may be raised 22 or 23 F. by agitating it." C. Brooke does not mention his name at all in the chapter on the subject, attributing the whole discovery to others (*Nat. Phil.*, § 1344 to 8). In Bence Jones's *Matter and Force* the name of Mayer is not mentioned, the whole discovery being given to Joule. In France, for long, it did not fare much better with him, for in Laugel's paper in the *Revue des deux Mondes*, September, 1858, called "L'esprit de la Physique Moderne," which treats of the total change of the aspect of the physical sciences being brought about by the conservation of force doctrine, Mayer's name is not once mentioned! The discovery of the M. E. H. is given to Joule, confirmed by Favre and Person. But these instances of neglect are nothing to the position of actual hostility to his claims taken up by Professor Tait, who has shown a heat of partisan-feeling very difficult to understand. After giving some examples in which the credit of British discoveries has been appropriated by foreigners, he seems determined that it shall not be so in this case, and the best way to prevent it, he thinks, is to take up the position of a partizan, which he avows in these words:—

"Though it is possible that circumstances may have led me to regard the question from a somewhat too British point of view. But, even supposing this to be the case, it appears to me that unless contemporary history be written with some little partiality, it will be impossible for the future historian to compile from the works of the present day a complete and unbiassed statement. Are not both judge and jury greatly assisted to a correct verdict by the avowedly partial statements of rival pleaders? If not, where is the use of counsel?" *Preface*, p. v.

Be this doctrine right or wrong morally, the results are unquestionably unfortunate; and in every mention he makes of Mayer we hear nothing but the advocate speaking, while the historian and scientific judge is silent. The consequence is a distorted or totally false representation of Mayer's claims in almost every instance. This has brought a remonstrance from Helmholtz which it is pleasing to see Tait has the candour and manliness to print in the preface to his present work; and it is to be hoped that it will induce him to change his views at some future time, though he has not done much in that way in the present edition. He is ostensibly pleading the cause of this country in claiming the exclusive merit of the discovery for Joule; but I hope and believe that though the British people love the glory of their great men

Since the time of Newton and Leibnitz, the laws of ordinary dynamics have been settled; but between them and the so-called imponderable forces there existed a great gulf, and until this was bridged over by a common measure

much, they love truth and justice more. Likewise Joule, who is a great man, and whose name for future ages will stand above those of Torricelli and Dalton, must disdain flattery at the expense of truth and justice; and no doubt he must reciprocate the sentiments with which Mayer speaks of him in the last essay of his volume:

“In fact this law and its numerical expression, the mechanical equivalent of heat, was made known almost simultaneously in Germany and in England. Starting from the fact that the amount of chemical as well as of galvanic effect depends solely on the amount of material consumed, the celebrated English physicist, Joule, was led to the axiom that the phenomena of heat and motion rest essentially on the same principle, or, as expressed by him as well as myself, that heat and movement are mutually convertible. The independent discovery of this natural law cannot be contested to this man of science; and in addition, he has earned the merit of numerous and important services in the establishment and development of the same.” Some of these he alludes to, and more especially the well-known friction experiments. (Mayer, p. 289.)

Several examples of the evils of the advocate style of writing history have already been given, so I will merely notice here Tait's final summary of the successive stages of the development of the science of energy. These are nine, of which Newton, Davy, Rumford, Fourier, and Carnot have each one. For the four last nothing is to be said against their claims, except that they did not become valid till after the discovery of the M. E. H. But as respects Newton, the claim put forward by Tait in virtue of a passage fished up by him from a scholium to the third law of motion has already been the subject of controversy, and Dr. Akin has maintained (*Phil. Mag.*, 1864) that it really bears no such interpretation. And, besides, he gives passages from the optics where Newton distinctly teaches the absolute annihilation of force; and, further, that he taught what is still in all the school books, that motion is lost by friction, &c. Coming down to the M. E. H. period, the seventh stage is the discovery of it by Joule, while the name of Mayer is not mentioned at all. But to make up for it we have that of W. Thomson put in three times; he has the sixth and ninth all to himself, and is admitted with Rankine and Clausius into the eighth. This provokes one to ask, What for? and we see that the ninth is given to Thomson for his theory of dissipation of energy! Certainly with the fact of radiation of heat known to all the world, when once the transformation of the forces were discovered the dissipation of energy became such an obvious corollary that one would scarcely have expected to see it put into such a position. The truth is, in all Tait's books there is a constant effort to thrust Thomson and Joule into prominence; and Thomson may well say, save us from our friends! Fortunately, the reputation of Joule is too high to be damaged by the efforts of even such an injudicious friend as Tait.

of value no general dynamic theory of all the forces was possible, and all attempts at a universal theory remained mere speculations, and barren of results to the progress of science. When this was discovered, however, many of them became valid, and their authors must be received as the precursors of the modern doctrine. In the first period, as precursors of the general theory of energy, may be named Descartes, Huyghens, the Bernouillis (Joh. and D.), Leibnitz, Heinrich and Mohr,* Faraday, and others; while those connected with the dynamic theory of the imponderable forces were Bacon, Locke, Rumford, Davy, Fresnel, Young. At the epoch alluded to, the idea of an equivalent relation between the mechanical and molecular forces was seized upon almost simultaneously by four men. The claims of Séguin and Colding to honorable mention have been considered. But the discovery of the mechanical equivalent of heat rested with Mayer and Joule, and it was owing to the experimental proofs of the latter that the physicists received it as established.

This discovery is in itself the foundation of the subsequent progress of the science, and whoever made it might be regarded as the beginner of a new era, even if he did nothing towards the application of it. Now, Joule did this to the satisfaction of all, and we may say with truth, if no one else had done anything towards the discovery, science in general would have been as far advanced as it is now.

But does this give the sole credit to Joule? By no means, for the same may be said of Mayer; for, without Joule, the same impulse would have been given to science though somewhat later, and some of the English school who are now eminent in this field might not have obtained their distinction. In fact, Joule can claim no more than bare

* Professor Bohn and Dr. Akin have given an interesting paper in vol. xxviii, IV, of the *Phil. Mag.*, on these anticipations. In particular the latter gives a quotation from an article by Mohr, of Coblenz, in 1837, where he says the force of the arm in turning the electro-magnetic machine reappears as heat, light, chemical affinity, and magnetism. This anticipates a passage from Joule. And "what . . . produces a force must itself be a force. What . . . counteracts a force must itself be a force. Heat appears in innumerable cases as a force." These expressions are in various places paralleled in Mayer's book.

equality in the discovery of the mechanical equivalent of heat; for Mayer certainly had the priority in its discovery. He looked for it with intention, and found it, with full consciousness of its importance, by a method now proved perfect. And, in addition, he followed it up to its full development in a way then unequalled, and which, probably, will never be surpassed by any single man. The labourers in this field since that epoch may be classed thus. In the front, in a rank occupied by himself alone, stands Mayer, the man of genius, the discoverer, and the generaliser. Next (in the general question of energy) come Helmholtz, Rankine, Clausius, Joule, and Thomson. After them come Faraday, Tyndall, Grove, Waterston, Carpenter, Regnault, Frankland, Fick, and many others whom it is no disparagement not to name, as this has no pretensions to being a complete history.*

(To be continued.)

* *Note.*—I had nearly finished the foregoing pages from data furnished by the *Phil. Mag.* up to 1860, and the standard works quoted, when I met with a remarkable controversy on the claims of Mayer, in the *Phil. Mag.* in 1863 and 1864. To us, who are not physicists, this correspondence is extremely astonishing, and contains an element of fun in it that one would scarcely expect in the grave pages of a journal devoted to the exact sciences. We are often given to understand that in the physical sciences any assertion can be at once submitted to mathematical calculation or to experiment, and there is no room for those contests of opinion, far less the unseemly squabbles which disfigure medical periodicals. A glance at this controversy dissipates all such Arcadian notions, and we understand at once Sir H. Davy's smile when the young Faraday desired so ardently to enter the ranks of science because of the mental elevation it induced. Instead of the measured language of the calm and passionless physicists, we have here a vigour and sharpness of style that make us, of the house of medicine, feel quite at home; which, in fact, would equal that of politicians, or even rival the bitterness of the theologians themselves! The occasion was a lecture on 'Force,' by Tyndall, in 1862, wherein due place was given to Mayer. This attracted the notice of Sir William Thomson and Professor Tait, who had taken up a strong opinion on the exclusive claims of Joule, which they thought it their duty to make known, and even to censure Tyndall for his want of patriotism. But, instead of doing so in a scientific organ, they proceed to whisper it into the ears of the—Tait boasts—120,000 readers of *Good Words*, a domestic periodical of the "goody" class, greatly affected by old women of all ages

and both sexes. After a time this also comes to the ears of Tyndall, who in March, 1863, writes in the *Phil. Mag.*, expressing his surprise at the publication chosen for such a subject, pointing out his ground for his statements, and mildly requesting to be explicitly informed wherein he had misstated any facts. Now begins a kind of triangular duel, of a very singular kind, and in which the buttons are off the foils with a vengeance. Next month (April) Tait writes, for Thomson and himself, a reply in a style of cool insolence perfectly amazing. After sneering at Tyndall's taste for the re-habilitation of wronged foreigners, he actually informs him of all the assertions they had been making, as if they were undoubted facts, in the manner of a schoolmaster instructing little boys. This to Tyndall, who might have been thought as well as, or better informed on the subject than any man in England! Flesh and blood could not stand this. So Tyndall boils over with indignation and answers, in a letter couched in words that remind us of the days of Milton, Salmasius. He addresses his letter exclusively to W. Thomson, "the elder and more famous man, whose behaviour is the only one of interest to the world," and telling Tait to have the grace and modesty to stand aside till they settle the affair. Then he goes through the whole question, and bit by bit brings out the facts of the matter, which have been given almost completely above, and it is indeed satisfactory to me that the sufficiency of the plan adopted, viz. explaining the matter by following the footsteps of the discoverers, is corroborated, and I find but very little to add, and only a few sentences have been inserted here and there since I read this controversy.

He takes Thomson to task for his want of acknowledgment of the priority of Mayer in several instances in which he himself is concerned, and charitably hopes that it was rather from ignorance of Mayer's works than plagiarism. He proves with ruthless precision of dates and quotations that it must have been the one or the other. In particular he refers to the meteoric theory of solar heat, and to the loss of the earth's rotation by friction, on which subjects he had silently watched Thomson's conduct with pain for several years, and he still invites him to have the manliness to retract. Thomson, however, remains obdurate; he has taken many cities, but has not yet obtained the victory over himself. For, in 1866, we find him writing a paper *On the Tidal Retardation of the Earth's Rotation*, wherein Mayer's name is not even mentioned. The magnanimity of Tyndall appears now, for, after all this, in the later editions of his book on heat, no word in dispraise of Thomson appears; and, in fact, it is chiefly through Tyndall that Thomson is favorably known to the general public, for his own works are extremely abstruse. To return to the battle of 1863, which still rages, though now the parties do not write *to* each other, but *at* each other in letters to Sir David Brewster. In June Thomson has a short note evidently written in the sulks; he stands upon his dignity, and declares he will not be spoken to in that way; says he won't answer, and he doesn't, but pushing forward his henchman Tait, he backs out of the fray, and is no more seen. On comes Tait with a dogged courage worthy of a better cause. His tone is now much more moderate, and he is compelled to admit certain facts, though he argues against the interpretation put upon them, his mind

being evidently warped by the position of an advocate, then taken up. Again, in July, Tyndall appears setting him right on some minor matters. At length the din of the contending heroes is heard in Olympus, and now the demigods step down into the arena. We have a letter from Mayer himself. Here the man of genius shows his wonted amiability and candour; he thanks Tyndall for his defence of his rights, "which makes all the deeper impression, from the fact that for many years I have been forced to habituate myself to a precisely opposite treatment." But he speaks with respect and cordiality of Joule, whom, he says, "I have never regarded as an antagonist, but, as you truly expressed it, have always considered him to be my esteemed and renowned fellow-labourer in the same domains of thought."

After this we have two letters from Joule, which do not make so pleasing an impression, as he is disposed to claim for the experimental demonstrator the exclusive merit of the discovery, though he acknowledges the intellectual merits of Mayer. His letters are, in fact, chiefly a continuation of the subject already discussed in the 'Comptes Rendus,' and are mostly made up of extracts in French. It is here, also, he attributes that calculation of the M. E. H. to Séguin which has been noticed at §.20. Tait, again, has two papers in which, while compelled to give in as to the facts, he adheres to the line first taken, and still continued in his book in 1868, viz., that of the advocate, by spreading the intellectual merit among such a host of competitors, from Newton downwards, that he contrives to give Mayer a very subordinate place, while the whole merit as the discoverer is given to Joule. Tait now adds to his other misdemeanours the unpardonable crime of becoming dull from mere iteration. The reference to Newton calls up Dr. Akin and Prof. Bohn, of Giessen, who correct him on some points. Ultimately Tyndall, in July, 1864, writes a complete and exhaustive paper on the whole subject entitled "Notes on Scientific History," which clears up any points left doubtful, and he concludes by stating that he has received the assurance of several competent judges both at home and abroad of the justice of his stand-point, and highly approving of his conduct. We rise from the perusal of this controversy with the conviction that the votaries of the exact sciences are not the passionless beings we have been led so suppose, but are very much as other men are. We receive if possible a more exalted idea of the genius and character of Mayer, and sympathise more fully with him in the great misfortunes which so long kept him from his well-earned fame. We are a little disappointed to find Joule still stickling for the exclusive claim of the experimentalist to the discovery, though we are glad to see that, like a great man as he is, he candidly acknowledges a mistake.

We rejoice in the pluck and spirit of Tyndall, who stands forwards like a noble true-hearted Englishman to fight the battle of truth and justice.

THE PRACTITIONER AND HOMŒOPATHY.

WE noticed the appearance, some two years ago, of a journal professedly established to advance the much-neglected study of therapeutics; and we naturally hailed its advent with considerable well-wishing. We looked with much curiosity to see what notice would be taken of what is the only general therapeutic theory at present propounded, viz. that of homœopathy. A rigid silence was preserved on the subject throughout the first fourteen monthly numbers; and we were ourselves contemplating an attempt to break the ice, when it was done for us in a curious manner. There came before the editor for review, at one and the same time, Dr. Ringer's *Handbook of Therapeutics*, and Mr. Pope's *Drift of Modern Medicine*, in which he claims nearly all that is original in the former for homœopathy. It was impossible to ignore the subject any longer; and accordingly the review of Dr. Ringer's book dealt with the question of the relation of some of his recommendations to homœopathy, and Mr. Pope's address received a notice of its own, being "selected as a peg whereon to hang certain remarks on the present attitude of homœopathic medicine." Into the merits of these remarks we have already entered (see vol. xxvii, p. 658). With one exception—the assertion of the "metaphysical" nature of the theory of similars—they have not been repeated; and we cannot do better than leave them where they are.

But now began a fresh development of the subject. The reviews we have alluded to appeared in the number of the *Practitioner* for September, 1869. In the November number came a paper from the pen of Dr. Charles Phillips, "On the Action and Uses of *Ipecacuanha*," confirming Dr. Ringer's experience of its value in vomiting, and in the same minute doses, while also stating its curative power in other disorders—as whooping-cough and asthma—to which its physiological effects showed it to be a *simile*. We desire to say nothing of the author of this paper; but the source

of his inspiration is sufficiently obvious. His remarks called forth the following note from the editor :

“ Dr. Ringer's late work on therapeutics having asserted the effect of small doses of *Ipecacuanha* in checking vomiting, the editor wishes to accumulate evidence upon this matter, as to which he is at present unable to pronounce any opinion. But he calls attention to the fact that, should it be proved, as seems likely, that small doses of *Ipecacuanha* exert a tonic effect upon the sympathetic system generally, it will be the most effective blow yet given to the homœopathic theory of *similia similibus*.”

In the next number (that for December) the editor's appeal for evidence was responded to by one of the editors of this Journal ; and two cases of cure of chronic vomiting by minute (gr. $\frac{1}{100}$ th) doses of *Ipecacuanha* were given. To these the following remarks were appended : “ I desire to be allowed to add a few words upon the *rationale* of this action of *Ipecacuanha*. The editor of this Journal calls attention to the fact that should it be proved, as seems likely, that small doses of *Ipecacuanha* exert a tonic effect upon the sympathetic system generally, it will be the most effective blow yet given to the homœopathic theory of *similia similibus*. It might be such a blow were this theory put forward as the *interpretation* of the curative action of *Ipecacuanha* or any other drug. But it makes no such claim. It professes only to be a guide to the selection of the remedy. It is a generalisation of an empirical and phenomenal order—a rule of art rather than a law of science. As such, it is untouched by any speculations as to the *modus operandi* of remedies. It is simply an organon for the discovery of remedies of the class called specific. These may be, and have been, otherwise discovered. But those who are guided by *similia similibus* believe that by its means more 'specifics' have been found in the last half century than have rewarded other modes of research for the previous five thousand years. Take this very instance of *Ipecacuanha*. Is it very likely that the opinion that it exerts a 'tonic action upon the sympathetic system generally' would have led to its use in vomiting, and would have

indicated minute doses as the most suitable for the purpose? While, on the other hand, I am sure that both Dr. Ringer and Dr. Phillips would readily admit that they learnt this drug from those who had themselves arrived at it by following the rule *similia similibus curantur*, and to whom its value in vomiting has been a familiar fact for the last fifty years and more." An appeal to the profession to follow up the present instance by testing by experiment other allegations of the homœopathic school ended the paper. To it the editor appended a note as follows: "The author of the above misses the main drift of our objection to '*similia similibus*,' and also to 'allopathy,' which is, that there is no such thing in existence as a 'similarity' or a 'difference' between drugs and diseases, except in a thoroughly superficial and misleading sense. The idea is metaphysical, not scientific, and all history shows that such ideas form the worst possible basis for scientific inquiry. No better proof of this mischievous tendency could be shown, in our opinion, than its influence in keeping up the belief in 'specific' remedies." As this assertion of the metaphysical nature of the theory of similars appears to be a strong point with Dr. Anstie, we shall briefly discuss it with him.

A metaphysical idea is one which belongs to the mental region only, and makes no attempt to ally itself with facts. Such an idea is the theory of phenomena and noumena, which commends itself by its own inherent propriety, and which experience can neither confirm nor disallow. Is the idea of similarity of this class? Is it not, on the other hand, a necessary result of certain comparisons which we make? If we compare two objects, they must either agree in so many points that we feel a similarity between them, or be in so many points directly opposed one to another that we call them contraries, or have so little relation of either agreement or opposition that they cease to be linked together in our minds at all. Into one or other of these categories of thought (*ὁμοίως, ἐναντίως, ἀλλοίως*) all objects must be brought if compared together. If, indeed, the comparison is "superficial" it may be "misleading;" but that is a fault

of working, not a vice of method. Now, surely, the effects of drugs and the symptoms of disease are suitable objects of comparison. They both occupy the same field; and both are nothing more than perversions of function of the healthy body. *Prima facie*, the effects of certain drugs do show similarity to the symptoms of some diseases, and difference from those of others, *e. g.* arsenical poisoning is very like cholera, and very unlike rheumatic fever; strychnine poisoning is very like tetanus, is exactly opposite to spinal paralysis, and is altogether different from catalepsy. Then let us see if the resemblance is superficial only, as by such a post-mortem examination of a case of poisoning by *Arsenic* as that recorded in the last number of this Journal (p. 202). We there find (in Virchow's own words) "how very similar the condition of the alimentary canal is to that in cholera; not only the extensive follicular affection and the whitish swelling of the mucous membrane, with distension of the veins, merit emphatic notice, but, above all, the gruelly and rice-water-like condition of the contents, without either bile or fecal matter." The "cholera-fungi" also were present.

We maintain that a "similarity" thus thoroughly established is not a metaphysical but a scientific idea; and that the only question is, does its existence indicate (as we say) or contraindicate (as is commonly said) the drug to which it belongs?

As regards "specific" remedies, Dr. Marston has said all that is necessary. A letter from this gentleman was, somewhat grudgingly, admitted into the *Practitioner's* February number; and with this it appears that any further contributions from the homœopathic school to the evidence about *Ipecacuanha* called for by the editor must cease. For he now tells us that he "must decline to receive statements about the action of infinitesimal doses. . . . The question before us," he says, "is—What is the effect of administering a quantity of *Ipecacuanha*, not inferior, or only slightly inferior, in total amount to the doses recommended in the class-books, but divided into minute portions which are administered with great frequency?" He is, of course, quite at liberty thus to narrow the field of discussion, though it

be at the cost of knowledge and successful practice. But we must remind him that this "great frequency" of administration, which is supposed to make up for the minute division of the dose, has not hitherto appeared in the cases recorded; and looks suspiciously like an after-thought invented to cover the real bearing of the facts in favour of infinitesimals.

But now comes the most amusing part of the whole story. Dr. Anstie, who has expressed himself so contemptuously of the homœopathic theory as a piece of mysticism, himself adopts it in its entirety, together with its corollary of the small dose, to explain the benefits of counter-irritation. There is nothing surprising in this to ourselves, who know well how often our opponents are homœopathising without knowing it. But for some under whose eyes these pages may come the statement needs substantiation; and this we proceed to give it.

A paper "On the Theory of Counter-irritation," by the Editor, appears in the March number of the *Practitioner*. In many respects it is to us a grateful one. It joins our assault upon this branch of traditional medicine, admitting (almost for the first time) the "enormous aggregate of suffering inflicted upon patients by the use, more especially, of blisters," as a thing "only to be justified by very stringent evidence of its high utility."* It alleges, as at

* The author's words on this subject are weighty. He condemns "the small account taken of the positive suffering inflicted by the severer forms of counter-irritation (which are those most generally employed) and the very real dangers to health, and even life, which they unquestionably involve. Upon this point I cannot help criticising, with some severity, every section of the party which upholds the frequent use of these agents. I do not know whether either Dr. Bennett or Dr. Ross have (*sic*) ever personally endured the infliction of a blister, kept open for a week or so, but I have; and I can speak to the fact of its entailing an amount of pain and inconvenience to which no patient ought to be subjected, except for very good reasons. But the matter is far more serious in regard to the effects of this treatment, when recklessly applied to children and delicate women. Even if we grant that Dr. Bennett is justified in dismissing, as a mere 'bogey,' the suggestion of Dr. Dickinson, that infective processes may be set up by the artificial wound, it is none the less true that delicate children with broncho-pneumonia may be killed with a single blister, and that weakly subjects of post-partum peritonitis may be easily extinguished by the zealous use of the *Turpentine* stupe; yet who that has

least casting a doubt upon such high utility, that the author has "observed a large number of cases in which a *homœopathic** or some other indifferent treatment had been followed by equally good or better results in inflammatory diseases, than were obtained by even the most sedulous use of counter-irritation." And it exposes with unsparing severity the conflicting and untenable theories of the counter-irritative process afloat in the medical world. "Metaphysical," "ludicrous," "ridiculous in a scientific, and disastrous in a practical point of view," "not creditable to the philosophic education of the profession"—such are the phrases Dr. Anstie feels himself compelled to use to characterise the thoughts of his colleagues. Verily these Midianites will fall without our onslaught, every one of them by the hand of his brother.

And now what is the theory propounded by Dr. Anstie himself, as explaining the process and justifying the moderate use of counter-irritation? He agrees with Dr. James Ross that "counter-irritants exert an influence always *stimulative* and not *depressing* in tendency." But he differs from him in believing that this influence is exerted not only or chiefly through continuous and contiguous parenchyma, but also through the nerves, along the paths of reflex action. For the present let us fix our attention on the point of agreement. Counter-irritants are beneficial in inflammation: and they always act as stimulants. Now inflammation is itself the effect of over-stimulation of a part. What other formula but "*similia similibus*" will characterise such a curative process? This indeed Dr. Anstie admits in so many words. He argues against the common mode of blistering in the following manner: "If we attack with a blister some five or six inches square of the skin covering the chest of a pneumonic patient, it is impossible for us to be sure that in attempting to produce a beneficial stimulant action on the lung beneath we shall

made acquaintance with average practice will deny that numbers of medical men still lean with blind dependence upon such remedies in such cases? They are the refuge of the destitute, the one haven that seems open in dirty weather!"

* The italics are ours.

not gratuitously involve six inches square of previously healthy costal pleura in an *inflammation*, which may be by no means trivial in its effect upon the final issue of the case." So that the same agent which benefits an inflamed lung may inflame a healthy pleura: and, by inference, would tend to inflame the lung itself if "proved" upon the healthy body. Homœopathy claims nothing more for the remedies she uses.

But now, if Dr. Anstie's counter-irritation be homœopathy, we should expect to find the small dose following here also as the corollary to the principle of similarity. And so indeed it does. It has already been hinted at in the last extract we have made, where the large amount of counter-irritant influence is objected to as liable to disturb healthy parts. This is one of our reasons for the small doses. But Dr. Anstie is not less alive to the other and more important one,—the danger of *aggravation*. Read his first three propositions.

"1. It can hardly be doubted that if so-called counter-irritants are to do any good in the early pyrexial stages of inflammations, they must do so by the exercise of an influence which contracts the arterioles, thus heightening the arterial blood-pressure, and relieving the stress of the capillaries.

"2. But all experimental evidence goes to show that strong irritation (strong, *i. e.*, either from the virulence of the agent, or the directness with which it is applied to the suffering part) tends to produce, not contraction—or this only momentarily—but paralytic dilatation of the arterioles, and passive overfilling of the capillary web.

"3. Hence it would appear that if the more powerful stimulants ever do good in the acute stages of inflammation, it can only be when they are applied at such a distance that their influence falls *very gently*, and *much diluted*, on the part aimed at."

And he sums up his theory as follows:

"I have never denied for an instant that the transmission of an influence from the skin to distant organs is possible; but I insist on two things. First, that unless we can

proportion the force of the skin irritation to the vital status of the part to be acted on, we are as likely as not to produce an effect exactly opposite to what we intended," that is, we shall cause (homœopathic) aggravation ; " and, secondly, that we ought to have some guarantee for the influence being limited in incidence to the affected part at which we aim it. And it seems probable that by reflex stimulation applied to a physiologically distant tract of skin, which is nevertheless in direct communication with the centre on which depend the nerves of the affected organ, we at once secure the necessary *dilution* of the influence, and an intelligible *path for its transmission* to the diseased part, and to that alone."

Here the italics are the author's. They show that his cardinal aims are identical with our own. He wishes to send an irritant influence to a part already suffering from the effects of irritation. This is how we treat all inflammations. He requires directness for its transmission and dilution of its intensity. So also do we. But what he gains for his blister by reflex action and distance, we obtain for our drugs by elective affinity and the small dose. The only difference is that our range of action is immeasurably wider, and that we avoid doing the admitted evil of blistering that the good of counter-irritation may come.

We have not written this to catch Dr. Anstie in a dilemma : and we hope that, should it meet his eye, it may not rouse in him the feeling of antagonism. Our desire is to show our opponents that they have not yet mastered the idea of homœopathy, and therefore must not suppose that they have judged it and found it wanting. Here is one, not the least able and candid among them, pooh-poohing it through half-a-dozen numbers of his Journal, and then unconsciously adopting it in its entirety in the one following. If it is not "metaphysical" and so objectionable, when used by Dr. Anstie to explain and define counter-irritation, it can hardly be condemned in us when we attempt to apply it to drug-action.

We would once more direct Dr. Anstie's attention to the perfect explanation of the whole process of irritation and counter-irritation given in Dr. Fletcher's works, a full

account and appreciation of which he will find in Dr. Drysdale's paper in the number of this Journal for July, 1869. We have no space here to repeat Fletcher's views, but, as they have so recently been fully discussed in our pages, this is not necessary.

THE CONTAGIOUS DISEASES ACTS.

By DR. C. B. KER.

IN 1864, 1866, and 1869, there were passed by Parliament Acts for the purpose of limiting the spread of venereal diseases in the army and navy, entitled "The Contagious Diseases Prevention Acts." Attention had been long directed to the subject of those diseases, and medical men had frequently endeavoured to interest the Government in them in consequence of their prevalence and serious effects. The system adopted in France and Belgium recommended itself to our military and naval surgeons, and they advised that system to be put in force in this country and in our colonies. They supported this advice by giving facts in proof of the prevalence of venereal diseases among our soldiers and sailors. They showed that, in 1865, of the 68,600 admissions into hospital in our home army of 73,000 men, 20,600 were for venereal diseases; that in a year an entire week of the services of the troops stationed in this country was lost by those diseases; that in 1860, one in every four of the Foot Guards was invalided by them; that in 1862, there were 7000 admissions into hospital of the 88,600 sailors of the Royal Navy, and that in 1863, there were 1848 admissions into Haslar Hospital alone of venereal cases. It was also shown that whereas in the Prussian Army the yearly admissions into hospital of syphilitic cases were 62 in 1000, in the Belgian army 80 in 1000, in the French 97 in 1000, in the English army such admissions amounted to 258 in 1000. Stimulated by such facts

Government set itself to work, and, in 1864, passed the first of the Acts which are the subject of our remarks. The Acts of 1866 and 1869 were merely amendment-modifications of that of 1864, and they will here be spoken of as one act only.

The chief provisions of this Act are the following—we shall give them in the words of an article in the last January number of the *British and Foreign Medico-Chirurgical Review*. “First, twelve military and naval stations are selected in which, and within a radius of five miles round which, the Act is to operate. Second, the authorities of the Admiralty and War Office respectively are empowered to provide hospital accommodation for diseased women, and also to appoint visiting surgeons, who shall examine women brought before them. Third, power is given to the superintendent of police to bring up before a justice any common prostitute resident in any place to which the Act applies, or if resident within five miles of such place, who shall have been within its limits for the purpose of prostitution; and such justice is empowered to order her to be subject to a periodical examination by the visiting surgeon for a year. Fourth, provision is made by which a woman may voluntarily, without being taken before a justice, submit herself to such examination. Fifth, in the event of a woman being found diseased on examination the visiting surgeon is directed to detain her, and to place her in a hospital for treatment, where she can be detained in legal custody, either till cured or for a period of six months. Sixth, the hospital surgeon, on discharging a woman, is to certify whether or not she is free from contagious disease, one copy of the certificate to be given to the woman. Seventh, if discharged uncured, and subsequently found to be acting as a prostitute, she is made liable to punishment. Eighth, any woman thinking herself aggrieved by detention, or wishing to be relieved from periodical examination, on account of discontinuing prostitution, may apply to a justice for relief. Ninth, penalties can be inflicted upon any owner of a house permitting a prostitute to resort to it for prostitution, if he knows at the time that she is a common prostitute and

diseased. Tenth, there is, finally, the ordinary provision made for enforcing the observance of the Act by fine or imprisonment."

With the exception of the sixth of these provisions, which was removed from the Act last year, they are still in force at this time. With reference to that excluded clause it was rightly believed that the certificate system would lead to abuses, and that it might give ground for the objection that the Act legalised prostitution.

The period during which the Act has been in force is too short for any absolute conclusions to be derived against or in favour of it. The weight of testimony, however, is greatly in its favour, as will be seen by the following facts.

Table showing the number of admissions into hospital of syphilitic cases per 1000 of effective strength in 1866 and in 1869 at naval and military stations. ('Lancet.')

	Annual ratio in 1866.	Annual ratio in three quarters of 1869.	In the same period, less those who con- tracted disease outside protected districts.
Plymouth and Devonport...	317	155	104
Portsmouth	359	199	123
Chatham and Sheerness	326	352	164
Woolwich	219	190	75
Aldershot	233	195	110

It will be seen by the above table that, in course of time, if both men and women could be kept within the protected districts, venereal diseases might be stopped altogether.

Assistant-Surgeon Lane gives the following facts of his experience of one regiment, of protected Windsor and un-protected London, in 1869 :

Admissions into Hospital for Syphilis.

<i>Windsor.</i>		<i>London.</i>	
March	11	September.....	17
April	6	October	29
May	6	November	23
June.....	7	December	93

Surgeon-Major Johnstone, in charge of the Cork Lock Hospital, writes to the effect that syphilis has diminished

50 per cent. during the six months in which the Act has been in force there. Mr. Nankivells experience of the Chatham Lock Hospital shows that, in 1867, before the Act was in force, the average time in hospital for syphilitic cases was fifty-two days, and that now the average time for those cases is thirty-two days; that the disease has diminished greatly in severity, and that the women are more cleanly and better behaved. Lieut.-General Sir Henry Storks, in a letter addressed to Mr. Skey, dated Oct. 22nd, 1865, says:—"This careful and periodical inspection (of prostitutes) was attended with the happiest results, and the disease may be said to have almost disappeared in the islands of Corfu, Zante, and Cephalonia. In Malta, the same police regulations exist, and I know of no place so singularly free from venereal disease as regards the professional prostitutes." "The amount of disease and misery that would be prevented by enforcing a sanitary inspection of prostitutes is incalculable, and it is a subject which earnestly claims the attention of the authorities competent to deal with it." Admiral Sir W. F. Martin, to a question put to him by the "Committee on Venereal Diseases in the Army and Navy," replied, "After the regulations with reference to the police and the Lock Hospital had been in force a few months, there was not a single patient, I believe, in the Malta Hospital who had contracted the disease on the island." (Before the regulations there were generally from 40 to 50 beds occupied by venereal cases.) "It has been estimated that half the disease in the navy of so serious a kind as to lead to the discharge of the sufferers from the service, has been occasioned or aggravated by that one complaint; and but for which each of our naval hospital establishments might be considerably reduced. In other ways, the public pay enormous sums of money in consequence of its effects upon soldiers and sailors." Staff-Surgeon W. H. Sloggett, before the same committee, gave evidence to the following effect:—that in 1858 he was at Honolulu for three months as surgeon of the *Calypso*, a frigate, with a crew of 153 men. The result of free intercourse with the shore was that nineteen cases of venereal ulcers and four-

teen cases of gonorrhœa were soon on the sick list. Two years later the same ship and crew visited Tahiti, a French "protected" island, where the men lived for three months in huts on shore and had unrestricted intercourse with the natives. In this case the result was that only four men were put on the sick list, one for venereal ulcer and three for gonorrhœa. Plymouth, Portsmouth, Chatham, Sheerness, Woolwich, and Aldershot were the first places where the Act was put in force, and Government was so satisfied with the result of its working there that it extended the sphere of the Act's operations to Colchester, Windsor, Shorncliffe, Canterbury, Dover, Gravesend, Maidstone, Southampton, Winchester, Cork, Queenstown, and the Curragh. The clergy and gentry of Winchester were so satisfied that the Act would diminish the evil of prostitution in their city that they petitioned Parliament to be included in the districts named in the Act. At Plymouth there has been a gradual decrease of the number of cases of primary syphilis since 1854, when the new law came into force, as will be seen by the following table.

Six-monthly periods.	Mean force.	No. of cases.	Ratio per 1000.
First six months of 1864 ...	1642 ...	213 ...	129·7
Second " " ...	1690 ...	203 ...	120·1
First " 1865 ...	1707 ...	179 ...	104·8
Second " " ...	1513 ...	154 ...	101·7
First " 1866 ...	1685 ...	105 ...	62·3
Second " " ...	1788 ...	108 ...	60·4
First " 1867 ...	1581 ...	78 ...	49·3

The London Lock Hospital is managed on the voluntary and on the compulsory plan. Mr. Lane, the senior surgeon, in a paper he contributed to the *British Medical Journal* in February, 1868, tells us that 100 of the beds are supported by Government, and 30 by the subscriptions of the public; that the stay in hospital of the ordinary patients is 50 days, of the Government patients 34 days; that the severer forms of venereal disease constituted 80 per cent. of the ordinary, and 41 per cent. of the Government cases; that severe constitutional syphilis amounted to 43 per cent. of the ordinary, and 13 per cent. of the Government patients.

In Woolwich the druggists, who supply medicines to such

as apply to them having the different forms of venereal disease, assert that the demand for such medicines is very much diminished, and that the cure of these diseases is accomplished by much simpler means than formerly. At Sheerness, a place more shut out from communication with other places than most naval or military stations are, the disease is nearly stamped out.

Such is a condensed history of the introduction of the "Contagious Diseases Prevention Act" into this country, and of its first effects. These effects or results would probably have been more decidedly favorable had it been possible to exclude from communication with unprotected towns and districts those under the operation of the Act. But the degree of success met with induced Government to adopt or pass an important measure of legislation in the same direction and with the same object in view in 1867. It was in the shape of a clause inserted in an Act to make the Poor Law Board permanent, and to provide sundry amendments, &c., and to this effect. "When there shall be in any workhouse a poor person suffering from . . . bodily disease of an infectious or contagious character, and the medical officer of such workhouse shall, upon examination, report in writing that such person is not in a proper state to leave the workhouse without danger to himself or others, the guardians may direct the master to detain such person therein; or if the guardians be not sitting, the master of the workhouse may, until the next meeting of the guardians, detain him therein; and such person shall not be discharged from such workhouse until the medical officer shall, in writing, certify that such discharge may take place; provided, however, that this enactment shall not prevent . . . the removal of any poor person after the parent or next of kin of such person shall have given to the guardians such an undertaking as they shall deem satisfactory, to provide for the removal, charge, and maintenance of such person with due care and attention while the malady continues; and this provision shall apply to every district school and district asylum, and to the managers, board of management, medical officer, superintendent, or master thereof respectively."

This provision of a Poor Law Bill virtually makes every union workhouse or infirmary a hospital under the "Contagious Diseases Act," and, if properly carried out, will tend greatly to the lessening of the amount of venereal diseases throughout the country.

But a more important result of the successful working of the Act in question was the formation of the "Association for Promoting the Extension of the Contagious Diseases Act, 1866, to the civil population of the United Kingdom." The objects of this Association are manifest from its title. Such as are affected with any description of contagious diseases should, it holds, be considered dangerous members of society, and excluded, accordingly, from communication with others. Syphilis is a contagious disease which may affect not only those wilfully exposing themselves to it, but others also who are perfectly guiltless, the children, for instance, of diseased parents. Those, therefore, affected with venereal disease should be prevented from contaminating others. The Association, also, has for one of its objects the moral improvement of prostitutes, and does not propose adopting the licensing system of France and Belgium, and other continental countries. It argues that the measure of success which the working of the Act has met with at the towns and stations where it has been in force justifies the belief that prostitution and venereal diseases would be greatly diminished if it (the Act) is extended to the civil population.

The evidence above given of the results that followed the putting in force the provisions of the Act at our military and naval stations, secures, the Association believes, that one of its great objects will be gained—the lessening in extent and severity of venereal disease. It is confident also that its other object will as certainly be gained, the moral and social improvement of the prostitute. This confidence is founded on the following evidence. The Lock asylum is attached to the Lock Hospital, into which every woman who so wishes it may enter on leaving the latter. "In 1867, 34 Government patients and 42 ordinary patients entered the asylum, whence 16 have left at their own request, 8 have been restored to their friends, and 52

remain in the asylum. During 1867, the asylum placed 18 of its inmates in good situations, and 13 were restored to their friends. A large proportion of them received sums of money on leaving as rewards for good conduct and industry." The Rev. L. G. Bailey, chaplain of St. Bartholomew's Hospital, Chatham, has stated his conviction that the Act was "the means of bringing under religious and moral instruction many scores of degraded women who had never been under such influence before; and that, during his chaplaincy of only ten months, no less than 39 of these unfortunates had been restored to their homes, or induced to enter reformatory institutions."

The Rev. H. F. Phillips, of St. Peter's, Rochester, in a letter to Mr. Berkeley Hill, writes:—"Having had opportunities of seeing the working of the 'Contagious Diseases Act,' I have reason to believe that it has worked thoroughly well, so far as it goes in bringing under instruction and good influences, as well as offering an opportunity of reformation to a class that has been too much neglected, and which, perhaps, could not possibly be reached in any other way." "The hospital authorities have made great efforts to reclaim the girls, and have returned to their friends 38 per cent. of them after dismissal from hospital." In the four years, 1860—3, 1934 women were arrested in the streets of Paris "for practising clandestine prostitution; these were mostly young girls recently led astray, but whose better feelings were not yet obliterated; of this large number, 1125 were restored to their friends." At Devonport, since the commencement of the period at which the Act was put in force, 550 women have been reclaimed and returned to decent life. There were 2000 prostitutes there (at Devonport) in 1864, and now there are only 770, according to Mr. Sloggett, who, at the same time, says "these numbers which I give are not vague." He says, also, that this reduction of the number of prostitutes is owing partly to the moral influence brought to bear upon them while under treatment, and partly because a great number of women get ashamed of constantly being known as prostitutes. "Since October, 1866, when

this Act first came into operation, I have made nearly 9000 examinations in 1775 individual women; that is, the same women being examined over and over again. There now remains in this district only 770. Of the remaining number, which will be in round numbers 1000, about 300 have certainly abandoned prostitution. . . . Those women for two and a half years have left the streets, and are no longer on the streets. They are gaining honest livelihoods. In addition to that, 250 are married, and leading, in the belief of the police, virtuous lives. That will make 550 who have really given up prostitution." It was given on evidence before a select committee of the House of Commons that in one year, from March, 1868, to March, 1869, 4864 women were admitted into hospital at all the stations, and that 391 of those, or about 1 in every 13, either entered a reformatory or was returned to her friends.

Such facts, the Association believe, warrant them in coming to the conclusion that the working of the Act is favorable to one of their objects, the reformation of the prostitute; and it believes also that such results cannot be shown by any of the numerous combined efforts which have from time to time been made by benevolent and philanthropic individuals and societies to bring moral or religious influence to bear upon her. A good argument is furnished them, therefore, in favour of their endeavours to extend the sphere of the Act to the civil population, as it has been shown that venereal diseases are diminished in number and severity since it came into operation, and that prostitutes have been reformed in large numbers.

But this proposal to secure for the whole population the advantage of the Act has been met by strong opposition, and women of influential name and position have, considering it emphatically a woman's question, organized themselves into a strong body for the purpose of resisting by every means in their power the proposed extension. A society has been formed with this object in view called "The National Anti-Contagious Act Extension Association;" and the ladies have a society of their own, and with the same object. These societies have been most active in dissemi-

nating their views and energetic and forcible in the expression of their objections to such as differ from them. By pamphlets, and lectures, and speeches, and letters in the newspapers, they have done their best to indoctrinate the public with their opinion of the Act in question. It is not sufficient to say, as some have said, that the arguments of women and laymen on a medical question ought to have no weight with Parliament. If the arguments urged against the act are reasonable, they should be answered, whether they come from men, women, or children, the educated or the uneducated. What, then, are those arguments which influence so many of the eminent and good among men and women of all classes against the extension of this Act to the whole country? I say against the extension of the Act advisedly; for some, whose objection has been expressed against such extension, are, I have been told, approvers of its application, as at present, to civil and military stations.

Some of the hostile arguments are vague and indefinite, and couched in language which can scarcely be approved even by the members of the Anti-Contagious Act Association; indeed, arguments they are not, but simply denunciations against all who have anything to do with the Act, either as its originators or its active agents. The policeman is "viler than the creature he hunts, and a terror to every decent woman," and as for the legislators who make such laws, the poor creatures (prostitutes) are, "I believe firmly, white as snow" in comparison with them! So writes "a single woman" to the 'Nottingham Journal.' The Act is "a foul disgrace on any civilised community," according to some, and an "infamous" one, and "panders to all that is vilest in our nature." The Bishop of Victoria, Hong Kong, says,—“Let our soldiers and sailors be brought by an adequate and faithful ministry of the Gospel under the influence of God’s omnipotent grace, and then we believe the disease of which we read will cease, not by unnatural and disgusting provisions to protect us from pestilence, but by the mitigation of crime and the mending of morals . . . ?
. . . Divine grace will avail in this age, for it is God’s own remedy against the sin of man, and none other is ade-

quate to meet the case." It is sufficient to answer to these earnest words that other means, besides, must be used to conquer physical evils, and that God must be asked to bless those means, otherwise we depend on miracle. It may also be said that Bishop Alford is wrong if he believes that the means he suggests have never been tried. It is said that, before the Parliamentary Committees which sat to take evidence on the Act, witnesses only were examined (almost without exception) whose living or promotion depended on its existence or extension, all adverse testimony being carefully shut out, and that any one who let slip a word against the measure was "instantly snubbed;" and that, of course, conclusions were thus arrived at which might readily have been anticipated without such loss of time and expenditure of public money. Does any one seriously believe this? Are parliamentary committees to be managed on such terms? The fact is that, before the said committees, evidence was given against as well as for the Act, that that evidence was carefully weighed, and that the verdict given proved that, in the opinion of the members, it (the evidence) was in favour of the Act. Hence the indignation of the opponents of the measure. "Innocent women are reduced to the condition of white slaves." The meaning of this is that the policeman has it in his power to order a woman whom he believes to be a prostitute to go to a surgeon to be periodically examined, or to a magistrate, and it is asserted that it is likely that he (the policeman) will make a mistake and charge a virtuous woman instead of a vicious one with prostitution. This policeman-argument has been much made use of against the Act. Indeed, that official has had hard times of it during the last year or two, but never has he been so unmercifully treated as since the "National Anti-Contagious Act Extension Association" called itself into existence. "No woman is to be safe or to be able to stir abroad after nightfall," not because the thief's or libertine's eye, but the policeman's will be upon her. Mr. Jacob Bright, M.P., says that he will take advantage of every form given him as a Member of Parliament "to protect Manchester girls whose poverty compels them to be out late at night

from the police !” “ Armed with absolute impunity they (the police) bully innocent girls into declaring themselves prostitutes and submitting themselves to periodical examination !” For this nearly incredible accusation I have seen nothing in the shape of proof, and for another, which charges them with making “ horrible” mistakes, only one authentic instance is given, and that by Mr. Parsons in his evidence before the parliamentary commission. “ The policeman believes every woman to be a prostitute whom he sees out at night, and a reason given for arresting a girl on one occasion was that she had been seen twice at a concert !” “ On mere suspicion he can condemn the best woman in the land.” “ The police and the brothel-keepers are one, and the girls are the victims of both ;” and lately, awful to say, one of the force married a bawd !

This much-used argument, that too much power is put into the hands of the police, and that the police are sure to abuse that power, does not go far enough, or goes too far. If the policeman is the miscreant which some of his attackers wish to prove him to be, he would not only not be fitted for the part which this Act gives him to play, but he would not be worthy of carrying into effect any provisions of any law of the land. The police institution must, therefore, cease to exist. The argument goes too far, on the other hand, in asserting that, as the Act’s provisions have led to mistakes on the part of the police, therefore the Act must be a bad one. But policemen, unhappily, have made mistakes with regard to other acts and laws, and have arrested people for theft or arson, or even murder, such people being afterwards proved to be guiltless of those crimes. The laws, however, against murder, arson, and theft, are not repealed because the police blunder occasionally in putting them in force, nor even when judge and jury condemn the innocent to punishment. The fact is that the poor policeman is fallible, and a sinner, like other mortals, and so now and then sins and errs. It is too much to expect perfection and infallibility from him. On the whole, it is pretty generally allowed that he is a steady, honest, hardworking, albeit indifferently paid individual, who does his best to do credit to his

uniform, and to make the law he represents a terror to *evil-doers* only.

As the police have found too little favour in the eyes of the opponents of the Act, so the prostitutes have found too much. Dr. Taylor, of Nottingham, declares that none, considering all things, are more honest than they, and that no class is more imposed upon. Without denying that some of that class are honest and the possessors of other moral virtues, and that they are a much abused and harshly treated and sorely neglected portion of the community, it displays a one-sided and unreasonable judgment to make such a statement as the above, and leads to the result, not contemplated by Dr. Taylor, that his arguments and facts are little relied upon. But the advocates of the Act may claim for it that its provisions admit of the cure, kindly treatment, restoration to friends, and reformation of those unhappy women, and the facts given in another part of this paper show what a considerable number of them have been restored to respectable life. Indeed, it may be said that no scheme for their reformation has been so fruitful of good results. And yet the advocates of the Act's extension are accused of inhumanity and cruelty, of converting women into slaves, and of furthering a scheme which "barters away the birthright of Englishmen for a mess of very dirty pottage." Why, among their other objections, is one that the Act will prove the patron and protector of the prostitute; so it is protector and slave-driver at the same time of the same class!

The recognition of the prostitute is the first step towards the bettering her condition and to her moral amendment, and yet recognition means, it is said, the same thing as sanction and encouragement! The recognition was necessary to secure her physical, and religious, and moral gain. Smallpox and syphilis are both recognised by the State for the purpose of doing its utmost endeavours to stamp them out. The laws against both find many objectors, as all laws do that interfere with the liberty of the subject. But all sanitary laws interfere with the liberty of the subject, and it is too late now to object to what for a great public gain limits the freedom of classes or individuals. The

prostitute when cured of her disease is more amenable to the influences brought to bear upon her to secure her reformation. Attention and kindness are shown her in the hospital. On her entrance her clothes are taken from her for the purpose of fumigation and cleansing, and another set is given to her, which she wears till she is dismissed. Work is given her to do, chiefly for the purpose of accustoming her to regular habits and of giving her a faculty which she may turn to good account if she wishes to adopt a respectable mode of gaining a living. She is surrounded by those whose object is to mend the morals as well as cure the body. It is impossible but that the poor women, surrounded it may be for the first time in their lives by such influences, must be gainers in many ways. But it is said that they are made clean and safe for men, and that so vice must be encouraged. It is too true that the great bulk of the women return to the practice of prostitution. But that is the case also with those from our lock hospitals, which have been in existence so long, and it has not been objected to them that they are fosterers of vice because they cure the women who return to their old calling. On the contrary, such institutions are supported by large voluntary subscriptions, and are looked upon as legitimate objects of the charity of the benevolent. A beginning is made by this Act, the following up of which will undoubtedly be fruitful of good results. Up to this time the difficulty has been to get hold of the prostitute. The efforts have been vain, made by those who stopped her in the street with the invitation to go to a lecture and a comfortable meal. From such she has been obliged to return to her home and all its surroundings. But the Act secures that large numbers of them are confined for a certain number of weeks in hospitals, where they are kept clean, well fed, cured of their diseases, and exposed to moral and religious influences; but, above all things, taken away from their old homes, their old companions, and their old customers. If the prostitute is to be benefited at all it is by such a plan as this; and it is scarcely fair to object to it that the great majority still return to their vicious life. So they will at

first, but, as every hospital will sooner or later have as its appendage something in the shape of a refuge, supported by the benevolent, such refuge will, in all probability, absorb a larger and larger number of the women on their dismissal from the hospital; and there the same influences will be brought to bear upon them, and more work given them to do, and, perhaps, a trade taught to them. Before objecting so strongly to the Act the objectors should show some more efficacious way of benefiting the prostitute. But it demoralises the women instead of doing them moral good, say the objectors. No woman can undergo the speculum examination without demoralisation. It is forgotten that virtuous women submit to such examination every day, or, if it is not forgotten, the objection applies to the *compulsory* and not to the voluntary examination. How is it, then, that we have not heard of this objection before? For many years no woman has gained admission into a refuge or reformatory without submitting to the examination in question, and no cry has been raised as to its demoralising tendency, and such refuges and reformatories depend for their support on the contributions of the public. There is no doubt that many (by no means all) of the women object to this compulsory examination, and there can be only one justification of it. A woman with so contagious a disease as syphilis is dangerous to the community, and must be prevented by every legitimate means from spreading it, even by the means adopted by the Act. That a demoralised woman, as a prostitute must be considered, can be demoralised still further, as is said, by this examination, which she knows has for its object the detection and cure of a disease, can scarcely be seriously argued. She objects to the examination, not on account of the exposure or of the outrage to her feelings, but because it necessitates her leaving the streets and interferes with the gains of her calling when the result is confinement to the wards of a hospital, which, in the majority of cases, it is.

But a natural question arises here, and that is, if a woman having syphilis is a dangerous member of society, and, as such, should be confined and prevented from

spreading the infection, why should a diseased man not be deemed as dangerous and treated in the same way? This is the weak point of the Act. There is no doubt that it would be a more perfect Act if the examination and seclusion of men could be managed as well as of women, and, perhaps, the day is not far off when, if the men are not compulsorily examined and confined, they will at least be heavily fined or punished when it can be proved against them that they have communicated syphilis to a woman. But is the Act to be condemned because there is this flaw in it? Should that flaw so militate against it as to furnish its opponents with an unanswerable argument against its extension to the civil population? Syphilis is so great an evil that if it can be shown that the Act has worked so as to diminish its extent and severity, notwithstanding the said flaw, it should be allowed to remain in force, and the longer it remains in force the more likely is it that defects in its working will be remedied. It is no argument against a law that it does not do all that was expected of it. If it succeeds in doing a great deal, and that well, it should be allowed to stand in the hope and expectation that it will do more. An unexpected objection meets us here, however. It is not only maintained that syphilis is a milder disease now than it was a few years ago, and that it diminishes in severity and prevalence every year, but it is not allowed to be an evil at all! That distinguished surgeon, Mr. Solly, says,—“Far from considering syphilis an evil, I regard it, on the contrary, as a blessing, and believe it to have been inflicted by the Almighty, to act as a restraint upon the indulgence of evil passions. Could the disease be exterminated, which I hope it cannot be, fornication will ride rampant through the land!”

The deduction from this is that the State should not meddle with a disease which is either not an evil at all or a greatly decreasing one. As far as our soldiers and sailors are concerned it has been already shown that the disease is still a very prevalent one, at least, that it was so previous to 1864, when the first Act was passed. Mr. Solly's view of the case leads naturally to a frequently urged objection to

the measure. It is said that we have no right to preserve a man from the consequences of fornication, and that if we do so the sin in question must increase. This objection is met by an argument which is not believed by all, but very decidedly by some,—that men are not deterred from the gratification of their lust by the dread of infection, and that, consequently, fornication will not necessarily increase by the removal of that dread. But it must not be forgotten that it is not fornication that is visited so severely on the offender, it is contact with a diseased woman. Notorious libertines may offend during the course of a long life, and never once be visited by what some call the natural retribution of their immorality. On the other hand, a boy, committing his first offence of this description, may be so contaminated as to suffer for ever afterwards. Syphilis, therefore, can scarcely be called the natural retribution for the sin of fornication, and the Act has, for its main object, the attempt to diminish a disease which has been proved *not* to lessen vice, and the effects of which fall heavily on the innocent. The *Westminster Review* says, “that recognition and regulation are the fruit of convictions which are wholly alien to Christian ideas concerning sexual morality, and which, becoming dominant, exclude those ideas from all share in influencing, restraining, or lessening those sexual aberrations by which venereal diseases are increased and diffused.” It would be difficult to prove this, or it might be met by the assertion that recognition and regulation are the fruit of convictions which are *not* alien to Christian ideas. Assertion meets assertion in this as in many moral questions, and the most opposite assertions are made by those who have every means of information. Facts must be the basis of correct opinion on this as on most other questions, even moral ones, and facts, up to this date, are on the side of the supporters of the Act. If we are justified in making efforts to lessen prostitution we must recognise the prostitute, and some kind of regulation is necessary, such as the Act admits of, to get hold of her, to cure her, and reform her. There is no licensing in this regulation. In the first Act the certificate system was a

part of the regulations, but it was done away with in consequence of its giving ground for the charge of licensing. To compel a prostitute to leave the streets, enter a hospital, submit to examination, and be cured, is to recognise, but not to license, her ; when in the hospital to bring such influence to bear upon her as will humanise if not Christianise her, to give her occupation, and teach her a trade—in all this there is nothing that can be said to violate Christian morals, notwithstanding what the *Westminster Review* says. It is paying a poor compliment to members of both Houses of Parliament to tell them that an Act passed by them after due deliberation and after the examination of witnesses who gave evidence on both sides of the question, is an “infamously vile” one, and one that “panders to everything that is basest in our nature.” And it shows a loss for reasonable objection to the Act that so unreasonable a one is frequently urged as this that it was “smuggled” through the Houses, and implies the uncharitable conviction that its supporters contrived so that it should be carried on any terms, good or bad. Because the Bill and its provisions and consequences failed to attract the attention of the objectors, they visit their negligence on its promoters. A Bill cannot be “smuggled” through the Houses. Good care is taken by Parliament and the public that it should not be possible to do so. Notice of every motion is given many days beforehand, and the newspapers repeat those notices over the whole country. In the case of this Act there was something more to make it known. Two parliamentary committees held their meetings, whose proceedings were published, whose witnesses were examined before reporters, and whose conclusions were made known by the newspapers. How can such an Act be said to have been clandestinely smuggled through the Houses ? And the fact of its having been passed by their own representatives should, to say the least, if it were not for very shame, have prevented the use of some of the epithets which have been applied to it. It might be safely believed that a body of English gentlemen would never approve of what could deserve such epithets.

Some other objections may be noticed before bringing this paper to a close. That of want of success at places where the Act has been in force, is partly allowed and explained, and partly denied. As far as India is concerned, it has been successful in some places and unsuccessful in others, and inquiry has shown that the provisions of the Act have been put in force where it has succeeded, and not put in force where it has failed. In England, communication with "unprotected" places greatly interferes with the success at "protected." But the extension of the Act would enable the plan to be carried out satisfactorily, and so as better to test its working. Another curious objection is that as "London is the most moral city in the world," there is not the necessity for the application to it of any such law, the effect of which would be to make it like Paris which is the most "immoral city in the world." There is no meeting an objection of this sort, both of its assertions being difficult to prove, and another, also, which explains the Paris immorality by the fact that prostitutes in that city are under the police control, duly registered and licensed and examined, is also rather difficult to prove. Be it true or not as an explanation of Paris immorality, the English system is not the same. Here there is no registering and no licensing. An objection against examinations is, that primary syphilis cannot be detected in the woman, and that the risk of using the speculum is so great that it is not justifiable to do so. Well-known surgeons deny that syphilis cannot be detected in the woman. A case in which the diagnosis is difficult every now and then occurs, but few surgeons will admit that the diagnosis, as a general rule, is impossible. As to infection with the speculum, it is not unlikely that carelessness on the part of the surgeon might result in the infection of a healthy woman, but such carelessness is no more to be taken for granted than is the mistake of the policeman who charges a virtuous woman with being a prostitute. But Dr. Stuart and Dr. Letheby assert that infection by the speculum is impossible if the simplest precautions are used. That the Act is made for men against women is another objection. It is not

made *against* women. A law that provides for the cure of a woman's disease and for her reformation and restoration to respectable life, cannot be said to be against her. As for its being made in men's favour, there can be no doubt that the origin of the Act was the anxiety of the State on behalf of the health of its soldiers and sailors. Recognition was given to the fact that syphilis was the disease which most interfered with that health, and a means was had recourse to which, as already shown, had been proved in Belgium, France, and Prussia, to have diminished, to a great extent, the frequency and severity of that disease. It is those means which have given rise to such controversy. The Westminster Reviewer's main argument against the said means is that whenever prostitution is interfered with in any way whatever, the evil increases; not only the evil of prostitution but the evil of syphilis, and he brings forward many startling facts to prove his position. But the objection tells more against the imperfect working of that interference than of the interference itself, for even Mr. Simon, who condemns very decidedly the Act, says that if all its provisions could be carried into effect (which he denies the possibility of) syphilis might be stamped out. But he (Mr. Simon, the Medical Officer of the Privy Council) is inconsistent in his expressed opinion with regard to syphilis. He objects to State interference with that disease on the ground held by many others, that the man who wilfully exposes himself to the risk of infection ought not to be preserved from the consequences of it. But he has said approvingly, on the other hand, that it is the expressed intention of our law that all such modes of personal action or inaction as may be of danger to the public health should be brought within the scope of summary procedure and conviction. Syphilis is certainly dangerous to the public health and so ought to be interfered with, in the hope that, notwithstanding the facts of the *Westminster Review*, a way will be found to lessen or extinguish it. This controversy should, at all events, show that the one thing we are not to do is to let it or prostitution alone.

A good deal has been said about the cruelty to virtuous women, in that they are liable to be made to sign away their character to prevent being dragged before a magistrate. It

is said that the publicity of the police court is so dreaded, that at any cost, even that of periodical examinations, they will avoid that publicity. It is not easy to believe this. To say nothing of the unlikelihood of a virtuous woman, of whatever class, allowing herself to be called a prostitute, and signing a document in which she promises voluntarily to submit to a vaginal examination at stated periods for a year, where is the gain to her? It is to avoid publicity that she does this monstrous thing, and yet there is publicity in the alternative course. Can a woman be seized by the police and taken before a surgeon without its being known to her own particular neighbourhood? Here, then, is the publicity which she is willing to destroy her reputation to avoid. It is simply a question of degree. There is less publicity where the police and surgeon are concerned with her, and more where the police and magistrate are encountered: and for this shade of difference she declares herself a prostitute! It will require very strong proof, indeed, to constitute this a cogent argument against the Act.

Though the objections which have been considered above are not sufficient, in my opinion, to furnish unanswerable argument against the extension of the Contagious Diseases Prevention Act to the civil population, they are entertained by so numerous a body of the intelligent and the good of the land as to render it expedient, if not right, to delay that extension till its working at the stations where it is now in force has been watched and tested for some time longer. It is all the more advisable to adopt this delay, as many of the opponents of the Act do not disapprove of its principle, but only of some of its provisions. If such, on further experience of its working, could be brought to give more of their approval to it the delay would not be without its use. That approval would all the more readily be given if certain changes in the way in which the law is carried out were effected. A circular, signed "A Member of the Ladies' Association," and couched in more temperate terms than most of the pamphlets and letters against the Act, has the following:—"If men are compelled to submit to the same examination as the women—if all hearsay evidence wer-

rejected and voluntary submission were done away with—if every accused person were confronted with the informant before a magistrate—if the women were subjected to examination before properly qualified women—if those who are under seventeen were sent at once on their recovery to industrial schools or refuges—if the hospitals for the women were placed under the charge of religious women—then the measure would be decent and just, and might be successful. Then the innocent would be safe, and the guilty would not be hardened, and men would not be degraded, either by the practical teaching of the law or by being employed in carrying it out.” Some of these suggestions as to the working of the Act are just and good, and might be followed without the efficiency of the measure being marred. If its opponents could be bought over by them the Government might be advised to adopt some, if not all, of them.

But it is to be questioned whether the chief objectors would be so easily appeased. Indeed, they have said that, even could the argument of want of success be shown satisfactorily to be erroneous, they would still oppose it by every means in their power, for they look beyond prostitution and syphilis to their causes, and would have those causes examined and removed. This amounts simply to saying that we must have nothing to say to prostitution and its effects till the results are seen of efforts to make men and women more moral. Such efforts have been always and still are being made, and yet the world is what we see. We should have no criminal code at all if such an argument influenced our legislators. There are two distinct questions for us to answer—what we are to do with prostitution, and what we are to do with syphilis—not always immediately the effect of prostitution. With prostitution this Act has nothing to do except indirectly. With syphilis it has everything to do, its main object being to cure it and to stamp it out. But it claims that its provisions for curing the disease result in the moral as well as the physical amendment of the prostitute, and so it does something to lessen the evil of prostitution. With this latter evil of prostitution women may and do interfere, and to good purpose, too. Let them organize

schemes to put it down, and to help the poor prostitute by refuges and reformatories, and the finding them trades and employments. But with the other evil, that of syphilis, they have nothing to do, except, perhaps, to act as nurses in the hospitals under the control of the surgeon. In judging of the Act its opponents must not consider the former question, but only the latter; and, even if it could be proved by them that prostitution has not decreased since the Act came into operation, in such proof there would be nothing to militate against the Act itself. Let it be shown that syphilis has increased wherever the Act has been in operation, and then the only legitimate objection against it will have been urged, and the only one which ought to influence Parliament.

The remedies that have been suggested to counteract or diminish prostitution, early marriages, private charity, moral improvement, have all been suggested over and over again; and if they could be applied in the way and to the full extent hoped for by their philanthropic advisers, much good would certainly be done. But that is not our business at present. We have to do with a contagious disease which has done and is doing terrible mischief to the health of the community. It is the more pressing question of the two. But let the efforts of both sets of workers keep pace with each other. Let the workers on behalf of the moral reformation of the prostitute do their utmost, and let the workers under the Act do *their* utmost, and let both work as if God blessed their efforts, in the one case to put down the great social evil, in the other to stamp out venereal diseases.

CASES WITH OBSERVATIONS ON THE DRIFT
OF MODERN HOMŒOPATHY.

By R. DOUGLAS HALE, M.D.

(Read before the British Homœopathic Society.)

I CANNOT claim for the cases I am about to read to the Society any originality or great significance, but venture to hope that they will prove how amenable chronic disease is to remedies administered in obedience to our therapeutic law. How this principle has been departed from, in some modern aberrations in practice, will form the subject of some remarks at the end of this paper.

CASE 1.—George Masson, æt. 20, a porter to a stationer, and subsequently to an ironmonger, a tall, awkwardly made young man, admitted to the Hastings Dispensary, May 15th, 1866. His face, with the exception of the forehead, presents the appearance of being covered by a brown mask, which is composed of hardened brownish-yellow crusts of considerable thickness, on the circumference of which are small red blotches, very itchy, having inflamed borders, and sometimes causing him to feel heat and a stinging sensation; the pustules are almost confluent. They burst and discharge an ichorous fluid, which soon becomes dry and brown, forming over the face the mask-like appearance before mentioned; when the scales are rubbed off or removed, the skin underneath looks red and excoriated, and a purulent discharge exudes from a raw surface. Owing to the extent and thickness and colour of the incrustations, it is impossible to tell what kind of features this young man has, but the expression of his face is sad and anxious. He has had this eruption as long as he can remember, and has been under various medical men, and has had every variety of treatment except homœopathic, but without the slightest benefit. Cannot tell, however, what medicines have been given, or local applications employed.

His general health is pretty good, but he is occasion-
VOL. XXVIII, NO. CXII.—APRIL, 1870. z

ally subject to sharp attacks of spasmodic asthma, which strange to say, occur more frequently on Sunday than on other days. He can sometimes trace the asthmatic attacks to chills, and he observes that when the eruption is less irritable, he has more distress in breathing. On examining his chest, nothing can be heard but generally diffused sibilant râles; he has generally some dyspnoea on lying down at night, and is often obliged to have his head and shoulders raised in bed. The treatment was commenced by giving him *Ars.* 3 three times a day, in the form of pilules. I had some doubts about prescribing this medicine, taking it almost for granted that under allopathic treatment he was sure to have had it in considerable quantities. *Arsenic*, however, I gave him, and on May 25th, having taken it for ten days, the appearance of the eruption was unchanged, but there was more itching and more discharge. This led me to give *Sulphur* 6, three times a day for six days, but the only change for the better was that the eruption discharged less, and the crusts were drier, but the asthmatic breathing was bad, and the recumbent position impossible. These symptoms induced me to repeat the *Arsenic*, but in higher dilutions, namely, 6 and 30, which he took for eleven days without producing any change in the appearance of the eruption, which as after the former exhibition caused more itching. The breathing is better, but still difficult at night. On June 12th, the case having now been under treatment for nearly a month, and no improvement resulting, I saw—even had not the history of the case proved it—that I had a very inveterate state of things to deal with, and that I had not yet hit upon the true homœopathic remedy, so I studied the symptoms more carefully, and selected *Graphites* in the 5th and 30th dilutions. On the 3rd of July, after about three weeks' treatment by *Graphites*, the whole aspect of the case was greatly changed for the better; the patches on the cheeks and chin were much reduced in size and thickness, the inflamed circumferential pustules had entirely disappeared, and no fresh crop could anywhere be seen; the incrustation was drying up and scaling off, the distressing itching was much better, and the dyspnoea had

nearly ceased. Feeling now sure that *Graphites* must be the foundation medicine, I kept him steadily under its influence for the next three months, during which time the eruption day by day became less and less in extent, and gradually disappeared, the skin recovering a healthy appearance, but feeling a little rough to the touch. The disfiguring mask is gone, and the features can now be observed. During the month of September, he did not attend very regularly at the Dispensary, and on the 9th of October, having been for a fortnight without treatment, the skin was not looking so well; *Graphites* again repeated, and ten days later there being no change, I prescribed a higher dilution of *Arsenicum* (the 30th), twice a day for ten days, to be followed by *Graphites* 30 for another ten days. On November 16th, there was a slight return of pustules on the left cheek, but the breathing all this time had continued much better. *Arsenic* 30, followed as before by *Graphites* 30, constituted the treatment for the next few months, the disease every now and then appearing to make desperate efforts to regain its old ground; however, by a steady perseverance with *Graphites*, ringing the changes with the 5th, 12th, and 30th dilutions, by the 30th July, 1867, the face was perfectly clear of eruption. But now in the month of August, a new train of symptoms showed themselves in addition to the dyspnoea, which had not been entirely cured. He complained of sickness and headache, and sleeps badly. *Ipec.* is prescribed for some days, then in a few days he feels weak and sleepy in the day time, and *Sulphur* 30 is again administered, then symptoms resembling an ordinary catarrh supervene; inflammation of the fingers threatens, but after a few doses of *Aconite*, followed by *Bryonia*, all the symptoms vanish, and by the middle of October, he was cured.

A few words about this case, by way of comment.

It may be said perhaps that it took some time to cure—granted—but I don't think the time was so long, when we consider its chronicity, the disease being almost congenital, and therefore lasting nearly twenty years; it had obstinately refused to yield in the least degree to various kind of

allopathic treatment, and although there was not much constitutional disturbance (with impetigo there seldom is), the innervation of the respiratory organs was profoundly affected, and as a proof of the inveterate obstinacy of the cutaneous disease after months of treatment, and when I had hoped that victory was gained, the disease reappeared in the left cheek, but was ultimately cured radically and completely.

Allow me for a moment to glance at the allopathic prognosis and treatment of chronic impetigo. Mr. Erasmus Wilson writes: "Impetigo is an extremely troublesome and offensive disease. It is frequently tedious of cure, especially when injudiciously treated, and by the improper use of remedial means may be prolonged indefinitely, or be made to assume the chronic form, which is always obstinate and rebellious." Then as regards the treatment he writes: "In the chronic form, should the disease resist these measures,"—which he had mentioned before, namely, "the vapour-douche and bath, and bathing the inflamed surface with a weak alkaline or astringent lotion,—recourse may be had in turn to lotions containing *Sulphuret of Potash, Nitric Acid, and Nitrate of Silver, Ointment of Nitrate of Mercury, Creosote, and Zinc Ointment.* In very obstinate cases, *Arsenic*, both as a general and local measure, has been recommended." The constitutional treatment should consist in the restoration of any of the organic functions that may be disturbed; for this purpose, laxatives, antacids, emmenagogues, and tonics may, according to the indications of the case, be employed." So much for the lucid and philosophical directions of so-called orthodox physic. How far these had been carried out by the allopathic medical men who treated this case before it came into my hands, I am unable to say; but the result was a signal failure.

CASE 2.—Jeremiah Starr, æt 34, a baker.

October 9th, 1866.—Has had nasal polypi for years. A surgeon had frequently removed them, and at one time it was thought they were quite got rid of; they have, however, formed again in both nostrils, the left being the most obstructed; respiration is almost impossible through either,

and the voice is very nasal. *Kali Bich.* 3, three times a day in pilules.

On the 23rd October.—Polypi were rather less swollen, an itching eruption has appeared on the arms and hands, *Sulphur* 6 in a few days followed by *Kali Bich.* 3.

November 5th.—Rash gone. Polypus in left nostril more swollen. Repeat the *Bich. of Potash*, and in addition the 1^x trituration ordered to be used as snuff once a day.

20th.—The local application of the *Bichromate* has caused a good deal of irritation and mucous discharge, but the right nostril is much better. The left is still plugged up by the polypus. The general and local application of *Bichromate* continued. From December 4th to February following the polypi became steadily reduced in size, and after a sharp attack of coryza, which was treated with *Merc. sol.* 5, and subsequently by the administration of the *Bichromate*, what remained of the polypi came away piecemeal; he could breathe freely through both nostrils, and by May 10th, was cured of the nasal symptoms. In the month of May, a superficial ulcer formed in the leg, which under a few doses of *Sulphur* quickly healed, and I heard no more of any return of the nasal polypi.

With regard to the homœopathic treatment of the case of impetigo, there were but three medicines employed for the chronic symptoms, namely, *Arsenic*, *Sulphur*, and *Graphites*; to the last-named medicine I am inclined to give the credit of the cure; it formed the foundation of the treatment; it was persevered in the longest; decided improvement did not begin until *Graphites* was given; its pathogenesis bore the closest resemblance to the symptoms of the case; and, I think, an additional proof is afforded by the fact that when omitted on one occasion for a fortnight, the cure retrograded. I am not prepared to deny that *Arsenic* and *Sulphur* had a modifying influence in the cure, but to the action of *Graphites* I myself attribute the cure. Allow me to refer to some of the cutaneous symptoms of that drug: *Itching pimples, small red itching pimples*, with their tips full of pus, appear frequently on the skin. Unhealthy skin, every little injury produces suppuration. The clinical

observations mention as curative experience, *Impetigo figurata*, *herpes* on the face, covered with a whitish-grey crust of exuded lymph of the thickness of a goose-quill, the skin underneath looking red and sore, with violent corrosive itching. Among the symptoms of the face the chin is covered with eruption also scurfy, around the mouth and on the cheek; and among the chest symptoms are the following: Asthma in the evening, sudden asthma with difficult short breathing; spasmodic asthma and asthma after suppressed *herpes* are mentioned at the end of the clinical observations. In Hahnemann's *Chronic Diseases*, the same symptoms are described nearly word for word; with the exception of the liability to attacks of asthmatic dyspnoea, there were but few subjective symptoms connected with the chronic disease of the skin. Once during treatment he had an acute catarrhal attack, and on one occasion had a slight bilious derangement; with these exceptions the only symptoms were those which could be seen and felt by the observer, and are therefore more valuable because incapable of being explained away by the ingenuity of the sceptic. I think it is fair to claim for the *Arsenic* and *Sulphur* this much, that they seemed to excite a reactive power in the system, which aided the subsequent action of the *Graphites*. Touching this medicine *Graphites*, it becomes a curious question which in the present state of our knowledge is not easily solved; how comes it that it possesses any specific power different from *Carbo vegetabilis*, or *Carbo animalis*? Chemically it differs from them only in being a purer form of carbon; in fact it is as pure carbon as the diamond itself. Now I want to know on what principle do those gentlemen who do not believe in dynamisation attempt to explain the action of this or any kindred drug. Its chemical constitution will not help them, for it does not differ from animal or vegetable charcoal chemically. Its being in a state of minute subdivision will not help them; for as far as we know, that does not alter chemically either *Carbo animalis*, *Carbo veg.*, or *Graphites*. We are therefore, I think, forced to acknowledge logically, that a new property which we call the dynamic property of the substance is something besides

the chemical composition and the minute subdivision. Dynamisation is therefore, I think, not the wild and fanciful thing which some would have us believe it to be, but if not absolutely proven, rests upon as solid a foundation as many other hypotheses, and does help us at least to approximate to a conception as to the *modus operandi* of fractional and infinitesimal quantities of matter.

Apart from the process of dynamisation, or minute division of the matter of *Graphites*, there must be some inherent property or quality in it which differentiates it from the other two forms of Carbon, but which is only brought into action by the processes which homœopathy adopts. Now, it may be asked, What is the gist of these remarks? I answer that at no time have they seemed to me more necessary; for there has been lately a growing tendency to ignore, and in some quarters to ridicule the very idea of dynamisation, and, at the same time, an increasing adoption of crude medication and cruder notions of homœopathy, and a looser and more random application of our therapeutic law; and my firm belief is that if we do not now in this crisis of our history as homœopaths adhere, whether we be veterans or tyros, strictly to the law of similars, the ground will be cut from under our feet by the highly educated and enlightened allopaths who are adopting, without acknowledgment, our law of cure, and prescribing our remedies in doses actually smaller than some of our body who still call themselves homœopaths. The probability is that, as time goes on, the advanced and thinking men amongst the allopaths will, by a logical necessity, become homœopaths—not in name, but in fact; and our hybrid homœopaths will, by an equally illogical process, drift away more and more from their present unsafe moorings into very indifferent allopaths.

At the commencement of our winter session we had a very able paper from Mr. Pope on the "Drift of Modern Medicine," a paper the reading of which gave us much pleasure and satisfaction,—a paper which has been subsequently much and justly eulogised by homœopathic reviewers, and has even had the honour of being reviewed

in an allopathic periodical. While condemning the want of moral courage and candour in a recent work on therapeutics, which is likely to lead to a revolution in allopathic practice, did not we rejoice that our doctrine and practice were being adopted, however irritated we might feel at the way in which the reform was being effected? But did we then, and do we now, feel quite sure that the reformed system of medicine in which we have prided ourselves is advancing with advancing knowledge and experience wholly in the right direction? At the beginning of this year of grace, 1870, it behoves us honestly and seriously to put this question to ourselves. It is not my object to answer this question: it would probably be presumption on my part to do so; I would rather each member of this Society would answer it to himself. I wish rather, as a very humble unit in our body, to throw out some cautions for the times, which I believe are as much needed in matters medical as Archbishop Whately's *Cautions for the Times* are needed in matters ecclesiastical.

I have said that, when listening to Mr. Pope's admirable paper, most of us could heartily echo his forcible condemnation (and one might probably with truth use a stronger expression) of the conduct of allopathic authors and others in appropriating without acknowledgment our remedies and method of cure. But, gentlemen, is not the drift of some of the so-called homœopathic practice of the present day by some of our body laying us open to precisely the same charge of want of candour and want of honesty? Can we say we are above reproach in this matter? What is homœopathy without our therapeutic law? What is the exhibition of *Podophyllum* and *Podophylline* as aperients, *Apocynum* as a diuretic, *Sulphate of Quinine* as a tonic, *Iron* as supplying a supposed want in the circulating fluid, *Morphia* as a narcotic, but precisionised allopathic or antipathic treatment; and when practised and unacknowledged is, in my opinion, more blameworthy than allopathic dishonesty. They not having a law must be judged without law; we professing to have a law shall be judged by our law. Cases there are, of course, which are outside our law,—cases of

incurable diseases ; but we profess, and rightly profess, and maintain that in all cases of disease curable by drugs homœopathy is competent to cure. Let us in our practice be consistent with what we profess. I have ventured to hint at some, as I think, necessary cautions ; I will venture upon one more. We are about to have a work much needed, published by the authority of this Society, and which will be welcomed by all true homœopaths, and one of our body, than whom no one is better fitted, has given much time and attention to its compilation. Into this new *Pharmacopœia* we are, I am informed, to have introduced several new remedies, chiefly culled from a very abundant crop of Transatlantic growth. Now the caution which forces itself upon my own mind, and which I wish very respectfully to impress upon yours is this : the danger of having added to our already very long list of insufficiently proved remedies a number of drugs still less well proved, with regard to which I have heard in this room the most opposite and contradictory opinions—one gentleman lauding some of them to the echo, another gentleman (whose literary labours in the cause of homœopathy render his opinion of value) emphatically calling them “rubbish,”—the truth probably lying between the two extreme opinions. But what I want to know is, How is the sifting of the “rubbish” from the precious ore to be effected ? Who is to decide between the remedies which can fairly be pronounced what I venture to call canonical, and those which are apocryphal ? Are we to have an Index Expurgatorius ?

But, speaking seriously, I cannot look upon the introduction of these new American remedies in their present shape an unmixed good. Even in the most reliable of them, such as *Gelseminum*, *Hydrastis*, *Rumex*, the provings (as Dr. E. M. Hale himself confesses in his preface) are many of them very imperfect, and I think I may say that most of the valuable information we get about them is not from anything approaching a Hahnemannian proving, but chiefly from the empirical experience derived almost as much from the Dominant or Eclectic school as from the Homœopathic. Is there not a danger then of our relapsing

into an empirical mode of practice, the thing, of all others, we have for years protested against and struggled to avoid? I think there is great danger in this direction, a danger, as I conceive, fraught with incalculable mischief to the scientific practice of Homœopathy. These remedies, in their present crudeness, not, of course, because of their crudeness, but because they are new and come to us claiming our admiration for the zeal, industry, and devotion in those who undertook the provings, such as they are (Dr. Bust very nearly fell a victim to *Veratrum viride*, which produced almost fatal syncope), and, indeed, shaming the mother country's lukewarm neglect of pathogenetic provings, while willing to confess this want on our part, I would ask you to compare that model proving of *Bichromate of Potass* by our own Drysdale, with the very best of the new American medicines (*Apis* excepted) and mark what a difference there is. The American provings of new remedies are confused and fragmentary, the proving of *Bichromate of Potass* is lucid, sound, and almost exhaustive. One word more about these new remedies, and one more caution and I have done. Whether we recognise the fact or not, a few of these new remedies and some of the most prominent amongst them are being prescribed, not at all according to the law of similars, but according to notions which, if followed out, would inevitably drift us back without chart or compass into the dreary waste of allopathic empiricism.

Take, as example, *Apocynum*, and hear Dr. E. M. Hale's remarks upon it in relation to its pathogenetic action upon the kidneys: "Probably the experiments were not thorough enough. My opinion is that it is the most reliable *diuretic* in use; no drug may be more confidently relied on to produce profuse urination when given in disease." I could instance many such expressions as these occurring in Dr. E. M. Hale's book. As an illustration of the direction in which the homœopathy of the present day is threatening to drift, I will instance the very striking cases of pelvic cellulitis and membranous croup in a paper lately read before this Society, by Dr. Newton, who very candidly confessed "that he doubted whether *Veratrum viride* was truly

homœopathic to the diseases for which he so strongly recommended it."

Dr. Newton's statement is perfectly true and most conscientiously expressed, for I will defy anyone, in reading over the proving of *Veratrum viride*, to find any homœopathic relation between it and pelvic cellulitis or membranous croup. To what conclusion, therefore, must we come; we cannot deny the success of such treatment as that employed in this instance, but is it homœopathy? I am quite sure it not, so far as we know from the evidence before us. Then to what system is it to be relegated?

Now is it not true that this kind of practice is on the increase amongst us here in England? Mind, I do not question its success, but I again ask, is it homœopathy? I ask, also, what is to be our attitude towards this system of treatment, as avowed homœopaths, who individually believe homœopathy to possess the only true law of curing by drugs, and collectively form this society, and have established an Hospital for the promulgation of a system of medicine which we believe to be based on truth? I hope that in the discussion which it is my object to elicit, by the remarks which I have had the honour of offering to you, these questions may be satisfactorily answered.

If, in these observations, it should be thought that I have taken an exaggerated view of the position which homœopathy occupies at the present time and which I cannot but think is critical for good or evil, I beg to assure you that personally I have no fear for the ultimate victory of truth, and I have every reason to believe, that if we are true to our law of cure, true to the convictions which made us homœopaths, and true to our own consciences, one need not fear that truth will suffer in our hands, or that the cause of homœopathy will not—though probably not in our day—before many years be universally acknowledged to be the cause of truth. I beg to thank you for the kindness you have shown in listening to these remarks.

Discussion on Dr. Hale's paper.

Mr. POPE said that he thought it especially important at the present time that we should be able to give a definition of homœopathy at once clear and simple. Neither was it difficult to do so. Homœopathy, as he understood it, consisted simply and solely in prescribing drugs capable of producing a disorder similar to that to be treated. This was all. Even the question of dose was only incidentally connected with it, while that of dynamisation, upon which Dr. Hale has laid so much stress, and to which he attached so much importance, had no real connection with it whatever. It was simply an explanation—an unproved explanation—of the fact that infinitesimal doses of such medicines as those Dr. Hale had mentioned do influence disease. We certainly know that they do so, but we do *not* know that they do so in virtue of their having been dynamised. The doctrine of dynamisation appeared to Mr. Pope quite unproved as yet, and, so far as the present state of our knowledge went, incapable of being proved. Dr. Hale had dwelt upon the impropriety of physicians who acknowledge the law of similars as the basis of their therapeutics, employing non-homœopathic medicines. A physician, Mr. Pope urged, might believe that the law of similars was perfectly true, that it was the best ground upon which to base a prescription, and yet, from want of time, or from lack of opportunity, owing to deficiency in our *Materia Medica*, he might be unable in a given case to find one. His reverting to an antipathic remedy in such a case was due to the force of circumstances which he could not control, and was in no way hastily to be attributed to a doubt as to the truth of the law of similars. The practice of homœopathy, like everything else, depended for its perfection upon the individual practitioner. For those who have ample time and opportunity for research, there was much less excuse for a departure from the law, than for those who were overrun with patients. Pure homœopathy required the devotion of much time to its practice, and this to such practitioners was an impossibility; they accordingly fell back upon their experience in bygone years, enlightened as it had been by the law of similars, and they came as near to homœopathy as the position in which they were placed enabled them to do. Much that Dr. Hale had said regarding the *New Remedies* was true. The discrepancy of opinion prevailing as to their value was great, but it was, Mr. Pope thought, easily explained by reference to the manner in which they had been presented. An examination of Dr. E. M. Hale's work showed a number of remedies which had been proved, and a number which had not. In the details of the former class, mixed up with the provings, were 'notions' derived from backwoodsmen, and

Indians, and antipathic suggestions from eclectic practitioners; while the information regarding the second class was wholly drawn from the two last-named sources. The disappointments which had followed the use of these medicines was, Mr. Pope thought, traceable to reliance having been placed upon these 'notions' and suggestions. As far as we had been guided by the actual provings, he did not think that any but good results had been obtained. In the *Pharmacopœia* he thought that remedies which had not been proved should have no place; while all, of the physiological action of which we had any knowledge, ought to be included.

Dr. MASSY concurred with some of the views of Dr. Hale, and the comments thereon by Mr. Pope, which were practical and worthy of thought. Dr. Massy remembered a case of acute inflammation in the cæcum, which occurred in a gentleman some few years ago, when first the new remedies arrived. A homœopath of well-known repute prescribed *Podophyllin*, which increased the pain and tenderness; recourse was then had to the well-known old remedies, and a happy recovery was the result. Occasionally the reverse of this is experienced in chronic disease; where symptoms do not quickly yield to the Hahnemann medicines, the physician adopts the American.

Dr. MADDEN thanked Dr. Hale for his paper, and since he was especially connected with the forthcoming *Pharmacopœia*, he was anxious to set Dr. Hale's mind at rest respecting the "new" and unproved remedies. No medicines which had not been regularly proved would be admitted into the body of the work, but in order that the chemists might know how to prepare the new remedies, and all the various unproved substances which some of our colleagues were fond of using, a short account of all such substances would be given, but in a different type, and mostly in a supplement, so that there could not be any mistake between the *canonical* and the *apocryphal* substances, as Dr. Hale had been pleased to call them. He was sorry to criticise Dr. Hale's paper, but when his special object appeared to be to warn his brethren against the "drift of modern homœopathy," which the doctor seems to say floated away from the law of similars, he was surprised to find him selecting for illustration a case of polypus nasi cured by *Kali bichromium*, used locally, of the strength of 1^x. Dr. Madden knew that the allopathic journals had recommended *Kali bic.* as a caustic in such cases, and the 1^x trituration could certainly act as a caustic, and he must confess that he did not see much homœopathic relationship between the state of the nasal mucous membrane in polypus, and the state produced by *Kali bic.* Moreover, he had found *Calcareo* 30 so useful in this disease, that he saw no advantage in giving *Kali bic.*, and using it locally in such strong doses, save in very exceptional cases. As regards Dr. Hale's remarks about the difference of action between *Graphites*, *Carb. v.*, and

Carb. an. considering they were all forms of *Carbon*, he would observe they all contained other substances besides *Carbon*, e. g. the ashes of plants in *Carb. v.*, the ashes of animal matter (ox hide) in *Carb. an.*, while *Graph.* always contained some iron and silica. He thought Dr. Hale had been hardly fair to his American namesake respecting *Apocynum cannabinum*. He called it a diuretic certainly, but then he recommended it in cases where homœopathy failed to do any good. Dr. Hale had argued that *Graphites* was evidently curative in the case of impetigo faciei, because the case retrograded when it was left off. Now he (Dr. Madden) quite believed that *Graphites* did cure Dr. Hale's case, though he should have liked *Mezereum* to have been tried, according to Dr. Cooper's suggestion, but he feared Dr. Hale laid himself open to the censure of the "purists," who maintain that if a drug is strictly homœopathic to a disease, the improvement progresses after the drug is discontinued, and, moreover, always leaves the case in a condition requiring a different remedy, if any further medication is needed. Hence these would argue that in Dr. Hale's case the *Graphites* was not strictly homœopathic, and acted mainly as a palliative.

Dr. DUDGEON said the case of skin disease related by Dr. Hale did him great credit. Dr. Hale had asked what attitude we should assume towards those who made use of means and remedies which there was no evidence to show were homœopathic. He replied that we should assume an attitude of respectful attention, and see if these means were more successful than those more strictly homœopathic. If they were so, then we should be wrong not to adopt them. They might in the end prove to be really homœopathic, but even if they did not, we should adopt them for all that. We were physicians before homœopathists, and were bound to do the best possible for our patients. He did not believe that homœopathy was the final truth in medicine, he believed it to be a transition system from old medicine to the perfect system that had not yet been discovered. With these views, he thought that any attempt to curtail the liberty of action of our colleagues, and to define too strictly the limits of legitimate homœopathic practice, would be retarding the progress of true medicine, and would transform us into a clique and a sect.

Dr. DRURY thanked Dr. Hale for the cases he had narrated—that of impetigo was especially interesting. He felt, with Dr. Hale, that the old well-proved remedies of our *Materia Medica* were too frequently passed over in favour of new remedies that were most imperfectly proved. For his own part, he had not lost confidence in the old remedies, but it required a certain amount of labour to keep up an acquaintance with them. He did not undervalue the labours of those gentlemen who gave us their experience of new medicines; he was very glad to increase the number of his remedies, and liked them all the better when.

there was some attempt at proving them. He much regretted the tendency of the present day to ignore the power of dynamising; there was no doubt that unless this power was called into play, we lost some of our most valuable medicines, such as *Cuprum metallicum*, *Aurum*, &c. But while laying great stress on the advantages to be gained from trituration, if a medicine came to him strongly recommended as being very useful in, say, the first decimal form, his inclination would be to accept that particular strength as the fair one in which to try the medicine, until further test trials might induce him to prefer another. But it was an unhappy circumstance in connection with these new medicines, that anything approaching what might be called homœopathic doses was ignored, and many of them were given in good stiff doses—doses that perhaps a little more knowledge of the power of the drug might make the prescriber hesitate to adopt. All we could say was, that the modern Bayards of homœopathy were “without fear,” if not “without reproach.” The size of the dose certainly led to the fear that homœopathy was somewhat forgotten. He quite approved of what Dr. Dudgeon said as to our duties as physicians, and had often made similar remarks. He thought we were very foolish in tying our hands, and regretted that at any time he should have deprived himself of that freedom of action which we should carefully preserve, without using it as a licence for irregular or faulty practice. He thought that Dr. Madden had not done justice to Dr. Hale in the remarks he made on the case of polypus treated by *Kali bichromicum*. Were we to wait till we found remedies producing some diseases that we attempted, with a reasonable amount of success, to cure, we would wait in vain. We treated itch and worms, and yet we had no remedies that would produce these. But then homœopathy treated existing symptoms, and we chose a remedy that produced symptoms as similar to them as possible. Now *Calcarea* was a favourite remedy in polypus, and was approved by Dr. Madden, and yet it would not produce polypus; might it not happen that in certain cases with acrid discharge and soreness of the nose *Kali bichromicum* would prove our very best remedy? Dr. Madden objected to the use of *Kali bichromicum* as an external remedy, but it was following up the treatment that had been going on for some time with that same medicine internally. So much had been said about using strong doses, that he supposed some of our colleagues thought that as the allopaths were picking up so much from us, it was only fair at times to take a leaf out of their book.

Dr. WATSON wished to state that he could bear testimony to the value of *Graphites* 30 in moist tinea capitis, and *Calcarea carbonica* 30 in the dry form. He could not agree with some of the previous speakers that homœopathy was only *medicine in a state of transition* to some better and final development, or that

anything in medicine might be discovered superior to it. For his own part, whenever by patient care and research he had found the proper simile to the patient's symptoms, the case rapidly got well, and left absolutely nothing to be desired. For what more could be expected from any exhibition of medicine than a rapid, safe, and permanent cure, and if homœopathy enabled you to do this, what could drugs be asked to accomplish further? Nor could he acquiesce in the notion that, after effecting a reform in therapeutics, our mission would be fulfilled, and we should simply die out; on the contrary, he clung to the idea that we should head the van of progress, and devote ourselves heartily to the immense work in developing homœopathy which lay before us.

Dr. YELDHAM fully concurred in Dr. Dudgeon's remarks. It was impossible that homœopathy could rest where Hahnemann left it. Finality in science was an idea which Hahnemann could never have intended to preach. Had he acted upon such an idea, he would probably never have discovered homœopathy. It has devolved upon his disciples to pursue the path of inquiry which he indicated, but which it was denied to him to follow out to its legitimate results. Dr. Hale had complained, and justly, of the scanty provings of some of the new American medicines. He, Dr. Yeldham, thought that almost as weighty a charge lay against the overproving, if he might so say, of some of the old remedies, which were overlaid with a multiplicity of symptoms, in the existence of a great many of which it was difficult to believe, and from which the busy practitioner sought refuge in the kind of practice which Dr. Hale deplored. There was no more crying need in homœopathy, than for a new and trustworthy proving of medicines. With respect to dynamisation, which had been referred to, he did not believe in it, simply because there was no proof of its existence in homœopathy. No other science demanded our assent to phenomena which it could not demonstrate—take chemistry, electricity, and the like, as examples. [A MEMBER here remarked that he believed in the atomic theory, which could not be proved, to which it was replied that the atomic theory was merely a theoretical explanation of a well-known fact in chemistry, whereas dynamisation was a theory only, unsupported by fact.] He (Dr. Yeldham) had heard the words dynamisation and trituration used synonymously that evening, and no doubt trituration explained the whole matter.

Dr. HALE, in reply, said that in the objections which were made to his treatment of his case of nasal polypi by Dr. Madden, Dr. Madden had failed to notice that marked improvement had taken place for at least a month before the application of *Bichromate of Potash*. Dr. Hale also contended that the pathogenetic symptoms of *Bichromate of Potash* were as homœopathic to nasal polypi as *Calcarea carb.*, and that while admitting that the former did not give rise to the actual formation of polypi, neither did

the latter, and that, therefore, Dr. Madden's objections were both illogical, and without foundation in fact. Dr. Hale contended that in point of fact the pathogenetic effects of *Bichromate of Potash* upon the Schneiderian membranes in relation to polypi were actually more marked than the symptoms produced by *Calc. carb.*, the proving of which, as regards polypi, was only empirical, and he did not wish to claim more for the cure of polypi by *Bichromate of Potash*. In reply to some of the very strange, and to the ears of homœopaths, startling assertions made in reference to the ethical part of his paper, he would merely reiterate his conviction that at no time in the history of homœopathy was loyalty to its presiding therapeutical law more necessary than at present. In the paper he had read, he had studiously avoided any discussion of the dose; that in his opinion being still an open question, but he maintained that whatever the dose might be, the remedy should be administered in accordance with the law of similars; and that in the very exceptional cases of drug medication which were, so to speak, outside the law, we were not then debarred because we were homœopaths from perfect freedom of action; but that as honest men we ought candidly to avow such departure from our ordinary practice, in order to escape the accusation, which we should justly lay ourselves open to, of *professing* one thing and *practising* another. In conclusion, he begged to thank the members of the Society for their kind attention in listening to the observations he had ventured to make.

OUT-PATIENT CASES TREATED AT THE LONDON HOMŒOPATHIC HOSPITAL.

By Dr. DIXON.

THE wish is often expressed by those who have entered upon the practice of homœopathy to know the results in detail of the *externe* practice of our hospital. Such a wish might be expected from the plain fact that specimens of every variety of subacute and chronic disorder are known to abound in the out-patients' rooms there, and the prescribers are held to have favorable, if not the best, opportunities of ascertaining by experience how such cases can

be best treated homœopathically, with a view to the *juvunde* and the *citò*.

Such reports are furnished but too seldom, and then, seemingly, only under pressure of a sense of duty. That they are not more frequently made is due, I think, to the expectation of cold, if not antagonistic, criticism on the score of "potency." It would be very desirable if this potency question could be rightly understood and agreed to, for as it stands it is an impediment every way against the acceptance of homœopathy by the profession at large. I commenced my experiments in homœopathic therapeutics with a case of globules of the 12th potency, obtained from an old-established homœopathic pharmacy, and I found that with them—selected in accordance with the prescribed rule of *similia similibus*—diseases could be cured better than by the ordinary drugs selected and given after the old-fashioned routine. Being fond of pharmacy, I proceeded to prepare the medicines myself for homœopathic use. Then, having all the dilutions below the 12th at my hand, I used them and discovered that there was no special virtue in that particular potency; that the same therapeutic effect might be expected from all the dilutions downwards to the drug itself. One day a child in arms was brought to me with vesicular eruption covering the scalp—*tinea capitis* in the first stage. I had at the moment the dilutions of *Sulphur* before me; I put thirty or forty drops of *Tincture of Sulphur*, one part *Sulphur* in 200 alcohol, into two ounces of water, to serve for a week, a dose night and morning; nothing to be applied externally. At the end of the week what had been vesicles were detaching crusts. I continued the *Sulphur* in the same form and the child had no return. So with other medicines; I found them effective in diseases to which they were homœopathically related when given in fractions of the minimum doses given according to allopathy, until at last it became a question with me, not how infinitesimally, but how fractionally small, the dose might be. My fear in using the drug itself under homœopathic indications was diminished when I found homœopathic writers, in criticising the therapeutics of allopaths, put to the credit of homœo-

pathy their cures by specifics given in ponderable doses, talking, then, only of cures effected by drugs acting homœopathically. I wish, therefore, to say that I learned by experience the curative effect of the 12th dilution, homœopathically selected, and admit the possible curative effect of any degree of infinitesimal dilution above it, prescribing them under certain circumstances, but that I prescribe small and fractional doses, as in the lower dilutions, with more assurance as to therapeutic results.

With respect to the dilutions, my view is this—every drug has an indestructible spiritual quality, magnetoid or odic, which is transmissible by manipulation through the menstrea of the dilutions, making them veritable potencies of a quality partaking of the original drug. Whether it is better to employ the drug-power in the drug itself or as it is in the dilution, is a question to be settled, not by the dictum of any one, but by the result of experience, individual and collective.

The great bulk of the cases that find their way to me may be styled anomalous. They are chiefly refugees from allopathic treatment, in which there has been imperfect recovery from acute disease of weeks, months, or years before, in consequence, in part, of wrong drugging, in part also from the patients having the strumous diathesis or psoric taint. For such anomalous cases experience has taught me that the most expeditious way to the end of the treatment, namely, cure, is to begin with *Sulphur*, and, indeed, patients will often not need anything else. My rule is to give *Tinctura Sulphuris*, as much as an ordinary pilule will absorb of it, or in some cases a few drops of it in water, thrice a day.

Here are a few cases in illustration. To save needless repetitions of formula it will be understood that "*Sulph.*" means, unless otherwise specified, a pilule saturated with *Tinct. Sulph. φ*, thrice a day for fourteen days.

CASE 1.—Charles W—, æt. 64.

March 14th.—For a fortnight has had dry throat at

night; the same trouble is increasing and felt during the day.

Removed in a fortnight by *Sulph.*

CASE 2.—Mary P—, æt. 24.

March 21st.—Three months' itching of face and scalp; bruised feeling there; twisting pains of abdomen; fluttering feeling in chest; painful menses and leucorrhœa.

Removed by *Sulph.* in a month.

CASE 3.—John W—, æt. 24.

June 13th.—Acute rheumatism eleven years ago, under allopathy; right tibia enlarged; chronic abscess at its head, with serous discharge. Has been taking *Iod. potas. Tinct. Sulph.*, gtt. v, ter die.

July 11th.—Has continued the medicine to this date; abscess is healed. Has passed ascarides. Continue.

CASE 4.—Anne S—, æt. 50.

September 5th.—Ill some months from pain in loins; urine thick and dark; pains in chest; hot sweats; flatulence. Got well in three weeks with *Sulph.*; came a month after, not wishing to be without the pilules.

CASE 5.—Sarah K—, æt. 42.

September 5th.—Dry eruption all over her for years; always under allopathy. Came half a dozen times, always reporting herself better under *Sulph.*

CASE 6.—Jane S—, æt. 30.

September 5th.—For four months cough with salt expectoration; pain in head from nape to eyes; feels sick at times. *Sulph.* Came three times, each time better.

CASE 7.—Harriet P—, æt. 35.

November 13th.—Has not been well from her girlhood; is accustomed to homœopathy; dry itching eruption on thighs and legs; a feeling of dragging weight in legs in walking; cough and dyspnœa; mucus in urine. *Sulph.*

January 8th.—Has been three times again, and had the same prescription always. She says she is well, and gives up her card.

CASE 8.—Grace A—, æt. 20.

March 21st.—Rheumatic fever three years ago, under allopathic treatment, never quite well since. Present symptoms, pains in loins, hips, shoulders, chest, and left side; catamenia scanty and painful; palpitation. Under *Sulph. pilules*, taken about two months, she became, according to her mother's report, perfectly well.

CASE 9.—Agnes K—, æt. 10.

May 9th.—Ill two years, under allopathy. Present symptoms, pains of chest; constipated; complexion yellowish and pallid; dark around the eyes; faints at times. *Sulphur* alone for two months. Reported well.

CASE 10.—Arthur W—, æt. 11.

May 9th.—Ill three months with impetiginous eruption of the face; has been, nominally, under homœopathic treatment. In two months, under *Sulphur* alone, the eruption was gone. When I begin with *Sulphur*, as a rule, I continue it so long as the patient reports "better." I used to ascend the scale of potencies, but do not now, not finding any advantage in doing so. When improvement has ceased I select according to the remaining symptoms.

CASE 11.—George N—, æt. 36.

May 29th.—Has been complaining fifteen years; always allopathic; bilious headaches and vomiting, worse in mornings. *Sulph.*

June 12th.—No attack. Continue.

July 3rd.—Improving in health. Continue.

September 25th.—Returns after twelve weeks; has been pretty well, but wants more of the same. Continue.

October 9th.—House-surgeon prescribes *Nux vom.* 3 ter die.

30th.—Says last medicine not so good as previous. *Sulph.*

November 13th.—Common cough. *Ant. t.*

CASE 12.—Jane L—, æt. 31. Been a long time ill; never has been well, in fact; been for some time under homœopathic treatment.

March 14th.—Present symptoms, pains all over trunk,

nausea, headaches, no appetite, flatulence, constipation, catamenia pale and scanty. *Sulph.* Her improvement was remarkable under *Sulph.*, then followed with equal advantage *Nux vom.*, and then *Sepia*, each the lowest denomination of pilules.

CASE 13.—Sarah E—, æt. 42. Former treatment homœopathic. Frequently ill. Present symptoms, cough with sickness, with thin expectoration; pains in chest and trunk; has had rheumatic fever several times. Improved by *Sulph.*; then had *Pil. Arsen.* (of lowest denominations) ter die.

CASE 14.—Eliza J—, æt. 28.

April 18th.—Last treatment allopathic. For two months complained of pain in chest and back, retching, unpleasant mouth, smarting heats of skin, flatulent, very weak. *Sulph.*

May 2nd.—Is better; has had since here some vesicular eruption. Continue *Sulph.*

16th.—Eruption quite gone. *Pil. Ars.* ter die.

30th.—Superficial ulceration in mouth. *Pil. Mer. c.* 3^r.

June 6th.—Better altogether. *Sac. lac.*

20th.—Return of sick feeling and coldness. *Ars.*

July 11th.—Pretty well; comes because she discovers a patch of ringworm at nape. *Sepia.*

CASE 15.—James E—, æt. 33.

April 25th.—Has had rheumatic fever three times under allopathic treatment. Has fugacious pains now, vertigo and confusion, and risings after food. *Tinct. Sulph. φ, gtt. v,* ter die.

May 9th.—Much better, but improvement has ceased; urine high coloured; worse in change of weather. *Bry. 1^r, gtt. v,* ter die.

23rd.—Has continued the *Bry.* Says he is better than he has been for a year. Continue.

CASE 16.—Robert H—, æt. 44. Previous treatment allopathic.

April 25th.—Ill nine months; pains in back, hip, and abdomen; urine at times profuse; distension of bladder at

times ; after urinating has still the desire to pass more.
Sulph.

May 6th.—Improvement up to this date ; this now ceasing, I prescribe *Nux vom.*

July 3rd.—Has taken only *Nux vom.* since last date ; he is quite well except some backache. Continue.

CASE 17.—Thomas G—, æt. 40.

May 2nd.—Had cholera under allopathy two years ago ; pains in abdomen, loins, and limbs ; bowels variable, passing bloody and gelatinous stuff ; piles. Prescribed *Sulph.* and *Nux vom.* alternate weeks until the—

23rd.—Stools natural ; piles nearly well ; sleepy ; tenesmus recti. *Pil. Merc. sol.* 5^x ter die.

30th.—Well, except pains in limbs. *Bry.*

CASE 18.—Rosa L—, æt. 50.

May 2nd.—Always under allopathy ; for six months has had pains and burning heat after food ; constipation and flatulence.

Dismissed well in two months, having taken a short improving course of *Sulph.*, followed by one of *Nux vom.*

CASE 19.—Richard H—, æt. 37.

May 9th.—Previous treatment homœopathic ; for three months has had headaches, trepidation, relaxation of bowels on rising every morning ; appetite poor.

Sulph. for fourteen days, and *Nux vom.* for the same period, got him quite well.

CASE 20.—Anne W—, æt. 21.

May 16th.—Has always been ailing, partly under allopathy, and partly under homœopathy. Does not look more than sixteen ; always subject to lumbrici and ascarides ; had enlarged parotids when a child ; has acne faciei ; damp, sweaty hands ; constipation. *Sulph.*

June 13th.—Having taken *Sulphur* for nearly a month, she is better in health. *Cina.*

July 11th.—Has passed six lumbrici and many ascarides ; has very restless nights. *Merc. s.*

Aug. 8th.—Better; worms have ceased to appear; she is very weak. *Fer. acet.* 1^ʒ, gr. j, ter die.

22nd.—The worms reappear. *Merc. s.*

Oct. 3rd.—A general improvement showing itself in all her functions, the *Mercurius* has been continued; worms have ceased to appear again. *Pil. Calc. c.* 5^ʒ ter die.

17th.—Coryza and languid from cold. *Ars.*

Nov. 28th.—Mutters in sleep. *Merc. s.*

Jan. 30th.—The mother says that, among the girl's other troubles, she had omitted to enumerate piles; they bleed now. *Sulph.*

Feb. 13th.—Threadworms reappear. *Merc. s.*

March 13th.—No worms. *Sulph.*

27th.—Her mother accompanies her to formally thank me for the improved health which homœopathy has made in her daughter. She says she is better now than at any time of her life. I recommended her to continue some time to attend, and she had *Merc. s.* and *Nux vom.* as indicated.

CASE 21.—Amelia P—, æt. 42.

May 16th.—Has been suffering for months; menses too frequent, much leucorrhœa; pain in arm and hip, and pain and swelling of foot; palpitation; depression; noise in head; pain after food. Eyes weak and tender. She comes from Essex. Take *Sulph.* for a month, then *Nux vom.*

July 25th.—General improvement, but morning hoarseness and much thirst. *Ars.*

Aug. 8th.—Feels this 'medicine not so good as previous. *Nux vom.*

Sept. 16th.—Better and better, but cough supervenes, for which she has successively *Ipec.*, *Bry.*, and *Puls.*

Jan. 2nd.—Pleurodynia. *Calc.*, and, when that has gone, resume *Nux vom.*

Feb. 13th.—Better in all particulars; pain in ears and dulness of hearing. *Puls.*

March 13th.—Dismissed with *Nux vom.*

CASE 22.—James H—, æt. 25.

May 23rd.—Has been out of health four years and a

half. Complains now of headache, vertigo, drowsy, low spirits, always as if he had a cold, constipated. *Sulph.*

June 6th.—Improvement set in three days after commencing the pilules, but it ceased two days ago. *Nux vom.*

20th.—Much better. Continue.

CASE 23.—Mary M—, æt. 40.

Aug. 1st.—Has been under many allopaths for ten years for piles, constipation, pains in back, leucorrhœa, sickness on exertion, pains in head. *Sulph.*

15th.—Sickness gone, head better. Same otherwise. *Nux vom.*

29th.—Constipation same, and the piles are very painful. *Æscul. hip.*

Nov. 14th.—Has continued progressively to mend.

Now that the medicine seems to be losing its effect we return to *Nux vom.*

Dec.—For return of trouble of the head, being better otherwise, *Bell.*

Jan. 2nd.—Nausea. *Merc. s.*

23rd.—Piles reappear, and appetite is bad. *Nux vom.*

Feb. 13th.—Better of all the former ailments; faceache.

Spig. 6th for a week, then resume *Nux vom.*

Reported "well."

CASE 24.—Frances T—, æt. 51.

Aug. 15th.—Has taken much physic. For the last three months much troubled with flatulence; hysterical feeling; pains in abdomen; free perspirations; weak. *Sulph.*

29th.—Better; pyrosis. *Nux vom.* for two weeks, then *Arsen.*

Oct. 10th.—Has continued *Arsen.*, and discharges herself much better.

CASE 25.—Emily A—, æt. 19.

Aug. 24th.—After inflammation of bowels ten years ago has always been troubled with pains after food and in the back; no appetite; headaches; she faints. *Sulph.*

Sept. 12th.—Better. For intense headache *Bell.*, to be followed by *Arsen.* for a fortnight.

Her mother subsequently reported her quite well.

The forms of medicines prescribed are, as I have said, pilules of the lowest denomination unless otherwise specified. Medicinal aggravations from fractional as contra-distinguished from infinitesimal doses, or any medicinal effects beyond curative, I have ceased to anticipate. What led me first to think that there was but slender foundation, in fact, for such alleged aggravations was that, while I saw one or two practitioners order one dose, and the effect of that to be watched before giving another, I saw others directing dose upon dose in rapid succession without apprehension. A friend of the former sort, who had a preference for the higher potencies, once spoke to me about his painful joint. I said I should take so and so frequently, and apply a damp cloth. He said, "I shall take a globule of the 30th, put my limb at rest, and watch the effect." The next day it was much better, but he would not repeat the dose lest he should undo the good done! In homœopathic practice I found there was a tendency to confound transient sensations *after* taking certain minute doses with *because of* having taken them. I have always endeavoured to avoid converting such *posts* into *propters*. The remainder of the cases are selected partly with reference to illustrate the question of potency, with the view of curing *jucunde et citò*.

Some cases of syphilis.

CASE 26.—James H—, æt. 30.

Dec. 5th.—Eighteen months ago had syphilis, for which he took pills for one week to make the mouth sore. Has never been under homœopathic treatment. His present symptoms are difficult deglutition, fissures on sides of tongue, on palms of hands, and soles of feet. *Merc. s. l.*, gr. iij, ter die.

Jan. 16th.—Has continued the prescription, and is well excepting slight ulceration of margin of tongue, which does

not seem affected by the *Merc.* *Ac. nit.* 1^x, gtt. iv, ter die.

Feb. 7th.—Fissures reappearing on hands. *Ac. nit.* 30 ter die.

27th.—Better in tongue, and better in hands. *Ac. nit.* 12.

March 13th.—Still better. *Ac. nit.* 6.

April 3rd.—Nearly well. *Ac. nit.* 1^x, gtt. v, ter die.

Did not return.

CASE 27.—James M—, æt. 33.

Oct. 2nd.—Three years ago had a sore on prepuce, which was treated with herbs. In general bad health. A large portion of dorsum of tongue is bare of epithelium; flattened elevations on margin of tongue.

Under *Kali hyd.* 1^x, *Acid. nit.* 1^x, *Merc. cor.* 3^x, and *Merc. s.* 1^x, successively prescribed during improvement, he became healthy, but did not lose the specific symptoms until he went through a course of *Merc. bin.* 1^x, gr. j, ter die.

CASE 28.—William S—, æt. 24.

April 16th.—Four months ago had chancre, which was treated locally. Shallow ulceration of inner cheek and tonsils. *Merc. s.* 1, gr. iij, ter die.

May 14th.—Has continued; throat is well, cheeks better, but lately at a stand-still. *Acid. nit.* 1^x, gtt. iv, ter die.

28th.—Same. Hair falls. *Acid. nit.* 1^x, gtt. v, ter die.

CASE 29.—Alfred S—, æt. 24.

Nov. 5th.—Two months ago had chancre, for which he was treated homœopathically. He has ulceration of tongue and tonsils. *Merc. bin.* 1^x, gr. $\frac{3}{4}$, ter die.

Dec. 3rd.—Has continued until to-day, and is well.

CASE 30.—Hester C—, æt. 36.

July 25th.—Abscess over parietal bone; bone is enlarged; old cicatrices on face and arm; rupia on elbow. Always under allopathic treatment; from a child subject to humours. *Hep. s.* 1, gr. j, ter die.

Aug. 8th.—No change. *Aur.* 1, gr. j, ter die.

Sept. 5th.—Wonderfully better. Continue.

Did not return.

CASE 31.—Alfred T—, æt. 21.

June 6th.—Condylomata on prepuce. (Doubtful as to being syphilitic.) Strumous ulceration of neck, for which he has been much doctored; cough with yellow phlegm and a little blood this morning. *Sulph.*

July 4th.—Cough gone, ulceration better. For condylomata *Thuja* 6 ter die and apply *Thuja* ϕ .

Aug. 29th.—The condylomata diminished, the ulceration considerably less, but the improvement is stationary. *Ac. nit.* 1 \times , gtt. iij, ter die.

Oct. 24th.—Condylomata clear gone; struma nearly healed. Continue.

CASE 32.—James G—, æt. 21.

Aug. 13th.—Chancre three months ago, under allopathic treatment; chancre, he says, is smaller, but will not heal. *Merc. s.* 1, gr. iij, ter die.

20th.—Had medicine to serve a fortnight, but he has finished it in a week and is better. *Merc. s.* 1, gr. vj, ter die.

Oct. 8th.—Has continued the same prescription and is dismissed well. A fortnight after he reappeared, having gone astray in a different direction, which required and soon got well under *Cannabis*.

This introduces to a few cases of—

Gonorrhœa.

CASE 33.—Henry P—, æt. 20.

Nov. 20th.—Gonorrhœa one week. *Cann. s.* ϕ , gtt. iij, ter die.

Dec. 4th.—Improvement ceasing now. *Pil. Merc. c.* 3 \times ter die.

18th.—Discharged well.

CASE 34.—Alex. C—, æt. 28.

Jan. 29th.—Been five months under allopathic treatment;

still has white discharge and chordee; irritation of the bladder. *Pil. Merc. c.* 3^x ter die.

Feb. 5th.—Same. *Pil. Canth.* j ter die.

26th.—Much better. Continue.

April 23rd.—Did not come again, because he was well; but some white discharge has reappeared, for which we return to *Merc. c.*

May 7th.—Well. Dismissed with *Sulph.*

CASE 35.—John P—, æt. 24.

Jan. 21st.—Gonorrhœa one week. *Cann. s.*, gtt. iv, ter die.

Feb. 19th.—Almost well. *Cann. S.* 1^x, gtt. iij, ter die.

CASE 36.—William P—, æt. 24.

March 12th.—Gonorrhœa one month under allopathic treatment; thick white discharge. *Pil. Merc.* 3^x ter die.

19th.—Orchitis. *Puls.* 1^x, gtt. ij, ter die.

April 9th.—Orchitis gone; testes tender; yellow discharge; chordee. *Pil. Merc. c.*

23rd.—Dismissed with *Sulph.*

CASE 37.—Alfred T—, æt. 36.

April 16th.—Mild gonorrhœa five days. *Pil. Cann. s.* 1^x ter die.

23rd.—No change. *Cann. φ*, gtt. iv, ter die.

30th.—Better. Continue.

May 14th.—Well.

CASE 38.—Hugh L—, æt. 22.

June 11th.—Gonorrhœa two years ago under allopathic treatment; gleet discharge ever since. He had *Cinnab. pilules*, until improvement under them ceased, three weeks; then *Merc. c.* and *Sulph.* each for a week, and ceased to attend after he reported himself nearly well while having *Pil. Canth.* l.

CASE 39.—William B—, æt. 22.

Aug. 13th.—Gonorrhœa for two weeks. *Cann. s. φ*, gtt. iv, ter die.

Sept. 3rd.—Clear discharge only. *Sulph.*

CASE 40.—Robert L—.

Nov. 24th.—Yellow discharge, without irritation. *Merc.*

Dec. 24th.—Well.

CASE 41.—John C—.

June 7th.—Purulent discharge from urethra, which may be gonorrhœa, for several weeks, without irritation ; strumous ulceration in groins after abscesses two years ago. *Sulph. φ*, gtt. iv, ter die.

28th.—Discharge gone ; ulceration wonderfully better. Continue.

Did not present himself again.

CASE 42.—Francis M—.

Nov. 6th. Gonorrhœa with orchitis. *Puls. 3^x*, gtt. j, 4 horis.

This was ordered by the house-surgeon.

13th.—Better. Continue.

27th.—Orchitis gone ; for the residue of the discharge *Pil. Merc. c. 3^x* ter die.

Feb. 19th.—Testis does not feel well. Dismissed with *Puls.*

CASE 43.—Thomas L—, æt. 19.

March 27th.—Gonorrhœa for three months under allopathy ; yellow discharge. *Pil. Merc. c. 3^x* ter die.

April 10th.—Orchitis ; discharge diminished. *Pil. Puls.* ter die.

17th.—No change. *Puls. 1^x*, gtt. iv, ter die.

May 1st.—Orchitis gone ; discharge as at first. *Merc.* ∴ *3^x* ter die.

July 10th.—He continued *Merc. c.* until the discharge became clear, then he had *Sulph.* and is to-day dismissed well.

Some cases of rheumatism.

CASE 44.—Jane C—, æt. 64.

Dec. 17th.—Sharp pains in movement, most in the

loins; is accustomed to homœopathic treatment. *Bry.* 1^x, gtt. iv, ter die.

Quickly recovered.

CASE 45.—Sarah S—, æt. 43.

April 17th.—For eighteen years had been troubled with rheumatic pains of right leg; for the past two months had been hardly able to walk; under allopathic treatment. *Pil. Rhus* 1^x ter die.

24th.—Very much better. Continue.

June 5th.—Has reported better and better; had the same prescription, and does not attend after to-day.

CASE 46.—Sarah C—, æt. 64.

Jan. 9th.—For three weeks has had dreadful pain in liver and spleen, passing up to shoulders, worse at 11 a.m. and 3 p.m.; very strong cardiac impulse; before this attack came on had pains in limbs generally; has pains now in arms. *Bry.* 1^x, gtt. iv, ter die.

30th.—Much better. Continue.

June 12th.—Five months after. Has been well, but some return now of pains, with much disturbance of the functions of the stomach. Resume the *Bry.*

July.—After the *Bry.* she had *Merc.* and then *Nux vom.*, and gives up her card "well."

CASE 47.—William S—.

Jan. 22nd.—Been under allopathy one month, suffering pains all over him. *Bry.* 1^x, gtt. iv, ter die.

Came once again for same medicine.

CASE 48.—Oliver L—.

Jan. 29th.—Has been suffering eight months under allopathic treatment; pains all over him; irritable reddish eruption; has had gout; his pains are not fixed. *Pil. Bell.* 1^x 4 horis.

Came twice, reporting himself better each time, and had same prescription.

CASE 49.—Henry G—, æt. 42.

Oct. 2nd.—Has had rheumatism of hip ten years. As

he had been under homœopathic treatment, I dispensed with *Sulphur*, and resolved to give *Rhus* an opportunity of vindicating its reputation. I began with a high potency, intending to descend progressively to the matrix. *Rhus* 200 ter die.

Oct. 30th.—Having taken it a month, he reports improvement. I descend now to the 30th, then to the 12th.

Dec. 18th.—He said the old pain had shifted to the spine, and left him able to use his leg better. *Rhus* 6 ter die.

But here the experiment ended, for he did not come again.

This case will show that in inclining to fractional doses I am not fanatical.

CASE 50.—Christopher B—.

Oct. 2nd.—For eighteen months has complained of pains in right shoulder and breast, not constant. Has been under homœopathic treatment for it. *Pil. Bry.* quater indies.

16th.—Same. Crackling of knee-joints on movement. *Bry.* 1^x, gtt. iv, ter die.

29th.—Better. *Bry.* 1^x, gtt. vj, ter die.

Dec. 17th.—Has continued to improve at each attendance; only some aching in the ribs. *Pil. Arn.* ter die.

CASE 51.—M. A. C—, æt. 37.

May 22nd.—Rheumatic pains all over her; no rest at night; almost mad at times; been under allopathy. *Sulph.*

June 5th.—Says she is better than for twelve months, and that she can eat now what she has not been able to for six months. Continue.

26th.—Improved, but improvement seems to have ceased. *Puls.*

July 22nd.—Has been well, but some pains in ankle. *Puls.* No return.

Tussis.

CASE 52.—William Moore, æt. 33.

Nov. 20th.—Has been under homœopathic treatment.

Cough with slimy expectoration accompanied by sickness ; hurts in breathing ; pains in limbs. *Pil. Bry.* 1^x quater indies.

27th.—Not much better.

He got speedily well with *Ant. t.*

CASE 53.—Robert G—, æt. 54.

Jan. 29th.—Three months' cough under allopathy ; worse at night ; expectorates a good deal. *Pil. Ant. t.* 5^x quater in dies.

He speedily recovered. Bronchial cough without rheumatic complication I find most frequently removed by *Ant. t.*

CASE 54.—William J—, æt. 26.

March 12th.—Six weeks' cough under allopathy ; he whoops with it ; much phlegm at times. *Pil. Ant. t.*

19th.—Whooping ceased after two days. Continue.

April 2nd.—Very little expectoration. Singing in ears. *Sulph.*

9th.—The cough returns. *Ant. t.*

Anosmia.

CASE 55.—George S—, æt. 60.

Jan. 29th.—Diminished smell ; pus from nostrils ; general throbbing of head ; general nervousness. *Merc. c.* 3^x.

March 11th.—Has been better, but not so well the last three days. *Merc. c.* 3^x.

April 9th.—Much better, no pus ; vertigo ; fluttering at scrobiculus. *Nux vom.*

CASE 56.—Henry B—, æt. 46.

Feb. 19th.—A very severe cold, consequent upon wearing a wet hat a month ago, was followed by anosmia ; stuffed feeling of nose. *Merc. c.*, *Merc. s.*, and *Sulph.*, taken successively, rectified this trouble.

Otorrhœa.

CASE 57.—Robert J—, æt. 47.

July 23rd.—Deaf left side, and otorrhœa ; discharge

offensive the last four days ; feeling of pressure of brain ; loose cough at night ; stomach flatulence. *Sulph.*

Sept. 17th.—After a fortnight's *Sulph.* he had *Merc. c.* and now reports himself pretty well. *Sulph.*

Polypus nasi.

CASE 58.—Samuel R—, æt. 38.

Aug. 7th.—Polypus as long as he can remember. *Calc.* 30 ter die.

Sep. 24th.—Much better. Continue.

Did not return. This patient was first prescribed for by the house-surgeon. I have known polypus break down and come away whole under *Calc.* 6 and syringing with *Liq. Calcis.*

Hepatic disorder.

CASE 59.—John C—, æt. 35.

Dec. 11th.—Says he has been treated allopathically from childhood for disorders of liver and stomach ; has been regarded as having “ disease of the neck of the stomach ;” knows he has taken *Mercurials* and *Potash* ; has recently had jaundice ; itching of skin now ; water high-coloured ; has passed blood per anum years ago ; colour of fæces sometimes white, at others dark. *Podoph.* 1^x, gtt. vj, ter die.

Jan. 1st.—Skin and urine now more natural ; stools not observed ; pains now only in left side ; feels well and asks for more of the same medicine. Continue.

Did not return.

Chronic colic.

CASE 60.—George D—, æt. 45.

Feb. 19th.—Griping pains at times about umbilicus ; the pains followed by yellow skin. The house-surgeon prescribed *Ars.* 3^x ter die.

26th.—Same ; the mouth is sore since old doctoring some months ago. *Coloc.* 1^x ter die.

March 11th.—Feels now quite another person. Continue.

April 16th.—Much stronger; has had no pains; stools whitish. *Merc. s.* 5^x ter die.

May 28th.—Continues well.

Sweating feet.

CASE 61.—Henry E—.

Oct. 2nd.—Feet always damp, and the toes red and feel sore. *Sulph.*

Nov. 6th.—After a week's *Sulph.* he had *Silica*, and reported himself better and better.

Threatening ulcer.

CASE 62.—John C—, æt. 65.

Dec. 11th.—For six weeks red swelling of ankle, extending upwards to calf.

Progressively removed by *Pil. Bell.* 1^x quater indies.

Chronic erythema.

CASE 63.—Richard P—, æt. 32.

Dec. 6th.—Has had eight slight attacks of "erysipelas" during the year, treated allopathically. Has the sensations preceding one now; ears a little swelled; puffing under eyes. *Sulph.*

Jan. 1st.—Same. *Bell.*

8th.—Some pustules about neck and hands. *Rhus.*

15th.—Pustules gone; same otherwise. *Apis.*

22nd.—Ears still hot at times. *Sulph.*

29th.—Red tumefaction about neck. *Bell.* 1^x quater indies.

Feb. 5th.—House-surgeon reports "flaky lymph about tonsils," and prescribes *Merc. c.* 3^x, gtt. j, and *Nux vom.* 1^x, gtt. j, in alternation.

12th.—House-surgeon again prescribes *Bell.* 1^x, gtt. v, ter die.

April 23rd.—Under *Bell.* at different potencies he reported himself better and better, and ceased to attend after to-day.

Erythema.

CASE 64.—Eliza B—, æt. 55.

April 3rd.—For nine months has had painful red swelling of fingers; can assign no cause; was a servant, but cannot work; never under homœopathy before. *Pil. Bell.* 1^x quater indies.

24th.—To-day, the third time of her coming, always having *Bell.*, she said that during the last nine months she had been to Bartholomew's, Gray's Inn Road, and the Skin Hospitals, and had got no good; while coming here in a month, to her surprise, was almost well. Continue.

Did not return.

Chronic eruption.

CASE 65.—Benjamin B—, æt. 52.

April 17th.—Red itching eruption on legs; various veins; has been troubled with it seventeen years; has been under homœopathic treatment. *Bell.*

May 1st.—No change. *Ars.* gr. $\frac{1}{40}$ ter die.

Nota.—The *Ars.* here was in combination with *Pot.* as in the *Liquor Potassæ Arsenitis*, but without adventitious ingredients.

29th.—Better, but thinks the medicine has not had any change during the last week. *Ars.* gr. $\frac{1}{30}$, ter die.

July 3rd.—Wrote gratefully from the country to say he got well, and continues so.

Pemphigus.

CASE 66.—Thomas L—, æt. 18.

Oct. 15th.—For three months pemphigus on back; has been attending an allopathic hospital. *Sulph.*

26th.—Better, but diarrhœa has come on. *Arsen.* this he rapidly got well.

Convulsions.

CASE 67.—William B—, æt. 17.

March 27th.—Since three and a half years of

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esteemed physician attached to the London Homœopathic Hospital saying, "You will find *Lycopodium* a medicine of great value if you give it at the 18th potency." But the 18th is certainly not the only good potency. Recently a patient came to me complaining of a troublesome *pruritus ani*; the 3rd decimal was as rapidly and thoroughly effective as the patient himself desired.

Obstipatio.

CASE 70.—John C—, æt. 53.

June 12th.—Bowels have not acted more than four times during the last month. He is homœopathic, and would not take pills or oil. Is recommended to take an enema if he is not relieved by *Pil. Plumb. ter die*.

18th.—Bowels acted by the pilules in twenty-four hours, and have been relieved four times in the week. Continue.

31st.—Goes on well. Continue.

Goitre.

CASE 71.—Esther J—, æt. 17.

Jan. 2nd.—Has been under allopathic treatment a year for goitre; it has been rubbed with ointments and painted with *Iodine*. The goitre is large and very prominent on the right side. She is a large fat girl, not in good health, catamenia scanty, and is subject to epistaxis; constipation. According to my rule I begin with *Sulph.*

16th.—Bowels more regular, no epistaxis, but has now a cold, which increases as usual, the size of the goitre. Continue.

Feb. 13th.—Has had *Sulph.*, with general restoration to health, till to-day; now she has *Calc.*

March 13th.—Improvement also under *Calc.*, but this ceasing, I prescribe *Pil. Iod.*; appl. *Iod. 1^x*.

27th.—For dry cough and headache she has to-day *Bell.*

July 10th.—For two months has taken *Bellad.* with progressive diminution of goitre; this diminution ceasing, we return to *Pil. Iod.*; appl. *Iod. 1^x*.

24th.—Purulent discharge from nose, pain in bowels, and constipation. *Merc. sol.*

Aug. 7th.—Better; goitre gone. She came afterwards for other ailments, but goitre did not return.

Hysteria.

CASE 72.—Sarah E—, æt. 22.

Dec. 12th.—Two years ago lost her mother almost suddenly; then had fever; very nervous ever since; feels as if something dreadful impended; has been under homœopathic treatment. *Ignat. 1^r ter die.*

Jan. 17th.—The first good effect of the pilules has not been continued, so I prescribe, experimentally, *Ignat. 30.*

Feb. 13th.—Has continued the 30th until to-day, and now reports "worse." *Ignat. φ, gtt. iv, ter die.*

March 6th.—Is better in health, sleeps much better, but still has the feeling of dread. Continue.

27th.—Complains to-day only of pain in head and ear. *Bell.* Did not return.

With respect to *Ignatia* I would make an observation. I have a patient whose career as a concert singer was jeopardised by hysterical troubles of various kinds; among others, invasions of irritability of bladder and rectum at slight mental excitement, incidental to her profession. These troubles were mitigated by *Ignatia*, which I employed in its descending potencies gradually down to a drop or two of the mother tincture, for she often said she felt the medicine to be right, but the strength not so. She called once for a special dose, and she said it must be a *desperate* one, to secure her going through an unwonted task. I gave her ten drops of the mother tincture in a small vial of water, for two doses, in case of need. She made but one dose of the ten drops, before descending from her conveyance, feeling hysterical agitation coming on, with (O shade of Hahnemann!) a most charming effect; and what is more, this charming effect turned out to be a permanent one. She has had no more hysteria. Similar experience of *Ignatia* makes me bold in its use.

REVIEWS.

On the Present State of Therapeutics : with some Suggestions for placing it upon a more Scientific Basis. By JAMES ROGERS, M.D., formerly Physician to the British Legation, and to the Abouchoff Hospital at St. Petersburg. London : Churchill.

It is a significant fact, that of the 232 pages of this latest treatise on the state of therapeutics, 204 should be devoted to homœopathy. It is a recognition of that which we most desire our brethren of the old school to perceive,—that homœopathy, whether true or false, is the only claimant in the field to a scientific therapeutic theory. We trust they will accept the advocacy of their present champion ; and not on this account only, but also because he enters the lists in a spirit of fairness and courtesy, which is as grateful as it is unwonted to us who have held them so long. We take up his gage, and address ourselves to the combat, glad at least to be met as knight should meet knight.

The ground Dr. Rogers takes up in his attack is this :

1st. He admits that “some trustworthy reports have been furnished by physicians attached to homœopathic hospitals, which leave no reasonable doubt about the large proportion of recoveries that occur in their practice.” These “results as satisfactory as those of any other method” may be “ascribed either to the curative power of the organism itself, or to that aided by the action of the drugs.” He thinks that the latter hypothesis is sufficiently disposed of by showing that “from the small quantities of medicine contained in homœopathic doses, they must be regarded according to the known laws of matter as quite inert.” Moreover, the conclusion thus arrived at by *à priori* reasoning is strengthened by the demonstration that homœopathic and expectant treatment give nearly the same result. “We shall thus have reason to conclude that the recoveries were effected by the natural resources of the organism.” But,

2nd. It appears to him that, although it has been repeatedly and satisfactorily proved that most of the "secondary principles" of homœopathy are unfounded, yet no author, with the exception of Jörg, has fairly grappled with the "fundamental principle" of *similia similibus*, and "shown in the only way in which its truth or falsity can be proved—by trials with drugs on healthy individuals—that it is not supported by facts." Many statements, moreover, of Dr. Ringer's recent work on *Therapeutics* (which "any one acquainted with homœopathic literature will perceive have been hitherto found only in works on homœopathy") would, if true, go far in supporting this fundamental principle of our doctrine. He accordingly applies himself to the discussion of the homœopathic theory, as well as to that of the results of its practice.

We will follow him in taking the latter point first in order.

Dr. Rogers gives Hahnemann's own account (from the note to his translation of Cullen's *Materia Medica*) of the circumstances which led him to think that *similia similibus* was the rationale of such cures as that of ague by *Cinchona*. "*Similia similibus*," he says, "became the basis of his therapeutics; and although the principle was not a new one, as it had been frequently referred to by medical men since the time of Hippocrates, yet it must be confessed that in his hands it received a far greater, and in some respects more scientific, development than any of its former supporters (even Stahl the Dane) had even attempted to give it. The seeming simplicity and completeness of the principle are admirable. If true, it contains within itself a complete system of therapeutics; to find a remedy for any given case of disease, it is only necessary to discover a drug that can produce in the healthy individual symptoms similar to those of the disease to be cured."

Beginning with some remarks upon the difficulty of defining or ascertaining "similarity" between disease and drug-action—with which we coincide, but which Dr. Rogers would himself admit to have little bearing upon the *truth* of the principle—the author proceeds to establish its falsity by

“showing that medicines do not produce in healthy individuals diseases similar to those which they can cure.” The drugs he selects as crucial instances are *Cinchona*, *Sulphur*, and *Mercury*.

Regarding *Cinchona*, he cites the experiments conducted by Jörg (seven provers), Nauman (one), Kruger Hansen (one), Walzl (one), and himself (six), in none of which were any symptoms of intermittent fever induced by *Cinchona* or *Quinine*. To these are added less detailed statements from other sources bearing in the same direction. The force of these is fairly pressed home; but there is a little too much of the partisan in the examination of the evidence on the other side. It must be remembered that one positive instance outweighs a great many negative ones. That one such instance, at least, besides Hahnemann's own, has occurred, is conceded by Dr. Rogers, who considers, however, “the present case as one illustrative of a rare effect of these medicines, or in other words, of an idiosyncrasy to their action.” We would refer him to Dr. Drysdale's recent papers in this Journal (especially to the section upon “contingent symptoms”) on the “Homœopathic and Allopathic use of Specifics,” where he will see that this very “idiosyncrasy to the action” of medicines is the basis of genuine homœopathic therapeutics. But beyond this we cannot think that Dr. Rogers has disposed of the “cinchona fever” as observed in the workmen at the quinine manufactories. The statements, also, to the same effect of Auber and Goedorf are at least as valid as those to the contrary of Bally, Andral, and Giacomini. If, further, Dr. Rogers will refer to an article on this subject in the *Monthly Homœopathic Review* for December, 1866, he will find that there is more evidence yet in favour of the fever-causing power of *Cinchona*. That it can cause a fully developed ague we do not indeed maintain. Medicinal disease has its own peculiarities, and similarity is not identity. But enough has been shown, we think, to warrant the assertion that *Bark* cures intermittents by a relation to them of its own pathogenic effects, which is far better expressed by ὁμοίος than ἐναντιος, and which is certainly not ἀλλοίος. This is quite

sufficient to support the practice of choosing other remedies for disease upon the "similar" principle, and to give it hope of corresponding success.

We do not quite understand Dr. Rogers' argument regarding *Sulphur*. He devotes some pages to showing that experimenters with it have never developed anything like itch; but adds that if it be also true that the internal use of the medicine cannot cure itch, no conclusion can be drawn, either for or against the homœopathic principle. This is undoubtedly correct. The bearing of *Sulphur* upon the question is not its relation to itch, but to cutaneous disease generally. It is confessedly a valuable internal remedy in skin disease; and if Dr. Rogers doubts of its power of causing eruptions, we would call his attention to Dr. Wurmb's proving, which is translated in vols. XV and XVI of this Journal.

And now about *Mercury*. What is the *casus belli* between us? Dr. Rogers admits that "in some respects there is a great resemblance between the effects of *Mercury* on the system and constitutional syphilis." Well, do we, or does any one else, affirm that *Mercury* is a universal curative of constitutional syphilis? On the contrary, we use it mainly for those very catarrhal affections and rheumatoid pains which our author admits to occur alike in mercurialism and in syphilis. There are very few diseases, and syphilis is not one of them, whose whole course and history can be "covered" by the pathogenetic effects of one medicine; and *similia similibus* is not responsible for the assumption that it ought to be so.

Dr. Rogers concludes, "Unless some important errors can be pointed out in these investigations, it must be admitted they amply prove that the principle *similia similibus curantur* is a false induction." We think that we have pointed out "important errors," not so much of execution as of conception, in the investigations. But even were we unable to do so, we submit that three medicines, however prominent, form insufficient data for such an inquiry. We recommend to Dr. Rogers the study of the relation of *Arsenic* to ague, neuralgia, and cutaneous disease; of

Belladonna to angina and erysipelas; of *Tartar Emetic* to broncho-pulmonary affections; of *Copaiba* to inflammations of the genito-urinary tract; of *Digitalis* to cardiac disease; of *Hyoscyamus* to cerebral excitement; of *Ipecacuanha* to vomiting and asthma; of *Phosphorus* to paralysis and pneumonia; and of *Turpentine* to hæmaturia. We think he will find that *similia similibus curantur* is a truer induction from facts than he at present imagines.

A word upon the two incidental objections with which this chapter is closed. 1st. Hahnemann is said to have admitted the insufficiency of the principle in the choice of medicines for the treatment of chronic diseases. This is put as if insufficiency meant inapplicability. The real fact is this. Mr. Hunt, who thinks *Arsenic* curative of most chronic skin diseases, confesses its uselessness when they are of a syphilitic origin. Here *Mercury* and *Iodine* takes its place. But the latter are no less capable of causing cutaneous eruptions than the former, and are therefore "similar" remedies. Only, they have an ascertained relation to the effects of the special virus present, which *Arsenic* has not. Hahnemann thought that the same thing held good of all chronic diseases; and, whatever we may think of his theory, his "anti-psoric" remedies are priceless. But they must be selected for each case strictly according to the principle *similia similibus*. 2nd. The homœopathic principle is said to be inapplicable to organic disease, because "we have no reason to believe that the action of any drug can produce it." If this be so, it limits the extent of the principle, but does not disprove its truth as far as it is applicable. But the assumption of finality here is hardly warranted. Careful and prolonged experimentation on animals has yet to give its results; and we may call Dr. Rogers' attention to the apparent production of tubercle in cats by *Drosera*,* as a foretaste of what may yet be accomplished. In the mean time, the "hints" of our provings give us many valuable remedies for the constitutional conditions which give rise to these morbid products, and for the effects of their deposition.

* *Brit. Journ. of Hom.*, vol. xx, p. 39.

The next two chapters deal with Hahnemann's attempts at the rationale of the action of similar remedies, and with the difficulties which homœopaths have found in the application of their principles. All this might have been written, and much of it has been written, by those in our own ranks. But then we come to what the author thinks a strong point—his demonstration of the futility of infinitesimals. We confess we are surprised that a controversialist, otherwise reasonable, should have condescended to such a line of argument as that which Dr. Rogers here adopts. He reproduces Dr. Simpson's calculations as to the number of ciphers required to represent our higher dilutions, the number of globes of sugar equal in size to the mass of the earth required to triturate up to them, and similar ingenious *nugæ*, and then thinks he has done enough to prove that infinitesimals "cannot have any medicinal action." What would be said to such argumentation in any other branch of science? Roscoe declares that by spectrum analysis he can detect the presence of the twenty millionth part of sodium in the air of a room. We imagine that he would smile contemptuously if Dr. Rogers replied, "Oh, but this is impossible, for it would take seven ciphers to express so infinitesimal a quantity."

Our author, indeed, hardly does justice to his own more advanced views. "There can be no doubt whatever," he writes, "that the most minute quantities of some drugs can produce sensible effects." In the text he names the 3rd decimal potency as the extreme limit of such possibilities; but in a note he cites approvingly Dr. Harley's statement of the effect upon the eye of "the instillation of twelve drops of a solution of one part of *Sulphate of Atropia* in 400,000 parts of water." If the 400,000th part can act, why not the 1,000,000th? If Dr. Harley is to be believed as to the former, why may not Dr. Watzke be accepted as an authority for the latter? (We refer to the proving of *Natrum muriaticum* in the 4th vol. of the *Oesterr. Zeitschr. für Hom.*)

There is a good deal of interesting discussion on the analogies by which the activity of infinitesimals has been

supported: but into this we cannot enter. Nor can we dwell upon the eighth chapter, which, like the fifth and sixth, might have been written by the sincerest believer in the essentials of homœopathy. We come at once to the portion of the book on which the author's chief pains have been lavished,—the comparison of the statistical results of homœopathic treatment with those of allopathy and of expectancy.

The diseases taken as standards of comparison are acute rheumatism, intermittent fever, typhus, cholera, and pneumonia. The hospital reports of Tessier, Wurmb and Caspar, and Fleischmann are adopted (with certain qualifications) as trustworthy data on the homœopathic side. The results are as follows:

1st. In rheumatic fever Drs. Wurmb and Caspar are considered to have stated the truth when they say that "homœopathy gives exactly the same results as the expectant method." But the picture given in the introduction to this section of the conflicting and generally injurious methods still practised in the old school treatment of this disease makes our management of it very bright by contrast.

2nd. As regards intermittent fever "there can be no doubt that the usual allopathic treatment of this disease is far more successful than the homœopathic." But the allopathic success is gained with *Quinine*, whose relation of similarity to the disease we have already argued; and the comparative failure of homœopaths results from their unaccountable disinclination to the use of this drug, which yet they hold out as typical of homœopathic action.

3rd. "As far as regards typhus and typhoid fever, the results of homœopathic treatment in the hospitals of Vienna are nearly equal to the most successful, and superior to the general, results of non-homœopathic treatment." It is hardly fair to say that the cases treated in the Gumpendorf and Leopoldstadt Hospitals were observed to be less severe than those which presented themselves at the allopathic institutions. We are fully justified in assuming the difference to be the result of the better treatment.

4th. The earlier hospital reports of the treatment of

cholera show an advantage on the side of homœopathy of from 3 per cent. at Prague to 11 per cent. in Tessier's wards at Paris. But later Vienna statistics (epidemic of 1866) are said to have reversed the difference. We think that the author might have made more use of the results obtained by British practitioners, as given in Dr. Russell's treatise, and in the volumes of this Journal from 1849 to 1867. Neither these nor (at any rate) Tessier's warrant him in saying that in treating this disease "homœopathic practitioners generally abandon the use of infinitesimal doses." *Camphor* indeed we use in strong solution: but so we do for a common cold. *Veratrum* and *Cuprum*, if not also *Arsenicum*, have achieved their repute in cholera from even such potencies as the 30th.

5th. Pneumonia was for a long time the battle-ground on which homœopathy and allopathy waged the combat of statistics. It is now known that a worse choice could hardly have been made. No disease tends more uniformly to recovery, if the patient's constitution and circumstances be favorable. Dr. Henderson was the first, in the pages of this Journal, to state the fact and account for it. It follows that the excess of mortality of heroic over expectant treatment—ranging from 5 to 25 per cent.—means nothing less than so much manslaughter on the part of the doctors. As between expectancy and homœopathy there need be little difference, as there is not, in point of mortality. But we would call Dr. Rogers' attention to Dr. Henderson's calculations* as to the time required for the recovery under the two methods, which he will see to be no little in our favour.

Dr. Rogers concludes with a tabular view of the general mortality in the allopathic and homœopathic sections respectively of the Ste. Marguerite and Leopoldstadt Hospitals during three years for the former and six for the latter. They are

Ste. Marguerite—

Allopathic (411 deaths in 3724† patients, *i. e.*) 11·3 per cent.
Homœopathic (399 deaths in 4663 patients, *i. e.*) 8·55 „

* *Brit. Journ. of Hom.*

† Misprinted by Dr. Rogers 5724.

Leopoldstadt—

Allopathic (184 deaths in 4160 patients, *i. e.*) 4·4 per cent.
 Homœopathic (148 deaths in 4569 patients, *i. e.*) 3·2 „

There is a singular difference in the ratio of deaths to admissions in the two Hospitals, but in both the lesser mortality belongs to homœopathy.

We have no intention of going again over this weary ground of statistics. We will not say, as has been said, that they may be made to prove anything. But the difficulty of finding any firm resting-place in them forces us to the conviction that it is not with such weapons that the battle of homœopathy is to be fought. Nothing but personal experience can convince our adversaries, as nothing but this assures ourselves. We *know* the difference between treating diseases for which we have specific remedies—as erysipelas by *Belladonna* and pneumonia by *Phosphorus*—and watching those run on which we have not yet found the true *simile* to modify. And the only way in which we think a partisan of expectancy can be converted is by trying this method in all his cases for six months of the year, and for the remaining six months treating them in consultation with a homœopathic colleague. If at the end of the time he cannot feel that our remedies have given him a power over disease to which he was previously a stranger, we have nothing more to urge as far he is concerned.

One conclusion drawn by Dr. Rogers from his data now collected we may cite, viz., “that the *Materia Medica* of the old school, the result of the accumulated experience of ages, is a worthless, nay more, as it has been hitherto frequently employed, a noxious mass of what was (*sic*) once regarded as health-restoring drugs. The truth of this conclusion cannot,” he thinks, “be gainsaid; and no conscientious and intelligent medical man can ponder over it, without resolving to abandon the chaotic polypharmacy of the old school, and trying to ascertain, by proper investigations, what drugs really do accomplish in the proper treatment of disease.” This is pretty well, but what follows is better still. The third chapter of the concluding section of the work is entitled, *On the Necessity for proving Drugs*.

Hahnemann is given due credit for his energetic recommendation of this plan, which is itself characterised as "one of the most valuable innovations ever made in practical medicine." It is admitted that "homœopathy has hitherto given us the greater portion of our well-grounded knowledge of the properties of medicines." Rules are laid down for proving similar to those contained in our own books. Experiments on animals are depreciated just as we should depreciate them; the comparative uselessness of the "trial of drugs in disease" is put as strongly as we could put it. All this is very gratifying; and we could wish for little better.

But, O worthy antagonist, what are you going to do with your drugs when you have "proved" them? You say that "it is quite certain that medical men of the old school have no such guiding principle such as *similia similibus* is supposed to be by homœopaths, which enables them to know, from the results obtained by proving a drug, in what diseased states it may be usefully employed." You yourself "believe the important fact that drugs possess elective affinities for certain organs or tissues will form the basis of our future therapeutics." We heartily agree with you, for this fact forms the basis of our present therapeutics. It is, as you must admit, the first step towards the similarity we desiderate; "organopathy" is the roughest kind of homœopathy. But you justly point out that, "although several of them may act on the same organs or tissues, considerable variety is observed in their effects." How will you utilise *kind* of action but as you have proposed to utilise *sphere*? But then, if you do so, your organopathy has become homœopathy, for you are using remedies which affect the same parts as the disease, and in the same manner.

We can only add, in conclusion, "Help us, as you will, to see how much is due to nature and how much to drugs. Here we can have no quarrel with you. But, do not deny that what drugs can do for our patients is, in ninety-nine cases out of a hundred, explicable only upon the principles of homœopathy."

The Clinical Guide, or Pocket Repertory for the Treatment of Acute and Chronic Diseases, by Dr. G. H. G. JAHR. Translated by C. J. HEMPEL, M.D. Second American edition. Enriched by the addition of the *New Remedies*, by SAMUEL LILIENTHAL, M.D. New York : Boericke and Tafel, 1869.

THE first edition in English of this work by Dr. Hempel, which was published in this country in 1850, edited by the late Dr. Laurie, under the title of *Jahr's Pocket Dictionary and Concordance of Homœopathic Practice*, is sufficiently familiar to many of our readers, and another edition by the late Dr. Spillan has contributed to its distribution among the homœopathists of Britain. The present edition by Dr. Lilienthal is furnished with all the new remedies, treated in the same way as the older remedies were in the original work ; and, following the fashion of the day, the editor has introduced so-called "key-note" symptoms, which, we may observe *en passant*, we do not very much believe in, and which we fear, if much relied on, will not tend to improve homœopathic practice. To those who liked the original work this new edition will be welcome, but we must warn our readers that this work can be no substitute for a good repertory and materia medica, and we should be sorry to think that it was at all likely to supersede those essential aids to successful practice. Our opinion respecting the original work we expressed in our Vol. VIII, p. 551, and we see no reason for altering it in regard to the present edition.

CLINICAL RECORD.

Petroleum Capsules. By Dr. DREYSDALE.

I HAVE frequently called attention to the fact that we often fail in curing with a truly homœopathic remedy, solely from insufficiency of the dose, and I have lately had a proof of that with respect to *Petroleum*. With what preparations the provings were made we are not told by Hahnemann, but the specific curative sphere of the substance is certainly prefigured in them. In using the ordinary preparations therapeutically, we are very often disappointed in the result, more especially the globules and dry triturations if prepared any length of time. The reason is easy enough to see, unless the doctrine of some is true, that the amount of the dose is of no import, and the barest trace of the substance is quite enough to do all that is possible for the homœopathic cure. The common preparations can generally only contain the barest trace, if any, for this is a very volatile oil, insoluble nearly either in water or alcohol. So, as I was not satisfied of the truth of the barest trace doctrine, I have latterly been in the habit of using capsules of pure *Petroleum* containing three drops of the pure substance, prepared by Messrs. Thompson and Capper, the homœopathic chemists of this place. The results have been so far very satisfactory, not so much in the cure of any class of cases not indicated previously, as in the greater certainty of the therapeutic effect when the remedy is chosen in accordance with the pure symptoms. I have chiefly used it in chronic diseases, and the method is to give one capsule every second night, or even at longer intervals. In this manner I have found very good results in chronic inflammation of the prostatic portion of the urethra, with frequent emissions and imperfect erections, also in that state of chronic urethritis accompanying stricture, using the regulated dilation with bougies at the same time. Also in chronic intra-uterine catarrh, in chronic diarrhœa, bronchial catarrhs, and in chilblains and chaps. Also I have lately seen striking results in deafness and noises in the ear; in a case of the kind lately, which

had been under both allopathic and homœopathic treatment for eighteen months, a complete cessation of the noises and considerable improvement of hearing were obtained after three weeks' use of the capsules. In all these classes of disease we may observe the suitability of *Petroleum* was indicated by Hahnemann, and clinical results no doubt obtained by the ordinary diluted preparations, but these last most likely were exceptional cases of unusual susceptibility to the action of the medicine, for the higher dilutions certainly often disappointed me, and no doubt have done the same with others.

Phellandrium aquaticum in Headache.

By Dr. DUDGON.

It is of course quite wrong and very unscientific to have prejudices and prepossessions for or against any medicines, but I doubt if we do not all more or less commit this fault. We cannot help having our favourites in the *Materia Medica*, and equally we cannot avoid regarding some of the medicines thereof with supreme indifference, if not contempt. But, as I said, all this is very wrong, but, alas, for poor human, or I may say medical, nature, we acknowledge our fault theoretically, but in practice we go on committing it. A few days ago I received a striking corroboration of the impropriety of cherishing prejudices against drugs. If there was one medicine in our *Materia Medica* for which I felt utter contempt, that medicine was surely *Phellandrium aquaticum*. There is a mean sound about its very name; it at once suggests a philandering fellow, and, what's more, an aquatic philanderer, which conveys an idea at once pitiful and grotesque. And then, if we get over the prejudices its contemptible name must excite, and look at the proving of it in the *Materia Medica* of Hartlaub and Trinks, we find that most of the symptoms were supplied by that ever ready "symptom manufacturer" (as Hahnemann insinuates him to be), "Ng.," who never proved medicines on himself, but who furnishes thousands of symptoms which he asserts he observed on others. If we search through

our homœopathic literature, we shall find that the whole body of homœopaths have apparently treated it with disdain ; for with the exception of Hartmann, who recommends it in chest affections, evidently led to this by its ancient allopathic reputation as a pectoral remedy, and Gross, who lauds it in pain in the mamma during suckling, no other writer, as far as I remember, alludes to it. Of course it stands in most of our *Materia Medica*s, but it has been quietly dropped out of others as if it were a useless weed that did not deserve standing room. No doubt it had anciently a vast reputation, so much so that one enthusiast wrote a book about it, bearing the singular title of *Phellandrologia Physico-medica*, in which, besides attributing to it great curative virtues, he describes the fearful consequences that may result from its abuse, such as vertigo, hæmoptysis, spasm, &c. But Rademacher, who seems to have put to the test all the vaunted specifics of former times, speaks in disdainful terms of the vaunted antiphthisical virtues of this drug. A case occurred in my practice a short time since that gave me a better opinion of *Phellandrium* than I had hitherto entertained. A lady on the borders of fifty, who had entrusted me with the care of her health for the past fifteen years, and whom I had had the pleasure of bringing safely through numerous more or less serious diseases, among the rest, violent menorrhagia on one occasion, and pneumonia on another, came to me on the 26th November last with her eyes in a great state of inflammation. The lids were swollen and half closed, the eyes were tearful and intolerant of light. Any attempt to read or to sew occasioned great pain, and in short the eyes were useless. The conjunctiva of the lids and caruncular were much inflamed, and the patient complained of headache, but did not describe it particularly, and I, imagining it was secondary to the eye affection, forbore to question her more particularly about it. I prescribed *Argentum nitr.* 2, a dose three times a day. She did not return until the 20th December, when her eyes were precisely the same as before, but the head was still more painful. She now described the headache like a lump of lead on the top of the head. I prescribed *Rhus tox.*, three times a day. She returned on the 4th January, 1870, still suffering as before from the head and eyes. She complained of loss of memory and of feeling very weak. I prescribed now *Spigelia* 1. She came back on the 10th

January, complaining of the headache being still worse, and the eyes just the same. Her appearance was pitiable in the extreme. The eyes only half opened, looked as if she had been crying for a week. She could not look at the light; there was a good deal of watering of the eyes, and the conjunctiva palpebrarum was as red as scarlet cloth. The headache, which I carefully inquired into, she described as a great weight on the top of the head, and burning shooting pains in the temples. The appetite was almost nil, and she had no comfort unless she sat in a dark corner all day. She was weak, and very much out of spirits. I was determined, if I could, to find a similitum to this uncomfortable state, so I searched through the *Pathogenetic Cyclopædia* until I found that the medicine most nearly corresponding to her head symptoms was *Phellandrium*. On looking into the proving in Hartlaub and Trinks' *Materia Medica*, I found that the recorded symptoms of head and eyes corresponded almost precisely to those of my patient; so I resolved to administer it. The only preparation I had was a small bottle of globules of the 30th dilution, which had lain unopened in my case for twenty years. I placed some globules in two powders of sugar, with directions to mix one powder with nine tablespoonfuls of water, and take a spoonful three times a day. The patient did not return till the 14th of March, when she came to consult me for some rheumatic symptoms in her arm to which she was subject. She then said, "The last medicine you gave me did me a wonderful deal of good; after a few doses of it my head and eyes were quite well, and I have had no trouble with them since. Please tell me the name of the medicine, that I may get a bottle of it in case that dreadful headache should return." Nothing could be more satisfactory than this voluntary statement, so I felt pleased that I had not allowed my prejudices to interfere with my prescription, and the illustrious "Ng." rose mightily in my estimation for the nonce.

Since then, though so short a period has elapsed, I have had several opportunities of verifying the curative power of *Phellandrium* in this peculiar kind of headache, which is by no means a rarity in practice. I may briefly recapitulate its characteristics: pain like a heavy weight, a stone, a lump of lead, on the top of the head, with aching and burning in temples and above eyes; pain in the eyes, with congestion of the conjunctiva; watering of the eyes; intolerance of light and sound.

MISCELLANEOUS.

A liberal opponent.

DR. MARCHAL DE CALVI, a renowned professor of old physic in Paris, gives his opinion respecting homœopathy in the *Tribune Médicale*, a French medical periodical:—

“Towards the end of 1867 there was some talk about homœopathy in a company of doctors. Of course the remarks savoured of the ordinary sovereign contempt entertained for the system, and I had the temerity to announce to my friends my intention to speak a word for the poor persecuted system in the *Tribune*. You should have heard the outcry that followed my declaration! No doubts were expressed relative to my honesty and impartiality, for I had never practised, and do not now practise any other than the traditional system of medicine; but I was looked upon as a patient of the worst sort, as insane, in fact, and I was pitied in the kindest manner. ‘Poor fellow! poor Marchal!’ was heard on every side. Somebody, Voltaire I believe, once said that all men were fools, and the main point to be considered was that every one should select the right kind of folly. Well, as regards myself, I prefer the kind that consists in allowing the accused the liberty to defend themselves, and even lending them a helping hand, and never judging without proof.

“But I hear it said judgment has already been pronounced. True, but it is only the Faculties and Colleges that have pronounced it. Now, I respect constituted authorities, but I do not admit them to be infallible. Remember the discovery of the circulation of the blood, of antimony, of steam, of beet-root sugar.

“In matters of medicine, general practice is the true competent judge. The practitioners are those who have to pronounce the verdict. The question is not one of explanations and causes, but of the authenticity of certain facts and results in connexion with the administration of medicine. Why should you object to make the experiment, especially when you have been able to do nothing with the ordinary remedies? It is alleged that the so-called expectant treatment gives better results in the treatment of

pneumonia than the antiphlogistic, or the employment of *Antimony*, &c. On the other hand, it is alleged that the small homœopathic doses have no more action than pure water. Then what is to prevent you giving your pneumonic patients a little pure water? Give it to them and observe if the expectant system answers better with or without the pure water of the homœopaths! Of two things, one—either the homœopathic medicines are really nothing but pure water, in which case they can do no harm, or they possess a curative power, and in that case it is your duty to put them to the test in the way directed by those who understand how to employ them.

“Some years ago a colleague from Martinique, Dr. Neris, a very distinguished man, came to Paris. While there his son, a boy between thirteen and fourteen years old, got a rheumatic affection of the lining membrane of the heart with harsh respiratory sound. I treated him with *Nitre* and *Colchicum*, in conjunction with a large blister over the affected part; then I gave him *Digitalis*. After taking the last medicine three days there occurred symptoms such as I once before observed after giving *Digitalis*. The boy was in such a state of excitement as no words can describe. Not a single part of his body, not a muscle, remained an instant in repose. It was a general uninterrupted, irregular, violent movement. The eyelids opened and closed with force, the face was distorted by grimaces, the head was constantly rubbed on the pillow. The limbs and the body displayed this continual want of regulating power (ataxy). Continual spitting, but without ejecting any spittle. The patient had just a little power over his mind. He would answer no questions. I prescribed *Prussic acid*, *Valerianate of Ammonia*, *Belladonna*, Meglin’s pills. No improvement. I had doors and windows closed, and surrounded the patient with darkness and silence. All was of no avail. Three days were passed in this fearfully anxious state. I called in Dr. Bouillaud. He formed the worst prognosis, and gave some directions, which were followed, but all to no purpose. The despairing father began to speak to me diffidently about homœopathy. As I could, as a physician, give him no hope from my medical treatment, I at once assented to his proposition to try homœopathy. He sent for Dr. Escallier, whom I already knew, and I also requested my friend Dr. Perry to join the consultation. Escallier was the first to arrive, and said at once—*Hyoscyamus* is the remedy

here! Dr. Perry came in soon afterwards, and at the first view of the patient he exclaimed—*Hyoscyamus* is strongly indicated in this case! This accord astonished me. *Hyoscyamus* was given to the patient in a low dilution. After the third dose, that same day, improvement set in. The following day the improvement was quite striking, and on the third day the patient was quite quiet.

“All this I saw with mine own eyes. Doctors of my school, to whom I have related the case, have answered—No doubt the same effect would have followed the saying of a *paternoster* or *Ave Maria*. But such an answer is a pure negation of all and every art of physic. It is as much as to say—Let all medicine go to the dogs sooner than that we should give up a single one of our prejudices!

“Shall I now say that the system of medicine with the small doses should supersede the ordinary method? No, certainly not. But it may be elevated to an equality with the latter. I myself have an important reproach to make; it is, that homœopathy seems only to reach the symptoms and possesses no influence over the morbid constitution. But this latter must be modified if we wish to prevent future symptoms.

“Readers of the *Tribune*, who have already given me so many proofs of your esteem! you know I am incapable of purposely deceiving you. I speak in all good faith, and say to you, Make trials and look and judge for yourselves without hatred and without fear, as honorable free men, as members of a jury, and thus make known the results you have obtained. If these are affirmative, then you have done somewhat to hasten the great day of atonement, and rendered an invaluable service to humanity, to science, and to the dignity of the medical calling.”

Poisoning by Phosphorus? By PROF. BUHL.

On the 30th November, 1868, E. T—, aged 26, was brought in an insensible state to the General Hospital. The day previous she had been delivered of a first child, which, though a seven months' child, was alive. Intense general icterus, continual unconsciousness, convulsions, and a great diminution in the size

of the liver, as evidenced by percussion, led to the diagnosis of acute yellow atrophy of the liver. Death ensued twenty-seven hours after admission into the hospital. The diagnosis of acute yellow atrophy of the liver was completely corroborated by the post-mortem examination. The liver was found to be so greatly diminished in every direction, that its greatest thickness was but four, its breadth and length only sixteen, centimeters. Corresponding to this diminution of size was the diminution in the weight of the liver, which was only 511 grammes, somewhat less than the third part of the average weight of a normal liver. Moreover, the organ showed considerable shrivelling and friability; its cut surface had a strongly marked icteric colour, in which appeared sundry golden-yellow islands, varying in size from a hazel-nut to a walnut. There was no question here of an icterus from stoppage, the cause of which, according to Virchow, is duodenal catarrh, with occlusion of the orifice of the ductus choledochus in the bowel, seeing that there was not here the necessary stoppage of bile and dilatation of the gall ducts; on the contrary, the gall ducts were collapsed and quite empty. Both lungs were studded with numerous hæmorrhagic spots, and their bronchial tubes, as also the trachea, contained fine frothy mucus mixed with blood. The kidneys were much swollen, of a pale yellow colour, dull lustre, and great friability of their parenchyma, and small ecchymosed spots in the capsula adiposa and mucous membrane of their pelves. The uterus was but slightly contracted, it measured four inches in length, was wrinkled, and projected above the symphysis; its muscular substance was deep yellow, and its cavity contained but few clots. The corpus luteum was in the right ovary. The stomach, besides puckering of its mucous membrane, and a few ecchymosed spots, presented nothing remarkable. The internal surface of all the arteries—the endo- and peri-cardium, the renal pelves, and the dura mater, were all tinged deep yellow. Microscopic investigation showed a greater or less degree of fatty degeneration in all the organs. This was greatest in the liver, the kidneys, and the glands of the stomach, the cellular parts of which were completely destroyed, and changed into molecules or large drops of fat, with which were mingled some of the nuclei of the destroyed cells. Other parts had undergone the same degeneration, though in a less degree, as the muscles of heart and uterus, the muscles of the body, the

epithelium of the lungs, the ganglionic cells, and nervous fibres of the brain. It could not be positively ascertained that the deceased had taken *Phosphorus*, but from what the post-mortem examination revealed it must be inferred, with more than probability, that this was a case of poisoning by *Phosphorus*.—(*Ærzt. Intell. Bl.*, 1869, 46, and *Allg. Hom. Ztg., Monatsblatt.*)

Professor Tardieu on Coralline Sock Poisoning.

The "poisonous socks" which have caused so much discussion in our newspapers have just received much attention from Professor Tardieu, in a paper which he read at the last meeting of the Academy of Medicine. He was consulted in May, last year, by a gentleman for a severe and obstinate vesicular eruption affecting both feet, and occupying exactly those portions of them that were in contact with the red socks, compressed by the shoes. There were present also general indisposition, fever, headache, and nausea. These latter disappeared in a day or two, but the eruption occupying the feet was not cured until after two or three weeks. A similar case or two following shortly after, in persons who had worn similar stockings (in one of these the inflammation of the skin corresponding to the red stripes of the stockings only), he resolved to investigate the matter thoroughly. Having ascertained that these socks contained no mineral poison, he proceeded, as in the investigation of organic poisons which are insufficiently characterised, by means of physiological experiment. The socks were treated by boiling alcohol of 35°, in which the red colouring matter was rapidly dissolved and the evaporated solution yielded an extract which manifested poisonous properties. Redissolved in alcohol, it was injected into the skin of the thigh of a dog, a rabbit, and a frog; all died, the frog in four hours, the dog in about thirty-six hours, and the rabbit somewhat later. As the red colour is derived from *coralline*, which is a preparation of phenic acid, this substance was also experimented with, and a dog, rabbit, and frog were also killed by its agency. As the result of the autopsies which were made, it was found that at the point where the coralline had

penetrated a violent inflammation of the cellular tissue with purulent infiltration had been set up. The stomach was in a healthy state, but the intestines, distended with an enormous amount of diarrhœic matters (the discharges were copious during life), exhibited obvious signs of acute inflammation of the mucous membrane. To the microscope, the liver exhibited fatty degeneration. Finally—and this is to some extent the essential character of this description of poisoning—the lungs in the dog, and especially in the rabbit, were as if dyed by the colouring matter—presenting over the entire extent a most beautiful scarlet shade spread uniformly over their surface, so as to efface its lobular divisions and the vessels coursing along it. By an ingenious chemical procedure enough colouring matter was extracted from the lungs and liver of the poisoned animals to dye red a skein of silk. The coralline which had caused the death of these animals was thus exhibited as distinctly by its characteristic tinctorial matter as are atropine and digitaline by the power they possess of dilating the pupil and arresting the pulsations of the heart. M. Tardieu justly regards this as an illustration, as striking as unexpected, of the physiological and experimental method of research which he, in his 'Treatise on Poisons,' so strongly recommends for the investigation of organic poisoning.

It can be no longer doubted, he adds, that coralline is a poison of great energy, since, introduced in a small quantity into the living economy, it causes death. It would seem to act in the same manner as the drastics—as *croton tiglium*, for example, which it resembles both in the acute local eruption and the inflamed condition of the digestive canal which it gives rise to. Penetrating into the substance of organs, it, on the one hand, like various other poisonous substances, as phosphorus, ammonia, and arsenic, gives rise to fatty degeneration; and on the other becomes so concentrated as to be capable of extraction, still retaining its special tinctorial property. The accidents it has hitherto determined in the human subject have been limited to a very painful local affection, and some disturbance of the general health of no great importance; but judging from the rapidly fatal effects produced on animals, it is by no means certain that it might not prove very dangerous under certain circumstances. Other colouring matters, such as the Schweinfurt green, white lead, &c., have given rise to much mischief, but all these have been

of a mineral nature, and coralline is the first organic colouring matter that has been noted capable of producing poisonous effects.

Allopathic Homœopathy.

In the *Lancet*, Dec. 4th, 1869, Dr. Fuller gives an account of his experience of the action of *Ipec.* in sickness and vomiting. "I was led," he says, "by the recommendation of a medical friend to test the value of small doses of *Ipec.*, and I did so with the greatest scepticism and with the fullest expectation of finding these small doses useless. It was only after repeated successes that I was compelled to believe in the efficacy of this treatment in the following classes of cases."

He then describes how successful he was with drop doses of *Ipec.* wine in a teaspoonful of water every hour in obstinate vomiting in pregnancy that had resisted many other remedies. Also he was similarly successful in the sickness and diarrhœa of children, and in vomiting arising from other causes.

Articles have lately appeared in the *Practitioner* on the same subject, but, as we know the writers to belong to the homœopathic school, we don't wonder at their testimony to the curative action of *Ipec.* in sickness and vomiting; our wonder, which partakes of the nature of admiration, is to find their articles admitted into the pages of our contemporary, and we can only hope to see a similar phenomenon very frequently repeated.

OBITUARY.

DR. C. G. HELBIG.

DR. HELBIG is well known as the prover of *Nux moschata* and the author of several chemical works on homœopathy, which have been noticed at various times in our columns. He was a man of great learning, and was famous for the power with which he wielded his pen in defence of homœopathy in its early days. He died at an advanced age, in Dresden, on the 13th of last November. We observe that the death of this distinguished homœopathist has prompted a meeting in Philadelphia, under the auspices of Dr. Constantine Hering, to evoke a number of resolutions expressive of the esteem felt by homœopathists of all countries for Dr. Helbig, and of the loss homœopathy has sustained by his death.

DR. G. E. ALLSHORN.

Dr. Allshorn's first connexion with homœopathy was as a homœopathic chemist. He established the first pharmacy for homœopathic drugs in Edinburgh, where he subsequently obtained his diploma as a Licentiate of the College of Surgeons. This he did in 1851, and immediately commenced practice in Edinburgh, where he enjoyed a very considerable practice for some years. In 1867 he met with a serious injury in a railway collision, which laid him up for a long time. On regaining his health he once more set up in practice, this time at Dalston, where he was doing very well, when he was suddenly carried off by an attack of apoplexy, on the 7th of January, in the 52nd year of his age. His title of Doctor, which, by the way, does not appear in the *Homœopathic Directory* for this year, had, we believe, no better foundation than a degree of the Pennsylvanian Homœopathic College. Probably the reason why he caused it to be omitted in this year's *Directory* was, that he was ashamed to claim a title from a degree which he had only paid for, not worked

for, which would have been creditable to his sense and good feeling. *Si sic omnes!*

DR. ARNAUD.

We have to record the death of one of the French veterans of homœopathy. Dr. Arnaud was once President of the Homœopathic Medical Society of France, and was well known as an enthusiastic homœopathist and a most successful practitioner. His death occurred on the 13th November, 1869. His remains were followed to the grave by a large concourse of friends and colleagues.

DR. S. T. PARTRIDGE.

After many years of great weakness and inability to perform the duties of his profession, owing to spinal paralysis, the venerable Dr. Partridge died, at his residence in London, on the 14th of March. He was one of the oldest practitioners of homœopathy in the metropolis, and was greatly esteemed by both patients and colleagues on account of his professional skill and genial kindly manner. The early part of his medical career was spent in Barbadoes, where he formed a friendship with the late Dr. Chapman, which was only put a stop to by death. Dr. Partridge was one of the original members and a Fellow of the British Homœopathic Society. For many years he conducted a dispensary which made him well acquainted with and beloved by the poor of the parish of Marylebone. He was 73 years old at the time of his death.

BOOKS RECEIVED.

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Report of the Liverpool Homœopathic Dispensary, January, 1870.

The Possibility of Long-continued Abstinence from Food, by W. M. WILKINSON, with supplementary remarks by J. J. GARTH WILKINSON. London: Burns, 1870.

First Report of the Board of Managers of the North-Eastern Homœopathic Medical and Surgical Dispensary. New York, 1869.

Medical Report of the Northamptonshire Homœopathic Dispensary, from January 1st, 1868, to December 31st, 1869.

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THE
BRITISH JOURNAL
OF
HOMŒOPATHY.

ON SOME OF THE MEDICAL DISEASES OF
THE BLADDER.

By ROBERT T. COOPER, A.B., M.B., M.Ch., T.C.D.

(Continued from p. 102.)

THE cases narrated convey some instruction as indicating *Iron*, and they have a pathological interest as well. Perhaps in the authorities consulted* I may have overlooked observations bearing upon this point. I do not think so, and certain it is that except as symptomatic of calculus, under which heading Sir Henry Thompson mentions it, there is no author I have met with who has sufficiently noticed this distinctive and singular feature of an irritable cervix vesicæ—diurnal enuresis. This symptom is very simply and evidently very faithfully portrayed in the second of Rademacher's provers. "On the 10th July, the call to urinate reached its climax, on which day he was scarcely

* The works of Willis, Guthrie, Coulson, Bentley Todd, Brodie, Sir Henry Thompson ("Lectures," as published in the *Lancet*), Prout, and Gant, together with several scattered articles and reviews, have been consulted.

able to go through his professional duties, as he must make water every five or ten minutes. This symptom always ceased completely at night; it continued almost uninterruptedly from 8 a.m. till about 5 p.m.; it was somewhat relieved by constant sitting, and by lying; when he was out walking and resisted the inclination, it ceased at length almost entirely." The being able to resist the inclination when walking about shows that the irritability cannot have been a very painful one, and the preceding portion of the paragraph goes to prove that it was in this position, namely, the erect, the urgent symptoms manifested themselves. Besides a trifling amount of urine exalting the temperature of a limited portion of the mucous membrane—so much only as it was brought into contact with—is more likely to occasion distress than when a larger quantity had welled up, and rendered the temperature all over the irritable surface equable; consequently on the patient's resisting the inclination for a time and allowing the urine to accumulate, we can understand the reason why the pruriency lessened.

Again in Hull's *Jahr* (I believe from Noack and Trinks) we have the same symptom. "Involuntary micturition particularly in the daytime."

It would appear that *Iron* has the power to irritate the mucous membrane only; its irritative action seems both circumscribed and superficial, never dipping down—at least I can find no evidence of its doing so—to disturb the prostate gland. That it may yet be proved to have the power to affect the prostate and to engage the deeper structures of the vesical walls I by no means deny, while it is extremely probable that under certain circumstances nocturnal as well as diurnal symptoms are to be met by it. Such occurred in the following instance, a case met with in private practice.

Mrs. B., a dark-haired woman, aged about 33, five days before this report was taken, became annoyed by diurnal irritability of the bladder, which she attributed to her having overfatigued herself when walking about and standing while at a public place of amusement. The symptoms continued diurnal till last night when she was awoke about four

times with an uncontrollable desire to evacuate the bladder. There is much bearing down when attempting to walk about, with great heat and burning, referred to the neck of the bladder and the urethra, especially when urinating, together with bearing down and straining after the act. It appears to her that the quantity of urine passed is in excess of what is normal; cannot walk about for five minutes without the desire for micturition coming on, and painfully apprehends a miscarriage, is gone four months in pregnancy. Has never had anything at all similar to this before. The urine is quite clear, tongue clean and bowels regular.

Digitalis in the 12th potency was prescribed for the above train of symptoms, but not succeeding a lower dilution, with equally unsatisfactory results, was given. *Cantharis* and *Terebinth* were also unsuccessful; abortion gravely threatened, the constant and painful bearing down, and the harassing desire to micturate day and night evinced the extreme urgency of the case. I then prescribed the *Phosphate of Iron*, and with the happiest results. All these symptoms subsided, and my patient was delivered of an eighth month child, the labour being rendered premature owing to injudicious overfatigue.

It is much to be regretted that no vaginal examination was made to ascertain the state of the uterus when the above symptoms were present, but so far as we can infer from the evidence presented, we had first an irritable condition of the cervix vesicæ; this not being relieved, the inflammation attacks the neck of the womb, the condition of which necessarily causes our patient much pain, waking her in the middle of the night, and the day following she is prevented from walking about by the bearing down occasioned by the irritable cervix uteri pressing upon the vaginal mucous membrane, and *Iron* being prescribed the symptoms subside.

In other words, assuming the correctness of our diagnosis—and in a tentative science like medicine we are obliged to assume a great deal—we have *Iron* curing, not only the pathological condition to which we have shown it to be in homœopathic *rapport*, an irritable bladder-cervix, but also

an irritable condition of what may be regarded as the homologue of this part, namely, the cervix uteri.

And in this way we are brought to confront this allied lesion; not irritability of the entire womb such as Gooch described, but an irritability confined to the neck alone of the womb.

At page 403, vol. xxix of the *Annals*, the report will be found of a case of mine, in which an irritability of the neck of the womb and a like condition of the corresponding part of the bladder seemed to go on *pari passu* until arrested by *Iron*. If these affections can react upon each other, and the close proximity of the parts render such an occurrence almost certain, and if *Iron*, as I shall show reason for believing, can meet both affections, and if, as is almost certain, an irritable cervix uteri can bring on miscarriage, the importance and opportuneness of our remarks must strike the most unreflecting.

Now what proof have we that *Iron* can produce and therefore cure an irritable state of the neck of the womb? I must at once acknowledge my inability to answer this either fully or satisfactorily, but the following facts are sufficient to warrant a statement in favour of the probability of its doing so. In the "Additional Remarks" appended to my paper (for which I must once for all apologise for so often referring to) it will be seen that the *Phosphate of Iron* produced in a woman labouring under spinal irritation, severe heavy pains somewhat like labour pains apparently in the womb. And in Hull's *Jahr*, we have labour-like pains in the abdomen as previous to the appearance of the menses.

Iron is known to cause abortion when administered internally; it remains a question whether this may not be due to its setting up an inflammatory state of the lower portion of the womb.

The above labour-like pains, it may be urged, could possibly have been owing to a spasmodic condition of the superior bladder, nor have our investigations been sufficiently conclusive to decide this point, for, as before observed, to distinguish uterine from vesical bearing down requires care. A main, indeed the most important help will be a

vaginal examination, but in the absence of this we must inquire carefully the situation to which the patient refers her sufferings, observe the character of the urinary expulsion, for with spasm it will be irregular, and will not be influenced to such a degree by position as when the uterus alone is engaged; the desire for micturition too will occur whether the patient is recumbent or not, or if anything the pains will be excited more in the horizontal posture, owing to the mass of urine exciting the longitudinal fibres to contract; the patient, therefore, generally assumes a sitting posture, the body being bent forwards,—a position which, while it relaxes the strain upon the bladder, will determine the weight of urine to the lower parts of the urinary reservoir; and lastly, the previous or simultaneous existence of spasmodic pains in the hypogastrium will afford an argument in favour of the liability of their occurrence.

In the *Annals* I have given it as my belief that *post partum* ailments particularly call for *Iron*, and nothing has since occurred to make me call in question this statement. On the contrary the weak, exhausted, relaxed condition of the uterine fibres consequent upon the enormous strain undergone previous to and during confinement, independently of the state of the circulation generally, leave the uterus in such a condition as I believe to eminently indicate *Iron*, the administration of which will have the further advantage of preventing hæmorrhages, so likely to occur after this trying period.

Let us now recapitulate the affections of the bladder and the allied viscus, the womb, which we know or suspect to be caused by *Iron*.

Of the bladder.

1. An irritability, amounting sometimes almost to inflammation of the cervix.
2. A weakness of the cervix (?)
3. A weakness (with or without (?)) spasm of the superior bladder.

Of the womb.

1. An irritability of the cervix (?)
2. A weakness of the uterus itself (?)

The preparation of *Phosphate of Iron* I generally employ is the triturated first decimal; it has always answered my purpose, and never, when indicated, have I known it to disappoint. This fact I mention because some claim superiority for the *Pyrophosphate*, inasmuch as it is more readily soluble. But although I have frequently used the *Pyrophosphate*, its administration has not up to the present, in my hands, appeared to be attended with any advantage beyond what might be expected from the insoluble *Proto-phosphate*. And in regard to the solubility of a drug, when we have a preparation well triturated, especially in the case of a substance so easily acted upon as *Iron*, the difference between it and one that is actually in the state of solution before being taken into the mouth, must necessarily be slight, for on reaching the stomach the minute particles of the finely divided preparation will be so acted upon by the gastric juice, as to render it to all intents and purposes equivalent to its having been in solution beforehand. Further, the fact of aggravation so often being consequent upon a small dose of the triturated preparation is almost proof positive that it acts powerfully and must therefore be absorbed into the system, while its comparative tastelessness when given in water constitutes an obvious recommendation.

Another drug which acts on the neck of the bladder in a manner very similar to *Iron* is *Digitalis*. Thus Hahnemann gives us as being both curative and pathogenetic "Inflammation of the neck of the bladder." And we also have from Jahr as curative only "While in a recumbent position, the urine can be retained for a longer time."

The action of *Digitalis* upon the bladder appears to be more inflammatory, and though spasmodic, less so than that of *Iron*.

A case (copied from 'Braithwaite' vol. 56), is given in the *Medical Times and Gazette* of July 27th, 1867, which was under Sir Henry Thompson's care at the University College Hospital, and which, on the supposition that the reporter meant the day-time in contradistinction to the night, as well on account of the evident nervous

disturbance, would probably have met its specific in *Digitalis*.

“ A patient (a case of supposed stone in the bladder) came under Mr. Thompson’s care some time ago, with a bladder so irritable, that he could not retain his urine for a few minutes at a time, passing it as often as twenty-four times in the daytime, sometimes two or three times in the course of a meal. Mental influences had a considerable effect upon it; if the patient became excited it came oftener. Yet there was no pain in the penis, no blood in the urine, and seldom any pain at the back. When sounded no stone could be felt, and with all this the urine was perfectly natural and healthy in every respect; in fact, no cause could be assigned for the complaint. The remedy, however, was more apparent, for *Belladonna*, exhibited as a suppository and given by the mouth, speedily improved his condition amazingly, but (the report goes on to say) he is not yet well.”

A third drug that, as we have before stated, must not be left unregarded, is *Arsenic*. As a tissue-irritant generally it is superior to *Iron*, but whether it can like this irritate the lower portion of the vesico-urethral mucous membrane, and in what way it does so, can hardly be said to be satisfactorily proved. Its pathogenesis brings to light a fair array of symptoms pointing in this direction. “ Burning in the urethra during micturition,” “ desire to micturate every minute, with burning at the bladder,” and the curative one “ painful, difficult micturition; strangury ” would all of them lead us to suppose the existence of a turgesced mucous membrane. As we have before remarked, however, we must be careful to bear in mind that *Arsenic*’s irritabilities are accompanied by severer and acuter pain than those observed from *Iron*, and we have yet to prove upon what particular part of the genito-urinary tract its toxic effects preponderate.

Although claiming for myself the honour of being the first to recognise the nocturnal and diurnal irritabilities to be distinct affections, and to refer them to different structural lesions; and although believing that the diurnal

form has not acquired that amount of attention it so well deserves, yet I by no means wish it to be understood that these affections have failed to attract the attention of some observers. On the contrary the disease described as neuralgia of the bladder I am inclined to suppose included these irritabilities, a term much more suitable to them, we think, than that of neuralgia.

As this vesical neuralgia is little known, being almost—I believe altogether—ignored by English writers, and as it must be included among the causes of irritability, I shall give an epitome of some remarks of Debout's which appeared in the *Journal of Practical Medicine*, vol. iv (Eng. Ed.), page 459; the original article, I may mention, I have been unable to obtain, but the following is from the English translation of it. "The learned editor of the *Bulletin de Thérapeutique* recently invited the attention of his readers to certain hitherto unknown virtues of cubeb-pepper. 'When this drug,' says M. Debout, 'is carefully exhibited so as not to induce gastric irritation, when the dose can be raised to half a drachm three or four times a day, its action is principally that of a cerebro-spinal sedative. The medicinal power of the urine charged with *Cubeb*s is likewise locally anodyne, even though the urethral inflammation may be altogether unconnected with gonorrhœa.' M. Debout adduces in illustration of this view, the experiments instituted so far back as 1824, by Sir B. Brodie, on the effects of *Cubeb*s in chronic inflammations of the genital and urinary passages Clinical observation has since then demonstrated that the same remedy may be prescribed with advantage in cases of neuralgia of the bladder, of spasmodic contraction of the neck of the viscus with sanguinolent urine, in certain varieties of neuralgia of the neck of the urinary reservoir, in cantharidian cystitis, incontinence of urine in the adolescent, spermatorrhœa, &c.

"In a case of neuralgia of the neck of the bladder, consequent upon cystitis induced by frequent blistering, M. Debout effected a cure in six weeks by the insertion every night of suppositories containing *Opium* and *Belladonna*, and

by the daily exhibition for the first week of a drachm and a half of *Cubeb-pepper* in three doses, and of two drachms for the second. . . . The remedial agent in question is viewed by M. Debout as especially valuable in this particular form of disease, as these neuralgic symptoms have too frequently given rise to very serious mistakes, on account of their close resemblance with the signs which indicate the presence of stone in the bladder. Indeed the most able surgeons have sometimes been thus misled, and *Cubeb*s being perfectly innocuous, it is proper to test their action before pronouncing a decided opinion as to the presence of a calculus, particularly in children after the application of blisters with the Spanish fly, and when the urine contains suspicious floating filaments.

“On the other hand, M. Caudmont has prescribed a combination of *Copaiva* and *Cubeb*s, in diseases of the neck of the bladder and of the prostatic region, and his researches convince him that both these remedies act far more efficaciously upon these parts than upon the more anterior portions of the urinary duct. These medicines appear to be more peculiarly beneficial in certain forms of very painful and sudden neuralgia of the neck of the bladder, in persons subject to rheumatic or other erratic pains of the same nature, and often dispel in twenty-four hours the most violent symptoms. In these cases, as likewise when the pains are consequent on the introduction of instruments, M. Caudmont prescribes according to the gravity of the morbid manifestations, from fifteen to twenty-four bonbons containing each six grains of the balsamic mixture.”

Now at first sight the affections we have been discussing may appear to the superficial observer to be neuralgic; they differ, however, from neuralgia in the following particulars: in the first place the symptoms are more continuous than neuralgic symptoms; secondly, the exacerbations of the symptoms can be satisfactorily explained upon simple and plainly evident mechanical grounds, and were not owing to any peculiar intermittence; while thirdly, there was no evidence of a neuralgic tendency in any of the patients, nor

any neuralgic pains present, near to or remote from the seat of the morbid lesions.

So far then for general differences: now as to the varieties. The truly nocturnal enuresis it is impossible to speak about accurately, and until increased experience warrants, we shall leave unnoticed the discrimination of irritability and neuralgia of the upper bladder.

Not so the cervical irritability, an affection of much greater importance, being more likely to lead to an erroneous conclusion as to the existence of a calculus, and about which we can from experience speak with greater confidence. To have accurate ideas of both affections—neuralgia and irritability of this part of the urinary reservoir—is very necessary. In cervical neuralgia we shall find a dull continuous pain coming on at uncertain times, or at some particular hour, seldom affected by the passing of the urinary stream, and generally speaking eased by compression of the penis. The pain at the extremity of the penis instead of being hot, burning, and irritating, is a dull aching, and associated with it we shall observe that there exist shootings either up or down the spinal column, and an intense pain with some bearing down (especially in females) referred to the sacral region. This affection generally results from cystitis or urethritis, but seldom has been described as preceding them. Should it follow local inflammation the pain will be found to be a sickening aching, and though it may continue day and night, there is not the same desire to urinate as in the truly irritable bladder, and generally no relief after the act; besides, with irritability we shall often have a burning pain in the urethra, symptomatic of urethritis, not of urethralgia, which latter is evinced by a dull sense of aching or drawing in the course of the urethral canal, and often “a violent cutting in the urethra, obliging one to bend double and scream before, during, and after micturition” (see proving of *Cantharis*); while lastly, irritability is very frequently the harbinger of acute cystitis, neuralgia, as we have said, but seldom. Sometimes we find cases of vesical neuralgia, which, preceded by pains in other parts attack the bladder all of a sudden, awakening the

patient if asleep by their violence. Thus, a patient complaining during the day of pain in some of the abdominal viscera, the kidneys, (one or both) liver, or stomach, goes to bed and awakes in the middle of the night with an intense aching in the region of the bladder, the exact situation of which he fails to describe when subsequently narrating his case, and this is accompanied by pains shooting up the back, in the sacral or inguinal regions; he (more particularly if the kidneys are painful) urinates freely, but to his dismay and disappointment the paroxysm still continues and leaves off of its own accord, after, it may be, short but severe anguish. Such are the trains of symptoms we would call true neuralgia, restricting the term irritability to those disorders accompanied with inflammatory evidence.

A neuralgic attack of this latter description, whether the bladder or the urethra be the seat of suffering demands among other remedies *Zincum*, especially if the vesical symptoms are preceded by nephralgia. We refer the reader to the provings of this drug as well as to subsequent cases cured by *Clematis*.

Neuralgia of the cervix and of the urethra will be found to succeed various degrees of inflammation in these parts. Thus Hempel regards as neuralgic the group of symptoms produced in the case of one of Rademacher's provers, and which seems to have succeeded an irritable condition of the vesical and urethral mucous membrane. The symptoms are thus narrated. "Between eight and nine o'clock in the morning, and between six and seven in the evening, the prover suddenly felt a tickling and warmth in the glans; soon after this, sensation was accompanied by an irresistible *urging to urinate*; as soon as the urine reached the glans, it caused an exceedingly troublesome pain in this part, which continued even for some minutes after an emission of urine, and was accompanied by a continually increasing urging to urinate. The distress might be eased by drinking a quantity of cold water, and by compressing the glans with the fingers."

Such an affection as this last I would term neuralgic

irritability, an affection by no means infrequent, but the forms of irritability existing in the cases we have narrated do not warrant the distinguishing epithet neuralgic; they were cases of simple hypersensibility of the mucous membrane, unassociated with pains characteristic of neuralgia either proximate to, or remote from the suffering locality; nor indeed with any other features justifying the term.

As before mentioned we do not mean to maintain that the cervical irritability has never been recognised, only that it has not been accurately described. Continuing our quotation from the *Journal of Practical Medicine*, we find the following:—

“Among the maladies which *Cubeb*s in general promptly relieves, we may mention uncomplicated urethritis in the female sex, a complaint in itself unimportant, which causes much anxiety to the patients.”

M. Trousseau communicates on the subject a few interesting remarks in M. Debout's journal.

“This inflammation is not unusual in single, but is more common in married women, and is *marked by a frequent desire to pass water*, and a sharp smarting sensation during the excretion, which is followed for some minutes by vesical tenesmus. In some instances, M. Trousseau states that the patients are sometimes obliged to retire as often *as ten or fifteen times in a hour*, and after expelling a few drops of urine, are compelled to continue the effort for upwards of a minute, so imperative is the deceitful sensation of fulness in the bladder. In some instances, a filament of ropy mucus escapes with the first or last drops of urine, a sign which points to extension of the urethral inflammation to the *vesical mucous membrane*. But whatever be the cause of this irritation, M. Trousseau opines that in very many cases, it yields to the exhibition of *cubeb-pepper* Copious drinks, and abundant, but not heating food, should be simultaneously prescribed. M. Trousseau has met with epidemics of *simple* varieties in schools, and frequently vulvar thrush as a concomitant symptom,” &c.

In the above quotation I have italicised the particular

expressions I would draw attention to, as showing that Trousseau at the time was describing not merely simple urethritis, but this inflammation combined with bladder-symptoms, and indeed it would seem probable he was alluding to the identical affection we have been at pains to describe, only giving more prominence to the urethric than to the cystic symptoms. But he like other writers on these affections leaves unnoticed the all-important feature—the preponderance of the phenomena during the daytime. So far as my experience goes I can fully corroborate his observations upon the action of *Cubeb-pepper*, a drug singularly applicable to acute inflammation of the lower bladder and the urethra.

Our endeavour has been both in this, and the article on *Iron* to prove that *Iron* irritates the neck of the bladder, that the prominent and prevailing symptom of the irritative action is diurnal enuresis, and that agreeably to our law of similars, it is curative in idiopathic forms of the same nature. We have animadverted on each of these statements as we proceeded and while every circumstance known to me is corroborative of them there is nothing I am aware of to militate against them. Together with the cases published in the *Annals*, these make ten examples of the irritable cervix, and it is no exaggeration we may reasonably presume to affirm, that some of these patients, had they fallen into the hands of most surgeons, would, owing to pardonable ignorance of this affection, have been subjected to undergo an examination for calculus, at the imminent risk of inflicting much injury by the instruments employed for this purpose, upon the already sensitive mucous membrane. This we have seen from the case quoted from the 'Medical Times and Gazette,' was actually the treatment pursued in the case of, at all events, one patient by no less a distinguished authority than Sir Henry Thompson.

I would in all modesty therefore fain hope that it will not be considered an unwarrantable stretch of imagination to maintain that the directing attention to this variety of enuresis, constitutes a material addition to our practical

knowledge in our two-fold capacity of physicians and surgeons.

We are thus placed in possession of facts which will prevent our being justified in resorting to sounding instruments, without having reliable evidence afforded by the history of the patient, the character of the urine, the peculiar pain when indulging in violent exercise characteristic of the presence of a movable foreign body within the bladder-cavity, with severe pain after micturition in the cervix, and often at the extremity of the penis from the irritation being reflected to this part—and above all the powerlessness of the indicated remedy to subdue the symptoms; for it is evident a calculus may be encysted and thus not occasion the peculiar pain a movable one does. In a word the indiscriminate employment of the sound in the haphazard manner it is, we might say, universally resorted to, is an undertaking that we agree with Debout, ought to be strenuously censured and most uncompromisingly opposed.

The combined irritability naturally follows next in order,—*combined*, as comprehending both the varieties we have been discussing, *mixed* as representing these besides all those forms in which the symptoms come on irregularly and do not necessarily present any uniformity in their remissions. The severest form of the combined lesion exists with catarrhal inflammation of the bladder (*Catarrhus Vesicæ*). The symptoms of this, generally speaking, point to irritation of the entire lining of the bladder, and in addition to the frequent micturition we have heat and burning (*ardor urinæ*) about the vesical region and extending some distance, if not the entire length of the urethral canal; a sense of weight in the perineum, with forcing down when in the act of urinating owing to the urine being thick and ropy, a sensation that will be more noticeable during the latter end of the act, the curdy urine coming away last, in this respect differing from a catarrhal inflammation of the urethra, in which the thick gelatinous urine is the first to come away.

As the disease progresses, undue calls upon the bladder have a tendency to increase the amount of muscular effort

required for the expulsion of the urine, the coats become thickened and the capacity of the bladder diminishes, the consequence of which is that at this stage, even though the symptoms may be subdued, frequent micturition from diminution in capacity, must not be wondered at.

In severe and protracted cases, especially where the patients are enfeebled by old age, the distress experienced is very great, for during each act of micturition the urethra becomes blocked up before the entire volume of urine is expelled, and that portion which remains behind, mingling with the purulent matter, becomes ammoniacal, and if, as often is the case, together with this, the retentive power lessens, constant dribbling away of urine results, and the patient has to endure the torture of being repulsive to himself and others.

The unalterability of the calibre of the urethra will further conduce to this end, for so long as the disease is confined to the bladder, there can be no continuous dilatation exerted upon the urethral canal; and the result will be that while the urine is thicker than natural, the passage for it remains slightly if at all altered, and the force expended by the bladder must proportionably be augmented. If chronic inflammation does not assume the catarrhal form, one can hardly distinguish it from that pathological condition known as irritability, for the presence of mucus, pus, and phosphates in the urine, constitutes our chief means of distinguishing the inflamed from the merely irritable bladder.

If this catarrh has existed for a long time, it will generally be observed that the trigone and cervix are the most irritable portions of the bladder, and consequently diurnal symptoms prevail, not however if the prostate is much engaged, for then nocturnal symptoms will preponderate. It would repay us to discuss this particular affection more at length, but to do so would require the foregoing of our original intention; suffice it to say that both schools of medicine find it a very difficult disease to treat. Its obstinacy is sometimes as disheartening as it is provoking. The only remedies from which I have up to the present derived much benefit, are *Copaiba*, *Cubeb*s, and *Senega*, given in low dilutions. Sir Astley

Cooper used to trust more to *Copaiba* than to any other medicine, and by injecting this substance into the bladder Devergie cured eight cases.

Besides *Nitric Acid* injections, the employment of *Buchu* and *Benzoic Acid* comes to us highly recommended by the allopathic school. Some are well satisfied with the action of *Terebinthina* in low dilutions; one gentleman assured me considerable success attended his ordering dispensary patients to use an infusion of *Larch bark* (*Larix Europea*), substituting the Vichy waters for it in private practice. Dupuytren's favorite remedy was Venice *Turpentine* which Pereira though not in so many words acknowledges to act homœopathically. Sidney Ringer* speaks favorably of the *Chloride of Ammonium*—this is also homœopathic. Among the remedies exclusively in possession of the new school, *Cannabis Sativa*, and *Pulsatilla* stand prominent, *Hepar Sulphuris Calc.* has done me no good in the few cases I prescribed it.

(To be continued.)

NOTES ON THE CLIMATE OF SEVERAL WINTER STATIONS IN THE SOUTH OF FRANCE, AND THEIR ADAPTABILITY TO DIFFERENT INDIVIDUAL TEMPERAMENTS SUFFERING FROM DISEASES OF THE RESPIRATORY ORGANS AND LUNGS.

By JOHN N. CASANOVA, M.D.

(Continued from p. 231.)

CAMBO.

THIS little village is about ten to twelve miles from Bayonne, at the entrance of the Pyrénées, and lies on both sides of the river Nive, which divides it into two parts, viz.

* *Handbook of Therapeutics*, p. 125.

upper and lower Cambo, both containing about 1200 inhabitants. The former stands about 30 feet above the level of the river, on its western bank, and about 160 from that of the sea; and the latter is about 400 yards from the former, on a fertile and well-cultivated plain.

Upper Cambo contains the parish church, a very modest and unpretending building; a good hotel (*Des Etrangers*); several lodging houses, generally very clean, and good attendance; a Roman Catholic convent and college for girls; two chocolate manufactories, one belonging to Mr. Fagalde, worked by steam power, and the other to Mr. Harispe, worked by hand, both producing excellent chocolate. There is a *Jeu de Paume* (a place for playing the ball, of which kind of sport the Basque people are very fond) and many woody lanes shaded with fine old oak and chestnut trees.

The views from upper Cambo are not grand, but beautiful and picturesque. Mountains, hills, plains, valleys, sylvan plots, groups of well-cultivated farms with their snow-white houses, and the pretty serpentine Nive with its crystal water and leaping salmon running down the valley to meet the Adour in Bayonne, are seen in different directions. The scene is charming. Nothing can be more so on a small scale; and if the traveller ascends to one of the nearest low hills (*la Bègèrie*, for instance) he will see the ocean, *St.-Jean-de-Luz*, *Biarritz*, and Bayonne with its outskirts.

Lower Cambo being an out-of-the-way place, of rather difficult access, and nothing very interesting to see in it, there is, on this account, very little communication with it by strangers. In fact, it is a village of itself more than a part of another. The natives bring to upper Cambo some provisions to sell almost every day; but Sunday is always the principal market day, the market being held in front and about the church in the open road.

About a mile south of Cambo is the bathing establishment, with a spring of thermal sulphur water of an excellent quality, and about 400 yards further on is the cold ferruginous fountain, also of good medicinal properties.

These two places cover more than 400 yards, following the course of the river Nive, and not very high above its level. The walks through them are protected from the heat of the sun by luxuriant vegetation, which keeps them cool and shady in summer.

Near the bathing establishment is a small Roman Catholic chapel, a good hotel, and several furnished lodging houses. A fine suspension bridge over the Nive places Cambo in communication with the Roman village of Hasparren and with other parts of the Pyrénées.

I was surprised to see the meanness of the thermal establishment, when a very comfortable and lucrative place might be made of that locality and its health-giving mineral springs were it in the hands of an enterprising company; but being as it is the property of the commune (corporation), leased to a private individual, whose term had then very nearly expired, and who was not on friendly terms with the members of the corporation, the place was neglected, and deteriorating fast. So much so that it is a hundred years behind all the thermal establishments of the Basses and Hautes Pyrénées, when by its topographical situation, its proximity to Bayonne, Bordeaux, and Biarritz, its climate, and many other local advantages, Cambo ought to be, if not at the head, at least equal to them. Were they to make a railroad to Bayonne, and to give the springs with their grounds to an enterprising company, Cambo would soon rise to the reputation which is given to other places less deserving it, and recover the fame it enjoyed long ago when Marie-Anne de Babière-Neubourg, widow of Charles the Second, King of Spain, honoured the establishment with her visit and recovered her health (1728).

In going to Cambo from Bayonne we pass through the very long and pretty village of Ustaritz, which is about half way to Cambo. The view from the top of a hill, about a mile before reaching the church, is splendid. Groups of houses and well-cultivated farms bordering the Nive are to be seen in every direction; and the luxuriant vegetation of the valley on which the village stands has no rival anywhere. Two miles further on is the Roman Catholic

convent seminary, Larressor, a college for boys, which stands on a high eminence above and near the main road, commanding splendid views.

From Cambo invalids may visit some interesting places in the neighbourhood, such as the celebrated Grotto of Isturitz, the Camp de Cesar, the village of Espeleta, and the historical Pas de Roland—all well worth seeing.

The climate of Cambo in winter is mild, equable, and salubrious. Upper Cambo will suit invalids of the second temperamental group on account of the stimulant properties, the dryness of the atmosphere, and the prevalence of warm westerly winds; whereas the lower Cambo, including the bathing establishment, or this locality particularly, is better adapted to invalids of the first group, because of its slight degree of humidity and the sedative qualities of the air. The westerly winds, alternating with the refreshing mountain air, are felt at all seasons of the year. In the evening as soon as the former dies away the air of the plains, being rarefied, ascends towards the tops of the mountains and is there condensed by the cold, which making it specifically heavier than it was before, it descends back to the plains, where it remains in a refrigerant state until the morning, when the temperature is raised by the reappearance of the westerly wind, similarly to the alternations of temperature which take place in some of the West India islands by the sea and land breezes, the former blowing during the day, the latter during the night.

The north-east and north-west are also common winds in winter, and the latter is the coldest of the kind; whereas the south, called by the natives "*Vent d'Espagne*," is very hot, and generally blows in summer.

There are three seasons in Cambo for visitors, namely, the spring for the natives of *les Landes* and for the English families leaving *Biarritz*; the summer for Spaniards principally; and the autumn for the inhabitants of *Bayonne*. Besides these regular seasons for bathing and drinking the mineral waters, there are people in Cambo of different provinces at all periods of the year who merely visit the place for recreation.

A very comfortable winter resort may be made of Cambo were a few English families to take up their quarters there, where they could make themselves at home for much less money than elsewhere.

SAINT PALAIS,

formerly the capital of the French Navarre, stands in the heart of the Basque country, about thirty miles south-east from Bayonne. It is now an inconsiderable town, but still the residence of the tribunal de première instance. It is a real Basque town in all its associations, language, customs, manners, and industrial pursuits of the 2000 inhabitants which it contains, who are principally engaged in the cattle and corn trade. Although an out-of-the-way place it communicates regularly by diligence with the railway stations of Peyhorade for the north and with Puyoo for the south, about from fifteen to twenty miles distant. Its intercourse with strangers, however, is very small indeed. There are, therefore, not many opportunities of associating except with a few resident families. But in return there is a mild and equable climate, a charming and fertile country, and a hospitable people who are pleased to see strangers—English particularly.

The town, which lies on the left bank of the river Bidouze, is not well built, nor the streets well paved. The houses are only built for their owners, who are generally the inmates, furnished according to their own taste, and deficient in English comforts, which, with the exception of carpets for winter, are not wanted, on account of the mildness of the climate. There are but a few good dwellings in the town itself, and some excellent country villas in the neighbourhood, surrounded with fine gardens and large plots of vines, two good country hotels (Hotel Louis and Hotel de la Poste; the former is the best), besides others of inferior accommodation; but furnished lodgings can be only procured by personal application to some of the residents, who would be glad to let the whole or part of

their houses to a respectable family or party for the winter.

The climate is so mild and its temperature so uniform that frost is very little seen, and when it occurs it is not of long duration. Being at some distance from the Pyrénées and from the sea, the cold winds are not felt, nor the strong gales of the coast. The westerly winds reach the place freely, but do not follow the same alternation as in Cambo.

The climate of St. Palais, being of a neutral character, suits all temperaments, and deserves to be better known to invalids suffering from the effects of chronic and degenerative changes, requiring relief if not cure; and to those in a state of convalescence, who may make themselves very comfortable at a very little expense.

About 400 yards west of the town is a sulphurous water spring, which I was invited to visit by Dr. Fereand, the Maire of St. Palais, who kindly accompanied me to the spot. It issues from a calcareous rock in a very scanty quantity, and is collected in a recipient built up with stone by the proprietor of the farm, who allows the public to drink without any charge. A regular bathing establishment may be made in that locality which would be very useful and convenient to the inhabitants of the town requiring the use of that remedial agent; but the owner has not the means for carrying out such an undertaking, and so it will remain in its primitive state until some speculator would set up an opposition to the already established and prosperous Labets, which is a pretty little village six miles westerly from St. Palais, beautifully situated among well-wooded hills and well-cultivated fields. The air is pure, and the views are extensive and picturesque. There is a very well kept establishment on a small scale, but comfortable and clean, where patients can board and lodge on very reasonable terms. It contains a sulphur and a chalybeate spring close to each other, and several bathing rooms. These springs were discovered of late by the proprietor of the farm, whose wife has charge of the whole domestic management, and she is proud to show the place to

strangers, and to give any information on the subject. Dr. Bidegaray, of St. Palais, is the inspector of the establishment. He will be pleased to give advice to patients, and instructions to use those waters according to the cases for which they are suitable.

There are several places in the neighbourhood of St. Palais which invalids might visit with interest, such as Sauveterre, a pretty and well situated village about eight miles to the north-east; and the ancient well-fortified town of St.-Jean-Pied-de-Port, to the south, near the frontier of Spain, which is protected by a citadel erected on a high position, and commanding the three gorges or passages, through which the Spaniards may enter France from the other side of the Pyrénées, and through which there is a great contraband traffic between the two nations.

Beyond the frontier is the valley of Roncevaux (Roncesvalles), leading to Pamplona, the capital of the Spanish Navarre, and the little village bearing the same name containing the ancient Abbey of Nuestra Señora de Roncesvalles, where the tomb of Don Sancho el Fuerte, king of Navarre, is shown, as well as several ancient relics, amongst which there are the weapons of Rolando el Furioso and others, who were killed when Charlemagne attempted to invade Spain in 778. (*La France Illustrée.*)

The climate of Sauveterre and St.-Jean-Pied-de-Port is similar to that of St. Palais, and the scenery of the former places surpasses the latter in every respect; they are healthy and mild.*

About thirty-five miles east of Bayonne is the ancient town of

* The language of the Basque people, which is a relic of the ancient Iberian, shows that they have a different origin from the other inhabitants of Europe; also their habits and customs. They are lively, industrious, muscular, and well made; active in body, frank in manner, and very hospitable to strangers. The same physical and moral qualities of the French Basques apply to the Spanish Basques of the south-east part of the Peninsula, for they are from one and the same origin, although geographically separated by the chain of the Pyrénées.

SALIES DE BÉARN,

containing about 3000 inhabitants, situated at the eastern extremity of a beautiful valley, surrounded with high undulated grounds and highly cultivated fields. The town itself is very irregularly laid out with narrow streets, and the houses of an inferior architecture, old, and generally in a dilapidated condition; but there are lodgings to be had in some of the public roads leading to Bayonne, Puyoo, Orthez, and St. Palais, from different quarters of the town, which are well ventilated, clean, and healthy. Being at a greater distance from the mountains of the Pyrénées than the above-named places and below their levels the northerly and easterly winds are not much felt; whereas the west-south-westers reach the place without any obstruction. These are the most frequent blowing winds at all seasons of the year, and being milder than those from the opposite points, the temperature of the atmosphere is in winter three to four degrees above the former localities. Its topographical position and geology also contribute to its thermality, perhaps on account of the emanations of the chloride of sodium given out from the great quantity of salt water highly charged with that mineral substance which runs under ground for a considerable distance, and also from the condensed particles which are constantly flying off from the large establishment where salt, the greatest production of the place, is manufactured by evaporation. So that the local and the atmospherical vicissitudes of the town itself, where ozone is almost imperceptible, contribute in a great measure to render the climate somewhat stimulant and perfectly adapted to individuals of the second temperamental group. At a mile or two from it will be found some well located sites where the influence of chloride of sodium is not felt and where ozone is more abundant. Such sites may be considered less exciting, and therefore more favorable to all temperaments of a neutral climate.

Apropos of the salubrity of the town and its immunity

from epidemic diseases notwithstanding its filthy condition, I may say that any one who visits it for the first time will positively be disgusted when he sees that in its most central part, where are narrow streets and poorly inhabited houses, swine and man lodge almost under one and the same roof; and judging from "le tout ensemble," even taking into account those dwellings in which rational and irrational beings live only a few feet from each other, he would be compelled to pronounce the place to be the focus of typhus and other malignant fevers; but if the truth be told, I must say that such is not the case. Were it as it appears to be, Salies would have been desolated by death during the epidemics which at different times have invaded other towns in its vicinity. It seems that that infection is neutralised by the constant action of the particles of chloride of sodium and other soluble elements of which the water is composed, similarly to the mineral springs of Bagnères de Bigorre, in the Hautes Pyrénées and of Harrogate in England, which places have proved to possess immunity from cholera morbus and other epidemics of the kind at all times when those affections were destroying lives by hundreds in other localities near them.

I would here refer the reader to my paper on the "Waters of Harrogate," published in vol. xxi, p. 374, of this Journal, to prove the truth of my assertion respecting the saturated state of the atmosphere with *chloride of sodium* in Salies, and its antidotal power against pestilent effluvia emanating from the filthy localities of that town.

Dr. Nogaret, the inspector of the mineral waters of Salies already named, confirms my assertion on the subject, saying in his pamphlet *Sur les Eaux de Salies, &c. &c.* (2nd edition, Paris, 1867), pages 79, 80, that . . . "les émanations passent à travers les couches terrestres, et remplissent l'air des substances constitutives des eaux minérales; de sorte qu'on dirait ces lieux formés à dessein pour les malades qui, après avoir éprouvé les propriétés bienfaisantes de ces eaux, cherchent un séjour dont le climat participe les mêmes vertues."

Moreover, it has been observed that large quantities of

salt taken during the prevalence of epidemic diseases will prevent infection, owing to the large amount of chlorine evolved from it by the stomach, this gas being the most disinfecting with which we are acquainted. . But the natives of Salies do not take salt in large quantities into the stomach. They are impregnated with it through the skin and respiratory organs from the constant bathing and breathing, by which they keep in good health in spite of the deleterious effluvia emanating from their dwellings, and in spite of any other malignant agents which may be imported from other places.

The prophylactic properties of chloride of sodium against the epidemic engendering agents of maladies from local or foreign causes being thoroughly established, it remains to enter into the history of the town of Salies de Bearn, which is not situated in the "Pays des Basques," although comprehended in the department of the Basses Pyrénées, but it belongs to the province of Béarn as its name implies, whose capital is Pau, and whose inhabitants speak a patois peculiar to that district ("langue Béarnaise"). They are differently constituted physically, and possess different moral qualities from the Basques; they are as industrious, frugal, and sober, but not so frank nor so hospitable as their neighbours; they are charged with selfishness and dissimulation, and subject to the sedative influence of the climate, which is more or less so all over the province according to the locality.

Dr. Larroque, in his *Étude Théorique et Clinique des eaux minérales chloro-bromo-iodurées de Salies de Bearn*, Paris, 1865, quoting from other authorities, says that Salies owes its foundation, which took place about the latter part of the eleventh century, to the circumstance of a gentleman ("un Seigneur") who when hunting in that neighbourhood fired at a wild boar, who being mortally wounded, ran into the woods. There he fell and died: there he was discovered by other hunters some time after, who found his body covered all over with salt. The hunters were surprised at the sight of that phenomenon, and could not account for the cause. But on searching around the place they dis-

covered a salt water spring, which is now, and has been ever since, the source of the civilisation and wealth of Salies.

From the above circumstance the people flocked to the spot, built a few houses, and undertook to manufacture salt from the water which issued in great abundance from the spring, to which every family helped themselves ad libitum; and named the place Salies, which means the town of salt. They also adopted the wild boar for its escutcheon, with the following motto, which is made to issue from the boar's mouth.

“ Si you non yery mourt,
Arres non bibere.”

Which translated from the patois Béarnais into French is as follows :

“ Si je n'y etais pas mort,
Personne n'y vivrait.”

Meaning thereby that if he had not been killed, no one would be living there now.

The spring, called “ la fontaine,” became the common property of the new settlers, and the salt manufactory was carried on by them, working at it as much as they could for their own private benefit, until some laws were passed to regulate the distribution of the water amongst the native residents only, and to do away with the abuses introduced by strangers. Then the fountain ceased to be public property, and the water was allowed to “ les ayant-droit ” only in certain proportions, to be manufactured into salt at their own expense, and for their individual profit. This arrangement continued for some time, until the interested parties proposed to form a board of administration and to give it the exclusive management, which was approved by the authorities. The fountain was enclosed, the water being conducted underground to be manufactured in the establishment erected for that purpose about 500 feet to the west; and dividends were declared every year, which were proportionally divided amongst the shareholders. These arrangements existed in 1867, when I

was there. Since that time I learned that the board of administration have leased the whole concern to a company the particulars of which have not reached me as yet.

In the annual report given by the director of the works for 1867, we see that the nett profits of that establishment amounted to 73,484 francs 42 centimes, a very insignificant sum (£2939), for the establishment is capable of producing ten times that amount with the same expenses were it properly managed in its chemical and financial operations. It was to be divided amongst "les ayant-droit," who, as I have been informed, would not receive more than about thirty francs each.

There is nothing particular to be noticed in the town of Salies. There are two Roman Catholic churches and a Protestant chapel. From the tower of one of the former (St. Vincent) a beautiful view is to be had of the surrounding country. Being on a high spot, east of the town, it commands the town itself, and the gentry's fine farms and villas all around, which are extensive and well situated. The streets, as before stated, are narrow and badly paved. The drainage is on the surface, emptying itself into a filthy brook which crosses the town.

The town hall, called la Mairie, is in the same square bearing the same name, close to the salt water spring; there is nothing remarkable in its construction. The square serves as a market for provisions and other domestic articles, sold on particular days of the week.

The salt works and bathing establishment are about 500 feet from the square, pleasantly situated, but in a dilapidated state. The building holds about thirty worn-out iron tanks or flat boilers, where the water is evaporated and reduced to salt at a very great expense of fuel and waste of heat. The bathing rooms are about ten in number, meanly built, and not over comfortable for that purpose. A fine establishment may be made, independent of the salt works, by carrying a sufficient quantity of water through pipes underground, about a mile west down the valley from the place where it now stands, and by building comfortable lodgings for invalids. By digging for it water may be

made to spring up somewhere in that neighbourhood, and save the expense of a canal. The locality is charming, and offers many more advantages than Wiesbaden.

There is a diversity of opinions respecting the quantity of salt water issuing from the spring, and I am not aware that the exact figure has ever been ascertained by measurement, but I should say that no less than 4000 gallons per hour run off from the Griffon, which is the only spring in use. There are others not explored capable of giving much more. And the question of the origin of that water is also a conflict amongst geologists. For my own part, I believe that it may be derived from two different sources, namely:

1st. From the sea entering the ground through subterranean crevices, traversing different channels until the water is interrupted by a fault or dislocation, from whence it rises to the surface with a force and velocity proportionate to the pressure it has to sustain to overcome the difference of level. In so doing, it comes up more or less impregnated with other mineral substances, as it occurs in Harrogate, where no common salt deposits are known to exist, and yet the principal spring contains it in large quantities, besides the hydrosulphurated hydrogen gas and other mineral elements quantitatively ascertained by Professor Hoffman, in 1854 (see the paper in the *British Journal of Homœopathy* before alluded to).

2nd. From the rock salt beds and deposits formed at various depths below the ground, into which fresh water is constantly entering from above, and rises up again more or less saturated according to its dissolving powers, and according to the hydrostatic law already mentioned.

That the sea water enters the earth as above stated, is proved by the inroads of the ocean on the eastern coasts of England. If we look over the old maps of Yorkshire, we shall see many spots marked as sites of towns, which are now sandbanks according to Dr. Cormstock's geology. A greater or less portion of the coasts of Norfolk and Suffolk is every year swallowed up by the sea. The town of Sherringham, on this coast, exhibits a melancholy proof of this fact. With respect to this town, Sir C. Lyell states,

that at one point there is now a depth of water of twenty-five feet, where only forty-eight years ago there stood a cliff fifty feet high with houses upon it. Further to the south are cliffs more than 200 feet high, more or less, which are every year precipitated into the ocean, in consequence of being undermined by the waves ; and the whole site of the ancient town of Cromer now forms a part of the bed of the German Ocean. . . . Thus salt water is pressed by the sea into the caverns of the earth, and when prevented from rising to the surface from the great depth, or from any other natural cause, it remains deposited, forming wells, pools, and even lakes, for a considerable length of time. Evaporation takes place from the subterranean heat, and gives rise to the formation of the great quantity of rock-salt, which is found on the continent and in many other places all over the world.

Besides the continual accumulation of water from the sea, entering the earth in the manner above explained, there is another fact which accounts for the existence of rock salt, that is to say, the great quantity of water left by the ocean in the cavities of the earth when it retired from those parts of the globe which it had covered for thousands of years. That water remained stationary but gradually evaporating under the powerful action of the subterranean heat, till it became petrified or mineralised, by which process salt water was converted into rock salt such as we find it in very many extensive beds, at different depths, filling up large desiccated pools, and lakes, similarly to the mineral coal fields, formations which owe their origin to the chemical changes of vegetable matter in operation for incalculable number of years.

Moreover, that rock salt originates from the desiccation of pools and lakes, by means of central heat, is proved by the marine fossils and vegetable impressions found in several specimens which I have seen and possess from the great rock salt bed lately discovered in Dax (Landes), which I take to be sufficient proofs to convince and to fortify my belief on the subject.

Although I acknowledge another process by which nature manufactures rock salt besides the one already explained,

such a process will be described in treating on the origin of mineral waters in general (see the article on Bagnères-de-Bigorre). The two modes of mineralisation are not only possible but positive, although different in outset; and it is from nature that we learn to do *one* thing in *two* different ways.

ORTHEZ,

the oldest and the largest Protestant town in France, is pleasantly situated on the western bank of the river Gave de Pau, about thirty miles east of Bayonne, and on the declivity of the downs above it. Its aspect is due south, very picturesque, and commands an extensive view to the south-east and west. The grounds rising in the rear are well cultivated and fertile, their elevation shelters the town from the northerly winds, leaving the west open to receive those blowing from that quarter the greater part of the year. Being some distance from the sea and from high mountains, the heavy rains and south-west gales arrive there warm and modified by the plains they traverse to reach Orthez. Cold winds from the Pyrénées and electrical phenomena of the atmosphere are not much felt. No great changes of temperature ever occur. Frost is very seldom seen, and the sky in winter is almost always clear and serene, with a moderate degree of ozone. The town, which contains about 8000 inhabitants, engaged in a considerable trade in cattle, hams, leather, corn, and several domestic manufactures of linen and wool, with Bayonne, may be considered a healthy town generally. The natives of the place and country prove it in their appearance physically. They are very seldom, if ever, ill, except from casualties or excesses. Chronic affections are not known amongst them, and they live to a great age, as seen in the tombstones of the cemeteries and the octogenarian living examples very often met with in the streets and in places of worship. The climate being essentially sedative they partake of the physical and moral qualities imparted to the organism in both sexes by its nature. Strangers of the same tempera-

ment (second group) who arrive there ill have their complaints soon aggravated, while those of the opposite (first group) receive immediate benefit from the depressing action of the climate. This I have observed in different invalids irrespective of the special pathological names of the organs of the throat and lungs by which their ailments were called.

Orthez is not known as a winter resort, although it possesses many more advantages than its neighbour-town Pau, in point of economy, mildness of climate, and retirement. But it will probably become its rival in the course of time, when its sanitary qualities are more familiar to the health-seekers of limited means (and physicians generally) who care not for fashion or bustle. In old times it was the capital of Béarn and the seat of the great religious struggle between Protestants and Catholics. Now it remains as the *chef-lieu d'arrondissement*, retaining the tribunal de première instance and the Protestant university founded by Queen Jeanne d'Albert, mother of Henry the Fourth of France.

There are several other public buildings, and some very ancient mansions of the nobility. Among the antiquities there remain St. Pierre and la Trinité, the square tower of the Chateau de Moncade, and la Tour des Prêtres on the bridge. The houses in general are very old and indifferent as to comforts for the winter, but well adapted for the summer, as they generally are in all temperate climates. An old Gothic bridge over the Gave unites Orthez with a suburb on the south and a more modern one a little further up on the east, where better buildings and fine gardens are to be seen in different directions. The river abounds with salmon and trout, and the woods and plains with excellent game.

A few English families were residing in Orthez when I was there, they found it very comfortable, and were much pleased with the winter climate, although the place is not prepared to receive first-class invalids; for there are only two good hotels in point of table, but not in apartments. Furnished apartments may be had in some private houses

on very reasonable terms, but not such as one would wish to have.

In point of mildness and equability of temperature Orthez can compete with Pau. Were its inhabitants not adverse to see English families settling in or near the town, it could establish a very successful competition with Pau ; but they do not wish to have visitors of the kind, except for a few days. They say that Milord Anglais would spoil the place by paying higher prices for house rent, provisions, servants, &c., than what they pay now. For this reason they prefer to remain as they are. Being contented with their modest and frugal way of living they wish for no improvement, nor for fashion or gaiety.

There are several charming sites near the station, which a small company of English gentlemen proposed to purchase to build villas upon, but no sooner did the proprietor find out who were the interested parties and what was their object than he refused to sell at once. The same thing happened to me when I proposed, through an agent, to buy a piece of ground near the new bridge. The proprietor would have sold it with the condition that no house was to be built upon it.

On reasoning with some of the landholders of Orthez, in order to show them their erroneous political economy on the subject, I found that it was preaching in a desert. "We have," they say, "all the necessaries of life and comforts for nearly one half less than our neighbours in the sister town Pau. If Milord Anglais settles here we shall soon have to pay the rates of a fashionable town. Besides which, luxury introduced in our families would interfere with our means. Pau, Biarritz, Arcachon, and other places in France have become opulent, that is true, but that was the effect of fashion more than anything else. Many millions of francs have been expended with borrowed money on speculation to carry on the folly of the fashion ; but if a war breaks out between England and France, or one or two other places become more in vogue, all the splendid buildings, theatres, mansions, of those places will be worth nothing comparatively. So we do not wish gaiety, progress,

nor opulence, at the risk of bankruptcy." The force of this argumentation made me think of our neglected, beautiful city of Bath, whose climate and local advantages are superior to other places of winter resort in England which have become fashionable under the influence of imitation more than on their real sanitary properties.

At about twenty-five miles from Orthez to the south-east, and 650 feet above the level of the sea, is the beautifully situated and very fashionable capital of the department of the Basses Pyrénées,

PAU,

with its 25,000 inhabitants (in the winter season), and with all the local and rural charms which a poet can imagine. Physicians of different nations have given vent to their lucubrations on the climate of that place, amongst whom Sir Alexander Taylor, M.D., takes the lead in point of time and literary acquirements.* They all have explained every point of medical topography, and described all the pathological conditions, instead of the individual temperaments for which the air of Pau is particularly adapted, if not as an absolute specific therapeutical agent, at least as an alleviating power; and it seems that they have left nothing more to say on those very important subjects. But—

"Ce champ ne se peut pas tellement moissonner,
Que les derniers venues n'y trouvent à glaner."

The town stands on a cliff about 140 feet above the level of the river Gave, which runs at its foot, and it commands the most magnificent view of the Pyrénées, at a distance of from twenty to thirty miles, and of the surrounding country. Nothing can be more beautiful on a fine day. Viewed from the Place Royal or from the height of the park, the majestic

* In quoting Dr. Taylor, I beg to say that I do so from his French edition, Paris, 1865, which is the third and last of his work on the *Climate of Pau*.

Pyrénées are seen to rise in peaks, cones, and serrated ridges, and present an outline as varied as it is strikingly beautiful. "Voici la plus belle vue de terre," said M. de Lamartine, on his visit to Pau, "comme Naples est la plus belle vue de mer."

The river runs down to the north-west and passes in front of Orthez, whence it takes a more westerly direction to meet the Adour, which, together with the Nive, discharge their waters into the Atlantic through Bayonne.

All those distant views are really very grand and beautiful, but we must not look into the very heart of the town, for our eyes will meet with the pestilent Ruisseau Hédas traversing its most central part, and receiving the filthy drains of streets and houses. That open cesspool, which is as unpleasant to the sight as it is injurious to health, remains to be the opprobrium of l'administration de la ville, the town council; and it is surprising to see that that hygienic sore of the queen of the winter resorts in southern France has been overlooked by the principal writers on the climateric influences and medical topography of the place, as if there was no remedy for it. But let the trench be covered and allow a large quantity of water from the Gave to enter it incessantly, so as to prevent the accumulation of foul materials, and then the Hédas, now a focus of infection, would be a blessing to the town and its inhabitants.

The configuration of the mountains to the north of Pau, and the peculiar locality of the town, contribute to temper the winds blowing from that quarter. The north-west, to which the town is exposed, is the one which blows the greater number of days during the year and is very moderate. The north and west come in next in frequency, the latter blowing with as much force, at times, as it does anywhere else, notwithstanding the proverbial calmness of the atmosphere. I may say, with Dr. Hameau, that "J'ai senti le vent d'ouest à Pau, et ne l'ai guère trouvé moins fort qu'à Bordeaux" (*Notes de Climatologie Médicale*, page 26). My umbrella was turned inside out and one of its ribs broken by the west wind while crossing the Place de

Grammont in the month of March, 1867. So that the habitual calmness of the atmosphere in Pau is only when the wind comes from the north-west, which, according to Dr. Taylor, happens 112 days in the year—55 from the west, 52 from the north, 44 from the south, 31 from the east, 24 from the north-east, 24 from the south-east, and 23 from the south-west. The wind from the south blows hard at times, and is more or less hot and dry. The easterly is also dry, but cold; whereas the atmosphere is always damp and mild when it blows from the west. The north-west, as before stated, blows always at a very slow speed, which renders its temperature moderate, otherwise it would be as cold as the east.

Pau is at a greater distance from the sea than from the Pyrénées mountains. This circumstance, and its great elevation from the ocean, renders it very liable to frequent rains, which give about 1·091 mm. in 140 days of the year, according to Dr. Hameau.

The temperature of the atmosphere falls twenty-five times in the year below freezing point, according to Dr. Ottley;* and the minimum has been often observed to reach 12° below 0° C.

The electrical condition is almost always positive, and the degree of ozone constantly high. This is a power or force that has been overlooked by all writers on the climate of Pau, and which, as elsewhere stated, is a sedative force *par excellence* of the vital powers of our organism, even to cause death when manifested in excess; but a health and life-giving therapeutic agent when attenuated with atmospheric air.

It is to the constant existence of ozone in the atmosphere of Pau (as in the forest of Arcachon) that invalids of the first temperamental group are relieved or cured (when curable), and their moral and physical constitution greatly modified, when in health, by a long sojourn in the place; so much so as to reduce the most excitable sanguine and nervous constitution to a quiet and calm disposition similar

* An English physician resident in Pau, and a contributor to the climatology of that place.

to that which is characteristic of the natives. But subjects of the second group, to whom the climate of Pau is adverse, are positively aggravated, and very seldom, if ever, get well. Their natural temperament is not at all modified as it is in those of the first. Even in a state of health they are more or less subject to be affected by the depressing action of ozone.

In like manner persons of the first group cannot resist with impunity the effects of an exciting atmosphere. They will positively be aggravated in it if ill, and can never be acclimatised to enjoy good health.

That the constant and powerful action of ozone gives rise to the physical and moral constitution of the natives of the place, no doubt can be entertained. "Evidently," said Dr. Campbell (*Annals of the British Hom. Soc.*, London, vol. 5, page 55), "the organic system of the nerves is acted upon by a highly sedative force, as in the characteristic thinness of the people and their retention of general good health we perceive that the vegetative functions act with sufficient energy for health purposes, while their supply of pabulum gives no overburdening flesh covering the bones. Bantingism could never have found nativity in Pau." That force undoubtedly is ozone.

Dr. Hameau says (*loc. cit.*, 27), "Le climat de Pau est considéré, avec juste raison, comme sédatif, et on donne pour preuve de cette profonde influence la physionomie calme et un peu apathique des habitants, l'absence des crimes auxquels poussent les passions violentes, la sérénité de l'esprit, la douceur des mœurs. On peut toujours dire d'eux : Béarnais féal et courtois, comme du temps d'Henri IV. Mais il y a toujours sous leur bonhomie cordiale un sourire malin qui n'est pas dénué de finesse."

All writers agree with the fact that "l'air tranquille et calme de Pau, qui traverse les poumons sans les fatiguer, qui les transforme sans efforts dans ce laboratoire a par cela même une puissante influence sur toutes les affections du larynx, des bronches, et des poumons eux-mêmes" (*Memorial des Pyrénées*, November, 1869); but they do not explicitly discriminate the individual

temperament on which that "puissante influence" is exerted for good or evil. Dr. Taylor makes some allusions to it here and there in his work, but generally speaking, he confines himself within the limits of the pathological conditions, for which (not the temperament for whom) the climate of Pau is favorable or adverse. It is therefore on account of the lack of systematic distinction on the subject that his otherwise valuable book fails to give to his readers the desired information on such an important point, and leads them to the lamentable mistakes occurring every day in recommending or choosing the proper place for a change of air.

It is therefore requisite that every medical writer on climate should be particular in stating that such and such a one, being exciting or sedative as the case may be, is only suitable to invalids of the corresponding temperaments, without an exclusive regard to the nature of the disease. By this clear and systematic distinction the physician who has no personal experience on the subject will be able to recommend the right one to his patient.

It is also desirable that resident physicians of the winter stations should *warn* invalids who by mistake or ignorance of their medical advisers are sent to the wrong place, not to remain in it on any account.

Pau is not only a winter station for invalids of the first temperamental group suffering from affections of the throat and lungs principally, but a city of rendezvous for the wealthy and fashionable northerners of both continents, who seek a milder climate than their own in pursuit not so much of health as of pleasure and gaiety. Such kind of visitors, who are considered as the floating population of the place, amount to from four to five thousand persons, including children and domestics, out of whom there are about five in a hundred on the sick list as real consumptive invalids, who are unable to attend parties, theatres, concerts, and other public exhibitions; and it is natural to suppose that the great number of the whole, being natives of the far north, belong to the first temperamental group, who, on that account, would always derive more benefit from the climate

than the minority from the near south, who are supposed to belong to the second group. Hence the mortality amongst the totality is reported to be one in fifty, or two per cent., and about one in two, or fifty per cent., the deaths amongst the consumptives, who, even supposing they belong to the right temperament for that climate, have very little chance to recover their health, as, generally speaking, they are sent to Pau half dead.

Individuals suffering from other affections than those of the throat and lungs are calculated to be about fifteen in the hundred of the floating population, whose death rate is one in twenty, or five per cent.; and the greater number of the remainder are more or less relieved according to the appropriateness of the climate to their individual temperaments.

N.B.—The above statistical accounts have been procured for me by a friend. They are the average of the last five years.

Pau is also a place where all English and French luxuries can be procured for the comfort of those who can afford to pay for them.

Fine country drives and walks are to be had in every direction, and sheltered promenades in the town itself, with all the elements of social and intellectual pastime for those who cannot go much about, or prefer quiet and instructive recreations of the kind.

BAGNÈRES-DE-BIGORRE.

This graceful town is justly named the metropolis of the thermal mineral waters of France.

Of all the watering places on the sea side or inland, Bagnères is the one which has had and still has the greatest renown. Savans, philosophers, poets, artists, and invalids of either sex, have celebrated the curative virtues of its waters; have lauded the mildness of its climate, the magnificence of its sites, and the gracefulness and picturesque character of its landscapes.

In Cæsar's time it was known as the Vicus Aquensis, and after the Roman dominion it acquired a great sanitary reputation from the cures performed on royalty and nobility by the different springs with which it abounds. The barren Queen Jeanne d'Albert became prolific by drinking and bathing in one of them, which has been known ever since as the "Source de la Reine." To that circumstance it is believed that Henri IV owed his existence.

Among the illustrious personages who received much benefit was the Duke of Chartres, who recovered his health by using the water from the spring called Bain du Pré, to which the following lines were dedicated by him in testimony of his gratitude.

" Je veux en te louant dire à tout l'univers
 Que ton eau peut guerir de mille maux divers,
 Et qu'il est très-certain que du Po jusqu'au Tage
 Toute eau, même le vin, te devrait rendre hommage."

La France Illustrée.

Bagnères is better known as a mineral watering place for summer than a sanitary resort for winter. Having only visited it in the former season, I am not practically acquainted with the nature of the climate in the latter ; but the information I have obtained from the professional gentlemen with whom I became acquainted, and from other reliable sources, I feel myself authorised to say a word or two on the subject.

The town, which lies 1650 feet above the level of the sea, is about forty-five miles south-east from Pau, and stands at the feet of the Pyrénéan mountains on the southernmost extremity of the fertile Plaine de Tarbes, and at the entrance of the romantic and fruitful valley of Campan. It is surrounded by well-wooded hills, with very shaded and pleasant drives and walks in every direction, and partly watered by the torrentuous river Adour, which runs from the south to the north, with a declivity of "0.015 mm. par mètre," according to Mr. Maxwell-Lyte's paper "Sur le climat de Bagnères sous le rapport hygiénique," published in the *Petite Gazette de Bagnères*, No. 11, March, 1864, from which I have taken the liberty of borrowing.

Its topographical situation is charming and healthy. It well deserves to be called "la Ville dans la campagne." It contains about 9000 inhabitants exclusive of the floating population, which is as great in summer as that of Pau in winter, on account of its being the mineral bathing season; but there are some invalids who remain during the winter with great advantage to their health.

The streets are generally level, straight, well kept, and clean. Several good hotels* and first-class furnished houses, with an abundantly supplied market of first quality articles of food from the animal and vegetable kingdoms to be had at very reasonable prices. The streets and houses are well supplied with water from the river Adour, which carries away all the impurities through open gutters, running on the surface by the footpaths of the former, and through the interior of the latter. The drinking-water is supplied from the numerous public fountains to be seen all over the town which are fed from a spring in the neighbourhood issuing 275 litres per second, according to Mr. Maxwell-Lyte (loc. cit.) There is not a street without and several with more than one fountain in Bagnères.

That water has a constant temperature of 8° C. below 0, even in the hottest days of summer; and its purity is such that it rivals distilled water, its constituting elements being only *slight traces* of *Carbonate of Lime* dissolved in a large quantity of carbonic acid gas.

From all the information I have been able to gather, I find that Bagnères, like Pau, is an essentially sedative climate, and therefore perfectly adapted to invalids of the first temperamental group suffering from chest and throat diseases.

On account of its altitude and its proximity to perpetual snow, Bagnères may be a little colder than Pau, notwithstanding its geographical position, which is further south; the inclemencies of the weather are very short indeed, and the transitions of temperature not very great. Excepting

* Hotel de France, Hotel de Paris, Hotel de Frascati, Hotel de Londres, Hotel du Bon Pasteur, and others of a lower class, with as many restaurants, among which the Casino is the best.

a few occasional gales which occur from November to April, accompanied with thunder and lightning, the atmosphere is generally calm, and the winds variable; but in summer there are two constant currents of air alternating at regular hours during the twenty-four, from north to south and from south to north, with an interval of calm before the change takes place. So that by virtue of such a periodical action and reaction of the air, the atmosphere of the valley and town is rendered clear and pure.

The rainy days are few, but the quantity of water is greater than in Pau, and for all this the atmosphere is not so damp on account of the drying qualities of the air independent of the quick percolation and drainage.

The sky is always clear and sunny and warm, permitting out-door exercise almost every day. A fall of snow may take place now and then, but it never remains on the ground longer than a day or two.

Judging from personal observations in the absence of reliable knowledge on the subject, I believe that the oxygen of the atmosphere is as much, if not more, saturated with *electricity* than in Pau, the result of which is ozone (see page 207) or oxygen in an *allotropic* state,* whose existence was contested by Mr. Maxwell-Lyte in a conversation we had on the subject in Bagnères, July, 1867. He believes that the chemical changes observed in the test-paper dipped in *Iodide of potassium* are not sufficient to prove the presence of ozone in the air; for he said, "there are some substances in the atmosphere capable of producing similar effects." Mr. Maxwell-Lyte's arguments may be granted in part, but I do not exclusively judge from the chemically prepared tests. My principal evidence rests on the physiological and therapeutical effects produced on the living organism, which, as stated in page 207, are similar to those produced by *Chlorine* and *Iodide*, and on the sense of smell, which sometimes gives me the faculty of perceiving an odour similar to that produced by

* As diamond is a form of coke or charcoal, in the like manner oxygen is transformed, by means of electricity, into an allotropic form called ozone. (See the word OZONE in *Chambers's Cyclopædia*.)

the electrical machine when at work. That odour is ozone. So that the question is not to be solved by chemistry exclusively, although ozone owes its discovery to that science. It can be produced at any time in the chemical laboratory by passing electrical sparks through a tube containing oxygen gas—a similar operation to that which takes place in the workshop of the atmosphere.*

Natives as well as strangers are similarly influenced by the climate of Bagnères, physically and morally, as they are in Pau.

Chronic maladies are very little known among the former, who generally enjoy excellent health, and invalids of the latter class suffering from chronic *paludal* fever, acquired in regions further south, are radically cured by “le seul séjour prolongé.” And as to epidemic diseases Bagnères has never been invaded by them, owing, no doubt, to the existence of ozone and to the emanations from the mineral springs. It is a well-known fact that the air of all places affected with epidemic disorders has been found to be deficient in oxygen and abundantly charged with nitrogen—therefore in an electro-negative state.

Chest and throat diseases in the first and second degree are generally arrested, and very often have been more rapidly cured than in other climates “plus particulièrement sédatifs,” provided the sufferer belongs to the first temperamental group. Also different forms of neuroses of the fair sex. But invalids belonging to the second temperamental group must not expect any relief from the climate of Bagnères.

Besides the peculiarity of the climate for the cure or

* By several processes the oxygen of the atmospheric air is transformed into an allotropic form called ozone. In the latter condition oxygen possesses a very strong and peculiar odour, long known as the electrical odour; has great bleaching powers, and is regarded as the agent in the air which bleaches clothes on the household bleaching-green, and possesses such powerful disinfecting properties, that tainted meat introduced into ozonised air has the disagreeable odour destroyed, and smells fresh when taken out. Ozone is doubtless the great natural agent which removes many deleterious gases and vapours, and destroys infectious matter floating in or diffused through the air.” (*Chambers's Encyclopædia*, article “Allotropy.”)

relief of chest and throat diseases in the above-stated individuals, there were in Bagnères thirty-eight springs of mineral water in 1867, not very distant from each other, equally efficacious in other affections of individuals of different types, the mineralising elements and temperature of which vary in intensity, quantity, and quality, with a few exceptions. Six of such springs belong to the town corporation, who keep a princely establishment with all the luxuries that money and intelligence can procure, not only for bathing in all forms, temperatures, and styles, but for sociable and intellectual entertainment. The others belong to private individuals, who let furnished apartments to invalids wishing to be on the very spot during their treatment.

The waters from the corporation establishment are chemically classed according to the predominant element they contain, *e. g.* *Lime, Magnesia, Iron, Sulphur, Chloride of Sodium, &c.*; and as exciting, sedative, and intermediary, according to the medical properties assigned to them.

Besides the above there is a *depôt* of sulphurous sodic water from the spring called *Labassère*, a village six miles west from Bagnères, which has acquired a domicile in town by its being brought there through pipes under ground.

Another spring of similar water to the above has been lately discovered in the private establishment known by the name *Parade*, the property of my friend Dr. Soulé-Laspales, who has leased it to a very industrious and intelligent person, and who, like the lessee, has given me much information on its general qualities.

I shall not enter into the physiological and therapeutical properties of the numerous mineral waters of Bagnères, because Dr. Taylor has already done so in his book *On the Climate of Pau*, in which he devotes three chapters to the history, locality, and medicinal action of the principal springs of the Hautes Pyrénées; but I will state, *en passant*, that all those therapeutical agents are generally administered empirically and in *overdose*, and that the success obtained from them is due to the chance (with a few exceptions) of

having been given to the right temperament unknown to the person who administered them.

Apropos of mineral waters, I must refer here to what I said in pages 211, 212, of this Journal, respecting their misadaptation, and relative to their mineralisation.

Mineral waters, like climates, are constantly administered without any regard to individual temperaments. Guided exclusively by the disease the greater number of hydrologist physicians overlook the patient's constitution; hence the failures in their endeavours to relieve and to cure them. From personal experience I have learnt that the so-called saline (*Chloride of Sodium*), ferruginous, and sulphurous waters will not agree with temperaments of the first group suffering from throat and chest diseases, whereas they act as a specific on those of the second in the same diseased condition.

During my visits to some of the principal springs, I became acquainted with invalids of the former class suffering from different forms of chronic bronchitis and emphysema, who, by recommendation of their medical advisers, had drunk the first-named waters of the best establishments of the kind in the Hautes Pyrénées without any favorable result. I recommended them to try the bicarbonated-sodic water of Mont Dore, the Ems of France, and the only springs of the sort in the latter country, by which they were instantaneously relieved, on account of the suitability of the remedy not to the disease exclusively, but to the individual idiosyncrasy as well. While others belonging to the second group, who had been treated in that place for the same affections without relief, were recommended to go to Bagnères, and to drink the sulphurous sodic water from the spring of Labassère, and got well.

Similar results were observed in other establishments with different kinds of water (*Chloride of Sodium* particularly) to which patients have been misled, and through my recommendation were removed to the right place, where they were relieved in a few days.

The error generally committed by hydrologists in the administration of mineral waters as therapeutical means in

disease is evident, namely : to judge of their curative powers by those of the predominant constituting element in them, which being combined with other different substances, cannot be regarded the same as when taken by itself ; for the electro-chemical union of all the ingredients which mineral waters contain alters the properties of the predominant constituting element and those of its associates, converting the compound into a homogeneous unitary whole, only appreciable by the physiological test.

As to mineralisation, I have stated in a previous page that Pliny's maxim, "Tales sunt aquæ qualis est terra per quam fluunt," cannot be admitted absolutely, but in part, for there are waters impregnated with substances which are not to be found in the soil through which they run ; and *vice versa*, some which contain mineral elements different from those existing in the terrestrial channels, which they traverse ; and there is water in some places where it moves over mineral beds of different kinds without being impregnated with their constituent elements in the least. The spring called *Fontaine de la Tuille* in Cambo and the drinking water of Bagnères, which issue from calcareous soils (*Carbonate* and *Sulphate*), are two examples which I am personally acquainted with.

There is another occurrence which takes place in some springs, the cause of which has not yet been ascertained, namely, that the water is found to be perfectly mineralised during the summer, but in winter is not so. One of such springs is to be found in Pymont, according to Bergman and Westrumb (*Latour Eau de Parade*). The periodical appearance and disappearance of the mineralising elements is one of the many mysterious operations which nature performs in her secret laboratory, where we are forbidden to penetrate.

We have, therefore, to look for the origin or formation of mineral waters in the gaseous fluids, oxygen, nitrogen, hydrogen, and carbon, circulating from the atmosphere to the earth, and from the earth to the atmosphere, which, according to spectrum analysts, are only "metal held in a state of gaseous rarefication at the ordinary temperature of

the globe." Thus, like man, irrational and vegetable beings—the result of animal and vegetable assimilation—all mineral substances, whether terrestrial, aquatic, or meteoric, are the offspring of mineral assimilation, *i. e.* the chemical union of the gaseous agents already named, performed under the influence of the following physical forces—heavy pressure, high temperature, and electricity. In fact, I may say in general terms that the whole system of created things owe their existence to the above-named convertible agents. All things are made of all things, according to the ancient philosophers of Greece.

Having treated the subject of climate and its adaptability to different individual temperaments suffering from diseases of the throat and lungs principally, and having mentioned the adaptableness of some medicinal substances—mineral waters included—and some articles of food as diet, also adapted to some invalids similarly affected, I beg now to close my notes on the subject by offering a few remarks on the abuse of an agent, which, among others, very often is the exciting cause and pabulum of those maladies; and I will do so not exclusively in a therapeutic, but in an hygienic point of view. That agent is flannel and other woollen and fur articles permanently worn next to the skin, the discontinuation of which will prove efficacious in helping climate to relieve or cure.

Many years of personal experience have confirmed the idea which I had for a long time entertained, that the effects of the unnecessary use of woollen garments permanently worn next to the skin by healthy and robust children, by adults of both sexes, and specially by sufferers from diseases of the throat and lungs, are extremely injurious; and it has been not without difficulty that I have succeeded in convincing many mothers and invalid friends of the impropriety of persevering in what I regard as an unnecessary and dangerous use of dress.

A short review of the physiological effects of woollen material constantly worn next to the skin, and the morbid phenomena consequently occurring on the lungs, will show the necessity of leaving it off.

The wearing of flannel has been and still is considered indispensable simply because our grandmothers have accustomed us to it from the cradle with the intention of protecting us against cold weather, and also because the practice has generally received the sanction of medical men. But kind mothers are not aware of, and medical advisers overlook the consequences, knowing, as they ought to know, that one of the principal predisposing causes of pulmonary consumption is the abuse of this kind of dress so worn.

I do not condemn the use of flannel next to the skin when prescribed as a remedial agent to weak and debilitated persons, with the object of exciting the capillary circulation of the skin, because its primary action on this organ warrants the indication ; but it must not be allowed to remain on the body longer than is needed to attain the object for which it is recommended. For after the first comes the secondary action, by which the skin loses its reacting power, and progressively falls into a state of enervation. The insensible perspiration which ought to be discharged from the body through that organ is partly condensed and carried to the lungs by the circulation of the blood, where it lays the foundation of several disorders of the throat and chest, according to the degree of impressionability of the organs therein contained, and according to the individual idiosyncrasy and state of health. Another portion of that condensed perspiration remains in the cuticular follicles, blunting the skin and preventing evaporation from its surface. This is practically proved by a Turkish bath taken by a person for the first time, or by packing the body according to the hydropathic process. In the former case shampooing will bring to light a large quantity of blackish stuff ; in the latter, many large spots of a darkish colour on the linen will be observed.

That stuff and the coloured spots are nothing more nor less than condensed matter, which is subject to be decomposed when retained for a long time in the body, and in changing its nature it poisons the blood. Tubercles are consequently formed, the structure of the cells or inter-cellular tissue of the lobules of the lungs and the mucous

membrane of the bronchial tubes become organically diseased.

Experiments of different kinds have been instituted by several practitioners, by which tubercles were artificially produced in the lungs of the animals submitted to them. Those experiments principally consisted in arresting the insensible perspiration, by obstructing the pores of the skin.

In his *Causes Générales des Maladies*, Dr. Fourcault observes: "Chez les animaux comme chez l'homme, les poumons sont des organes très-généralement affectés. Les relations qui les unissent à la peau sont bien connues. Dans mes expériences sur les fonctions de cette membrane, la suppression artificiel de la transpiration a souvent fait naître des tubercles miliaires dans les poumons, et plus rarement ailleurs."

I could reproduce the observations of other experimentalists on the subject, were it necessary to do so; but physiologists need no better proofs than practical experiments to be convinced of the possibility of producing artificial tubercles, *ad libitum*, by obstructing the absorbent vessels of the skin. Yes, and those of the lungs too, whereby the insensible perspiration of those organs is blocked up, and give rise to the formation of those knobs.*

There can be no doubt that healthy persons accustomed to the permanent use of flannel next to the skin are more subject to catarrhal attacks than those who are not, and that such a sensibility is exclusively due to the condition of the skin already described. Hence the catarrh becomes chronic if not checked in time, affecting the weakest of the organs of respiration, and laying the foundation of pulmonary consumption; it also rouses into activity the dormant hereditary predisposition to that disease.

That catching cold, whether from exposure to a high or low degree of temperature, is not always the efficient but usually the exciting cause of phthisis pulmonalis, does not require proof. Independently of an hereditary predisposition

* See Sanctorius *De Medicina Statica*, and Dudart *On the Insensible Perspiration of the Skin and Lungs*.

persons constantly wearing flannel next to the skin would contract the disease much sooner by catching cold than those who do not, because the long-standing matter retained in the skin by the suppression of its perspiration is itself a predisposing cause. Thus cold and heat, acting as exciting agents, rouse the dormant predisposition and give rise to disease in the throat or lungs.

In condemning the permanent use of flannel next to the skin, I also condemn linen worn in the same way by consumptive patients, because by its conducting power it robs the caloric of the body and chills the skin. I therefore recommend cotton as the most suitable material for such invalids. Being a worse conductor of caloric, cotton retains the heat, allowing at the same time a free evaporation of the insensible perspiration through the skin.

All sorts of the so-called "patent chest-protectors" made of wool, silk, linen, or furs, should strictly be avoided, because while they add nothing to the climateric or any other means of cure, they shut in the carbon which ought to have been discharged through the skin, and shut out the oxygen which is destined to supply to the organs contained in the chest. Feather beds belong to the same category, therefore woollen, cotton, or horsehair mattresses are the best.

Flannel-wearers generally fear the risk of leaving it off, and argue the necessity of continuing its use, if not as a remedial agent, at any rate as a prophylactic against atmospheric vicissitudes. But to obviate any ill effects which may result from a sudden change I do not advise to discontinue it all at once, but to wear mixed vests, half cotton and half wool, for a short time, and cotton alone afterwards; and, at the same time, to sponge the chest and back every day with tepid water and diluted *Nitric acid*, in the proportions of one pint of the former to half an ounce of the latter, reducing the temperature to that of the atmosphere after the third day; and to rub the body with a flesh-brush or a rough, dry, cold towel, till the skin becomes red. This is for persons in good health, but those affected with throat or chest diseases belonging to the first temperamental group

should use *Acetic acid* instead, in the same proportions and temperature as above, and one ounce of *Chloride of Sodium* in one pint of water at 60° F. for invalids of the second group.

If the above instructions are regularly observed for a period of two or three weeks there will be no fear of ill results from leaving off flannel altogether; for in that time the skin will regain its reacting power and strength to resist the most abrupt atmospheric change.

Let kind mothers bring up their children flannelless next to the skin in all seasons of the year, unless there is a good reason to the contrary, and keep them warm with a good woollen "over-all." Let healthy persons and invalids wear all kinds of protecting articles *over*, but not *under* the cotton shirt, and by so doing they will be free from the destructive effects of suppressed insensible perspiration of the skin, which the abuse of flannel excites, and all will enjoy the benefit resulting from the function of that organ to act freely on the lungs.

I may sum up, in conclusion, by stating in a few words what has been said in the preceding pages, namely, that flannel is injurious when permanently worn by healthy persons next to the skin as a prophylactic agent against cold, but beneficial to invalids when administered as a temporary remedial means to alleviate disease.

There is another agent besides flannel that acts antagonistically to the powers of the climate in the performance of cure or relief of disease: that agent is the vitiated air of private apartments, public halls, and places of worship, where caloric is generated by burning coal, coke, or gas, in cast-iron stoves.

It is surprising that such a subject is so generally overlooked by invalids and principally by medical men, and to know the amount of mischief it causes, when habitually used, to weak and even to healthy persons, although unperceived by any one. Very few, if any, of those who sit for hours by a cast-iron stove to warm themselves are aware of the quantity of oxygen which is absorbed by that utensil while in the process of heating rooms, and the amount of

hydrogen and carbonic acid given off by it when hot, thus saturating the atmospheric air and rendering it unfit to support animal life comfortably. I have been in rooms heated by these means more for luxury than for necessity, in several winter stations, where very delicate invalids were in the habit of sitting the greater part of the day, and even during the night, and I was not surprised to hear them complaining of headache and oppressed chest; my astonishment was to see that they were not worse, and it was with great difficulty that I could convince them all their discomforts were the effects of the hydrogen or oxide of carbon diffused in the room from heating it with a cast-iron stove.

Invalids who leave their cold and damp homes to seek an equable warm and dry climate, either abroad or at home, should avoid interfering with the natural powers of the atmospheric air. No objection to have their rooms heated, but let them be so by means of the ordinary fireplaces, burning coal or wood, or use sheet- instead of cast-iron stoves. Sheet-iron stoves, with a flue to carry off the products of combustion, are not injurious to health; but all the so-called calorifères, self-consuming smoke without flue, burning any kind of combustible or gas, even made of the same material, are objectionable in the highest degree, because they poison the atmospheric air.

Diseases.	Cured.		Improved.		Uncured.		Dead.	
	M.	W.	M.	W.	M.	W.	M.	W.
Hypertrophia cord. ....	...	...	1	2	...	...	5	2
Stomatitis	2	1	...	...	...	...	...	...
Angina tonsill.	9	31	...	...	...	...	...	...
Catarrhus ventric.	58	89	...	...	...	1	...	...
„ intestin.	37	67	...	...	...	...	...	4
Dysenteria	1	3	...	...	...	...	...	1
Prolapsus ani .....	...	1	...	...	...	...	...	...
Peritonitis	4	9	...	...	...	...	...	1
Icterus	4	9	...	...	...	...	2	1
Morbus Brightii .....	...	...	2	...	...	...	1	...
Mastitis .....	...	1	...	...	...	...	...	...
Metritis .....	...	2	...	...	...	...	...	...
Variola	3	3	...	...	3*	...	...	...
Scarlatina .....	...	3	...	...	...	...	...	1
Morbilli	1	2	...	...	...	...	...	...
Urticaria	1	1	...	...	...	...	...	...
Erysipelas	16	38	...	...	...	...	...	...
Furunculus	1	1	...	...	...	...	...	...
Anthrax	1	...	...	...	...	...	...	...
Zoster	1	1	...	...	...	...	...	...
Eczema .....	...	5	...	...	...	...	...	...
Ulcera auris	14	10	...	...	...	...	...	...
Adenitis	3	6	...	...	...	...	...	...
Inflammatio text. cell.	6	7	...	...	...	...	...	...
Periostitis	2	5	...	...	...	...	...	...
Caries et necrosis	2	1	...	...	...	...	...	...
Total	445	570	24	39	11	7	47	51
	1015		63		18		98	

So the per-centage of cures was, of Men..... 84.4
of Women..... 85.4

Indiscriminately..... 84.9

The per-centage of deaths was, of Men 8.9
of Women 7.6

Indiscriminately 8.2

* Transferred to the Smallpox ward of the General Hospital.

The total number of days' treatment was 22,992, *i. e.* on the average, nineteen days to each.

Besides, 7400 patients were treated as out-patients, and supplied with medicines.

It is worthy of notice that, in the early spring, *erysipelas* and *intermittent fever* set in in remarkable numbers. In treating the former, *Bell.* was almost exclusively employed; whilst in the intermittent fevers no similarity was found between the several cases, and thus a variety of remedies came into play.

Most of them, especially recent cases, were begun with *Capsicum*, and many with *Nux vom.*; in chronic cases *Arsen.* was given.

In the heat of summer, cases of *ileotyphus* greatly predominated, and did not cease till about the middle of winter. *Rhus* was at first administered as the dominant remedy. *Bryonia* not so often; in more severe cases *Arsen.* In the violent *bronchial catarrh* which frequently ensues, *Phosphorus* was constantly given with good result.

Of the six men and eleven women whose cases proved fatal, most died in seven to twelve days; one not until the twenty-seventh day, with an appearance of *œdema of the lungs*.

With this we may remark that only the severe cases (amongst those that recovered none but such as were under treatment beyond the twenty-first day) are exhibited under the head of *typhus*, whilst slight cases are indicated as *intestinal catarrh*. Special complications, such as *parotid tumours*, *intestinal hæmorrhage*, or serious *bed sores*, were not observed in typhus cases.

Of the cases of *pneumonia* which, according to the practice introduced here by Dr. Fleischmann, were from the first moment treated with *Phos.*, only one woman died, with a complication of *tuberculosis*.

An unusual number of cases of *lead colic* (*colica pictonum*) came for treatment, as the number of joiners' shops where wooden cases are rubbed and polished with dry whitelead, furnished a large contingent. The treatment was *Opium*, 1st trit., every four hours; or 3rd trit., every hour or two

hours. The violent pains, sleeplessness, and vomiting generally cease in forty-eight hours ; whereupon one or two clysters of oil promote stool.

Two men died of *lead colic*, after three to five days' treatment, in an unconscious comatose state.

The majority of "out-patients" exhibited, on the whole, the same types of disease as those in the hospital. *Erysipelas* and *intermittent fever* in spring, then *gastric fever*, and, lastly, in winter, *rheumatic* and *catarrhal* affections. The infrequency of whooping-cough this year was remarkable.—From the *Allg. Hom. Zeit.*, Feb. 14, 1870, p. 53.

ON SILICATED WATER.

By Dr. BECKER of Mühlhausen.*

PARACELsus is, as far as I know, the first to have used siliceous earth—rock-crystal—medicinally ; he recommends it as the grandest remedy for renal and vesical calculus, praising it also for suppression of milk. The later physicians of his school have also used it in cerebral affections, epilepsy, acute bilious attacks, obstructions of the bowels, fluxus cœliacus, leucorrhœa, suppression of urine, and, moreover, as an antidote to *Corrosive sublimate* and *Arsenic*, a property highly prized by Sennert.

Subsequently there is no mention anywhere of the medicinal application of *Silica*, and even the properties of that which is met with in the most powerful mineral waters remain yet unexplained by the medical faculty. The assertion made by Trinks in his theory of homœopathic medicines is perfectly correct, when he says that "the physiological proving of *Silica* and its introduction into the pharmacopœia must be reckoned amongst the happiest efforts and most valuable labours of Hahnemann."

* Translated by Dr. Shuldham, of Croydon. From the *Hygea*, vol. xxii, part 5.

The following observations, considered purely in an empirical light, will, I trust, serve to induce even allopathic physicians to experiment, and to recognise Hahnemann's services.

I had already used *Silica* homœopathically, and in a measure with good results, but could not suppress some chemical scruples of conscience on account of its insolubility. The recent chemical trials of the production of a soluble *Silica* induced me to order this preparation to be made up at our dispensary. Since November, 1848, I have, in conjunction with Dr. Reinhardt, made such frequent use of this soluble *Silica* that in eighteen months' time ten pounds of the solution had been used up in both of the local druggists' shops.

The method of its preparation was the one recommended by Berzelius from fluor spar and quartz sand. As I wished to know precisely how much *Silica* was rendered soluble, the apothecary, Dr. Graeger, undertook to examine it very carefully, and the result was exactly $\frac{1}{5300}$ th. An ounce of the water contains $\frac{1}{50}$ th of a grain, but a pound contains $\frac{2}{3}$ ths of a grain. The waters of Teplitz contain $\frac{2}{3}$ ths of a grain in a pound, those of Gastein $\frac{2}{10}$ ths of a grain. This silicated water, therefore, is tolerably like the second dilution of *Silica*, and it is really strange that homœopathy has to thank the greatest chemist of our age for its production.

Trials with silicated water.

1. Trial on myself.—I must premise the following remarks on the state of my health. I am fifty-five years old, and have always been of a weakly constitution. For the last ten years I have been subject to facial rheumatism, which at times has increased to most acute attacks, and driven me on three occasions to Teplitz, where I eventually got rid of it. All the few teeth that I have still left are bad, loose, and easily become painful. As a rule I have difficulty in getting to sleep, and I have to put into requisition various

devices for finding the right position, and when sleep does come it is not very sound. I can never fall asleep on the left side, for if I do, a feeling of being stifled and night-mare soon compels me to change my position. The bowels almost always act with difficulty.

1st day.—Rubbed the gums with *Aqua silicata* and took ten drops internally. After this there was a drawing sensation in the gums, and this was followed by a pricking pain in the middle of the right thigh, which lasted some minutes, and then in both feet alternately, and in the arms. Fell asleep more easily than usual; slept quietly and well.

2nd day.—Difficult and unsatisfactory relief from the bowels. In the evening *Aqua silic.* as yesterday. No pricking feeling, fell asleep easily, and slept well.

3rd day.—The teeth are firmer. Unsatisfactory dry stool. In the evening *Nux v.* 12. Got to sleep tolerably soon, and slept well.

4th day.—Healthy stool; teeth firm, and feel different from usual. In the evening *Aqua silic.* Pain in the sole of my right foot. Slept well.

5th day.—Easy motion. In the evening *Aqua silic.* Fell asleep on the left side, and slept well.

6th day.—Bowels unrelieved. In the evening *Silic.* Fell asleep soon. Awoke in the night with desire to pass water, perspiration of whole body, fell asleep again afterwards.

7th day.—Easy motion. In the evening *Aqua silic.* Slept well.

8th day.—Healthy stool. In the evening twenty drops of *Aqua silic.* Had some difficulty in getting to sleep, gasped for breath from lying on the left side. Disturbed in the night by a desire to pass water.

9th day.—Healthy stool. Somewhat chilly in the evening. Ten drops of *Aqua silic.*

10th day.—Healthy stool. Felt chilly all day; in the evening, between six and seven, felt languid and drowsy. Twenty drops of *Aqua silic.*, the remains of my stock, so that this was my last dose. It was some time before I got warm and fell asleep.

11th day.—Healthy stool. Felt quite brisk again. The teeth firm. Between six and seven in the evening remarkably sleepy, so that I was obliged to retire to rest early. A large quantity of healthy saliva in the mouth, and slight feeling of chilliness. It was late before I got warm, and still later before I fell asleep, but then I slept well and perspired somewhat.

12th day.—Healthy stool. No tired feeling in the evening. A large quantity of healthy saliva. Got warm and fell asleep soon.

13th day.—Still the flow of saliva, but diminished.

14th day.—A feeling of ravenous hunger prevented my falling asleep early.

15th day.—Still greater difficulty of falling asleep and getting warm in consequence of the feeling of ravenous hunger.

I observed nothing further. Though the proving is certainly imperfect, yet the following symptoms are conspicuous :

1. The good effect on the teeth.
2. The bowels at first constipated, and afterwards easily moved.
3. The fact of being able on the 5th day to fall asleep on the left side.
4. The sound sleep.
5. The febrile condition which appeared on the 9th day and lasted three days.
6. The increased flow of saliva on the 11th to the 13th day.
7. The ravenous hunger on the 14th and 15th days.

Eczema of the scalp.

A girl, aged sixteen, had been suffering for the last two years from eczema of the back of the head. She took a dose of *Lycopod.* 30 morning and evening, the result of this treatment being that matters remained *in statu quo*. She began in January to take ten drops of the *Aqua silic.* three times a day.

February 8th.—The eruption begins to dry; there is continually a mucous sediment in the urine.

15th.—The eruption still drier; urine clear.

March 1st.—The eruption is insignificant, and on the 16th of March it was quite healed.

A young and lusty lad, sixteen years old, had eczema on the back of the head.

January 16th.—Ten drops of *Aqua silic.* three times daily.

21st.—The eruption is moister, and little vesicles have appeared all over the face.

25th.—Fresh vesicles. Urine cloudy. From this date improvement set in; he made a quick recovery.

Eczema.

A shoemaker in November got an attack of eczema in both hands and forearms, which was very painful and hindered him in his work. Patient suffers also from perspiration of feet.

December 29th.—He took ten drops of *Aqua silic.* three times a day. Some days after free diuresis set in, and the urine had a copious sediment. The eruption got worse, and the fingers were covered all over with vesicles.

January 8th.—The eruption not so severe. The urine has an acid reaction and a thick sediment.

13th.—The eruption is diminishing, only a few solitary vesicles appear. Urine continues to deposit freely, and has an acid reaction.

25th.—The patient has been able to cut out his work all the week. The eruption continues to dry up more, but the backs of the hands are still as red as fire. The urine keeps cloudy, and has a sediment.

Feb. 8th.—During the last fortnight the perspiration of the feet subsided. The patches on the hands are better, but spreading up the arms. Urine still deposits.

March 1st.—The eruption has completely dried up and healed, but the urine stills keeps cloudy.

Stomacace.

A tailor got an attack of ulcerated mouth, with fever, on the 9th of March; the whole mouth was full of blisters. He took *Merc. s.* 2, and afterwards *Sulphur* 2. On the 15th the gums were still swollen, the teeth loose, and the ulcers not yet healed. *Aqua Silic.* to be applied externally, and, at the same time, ten drops three times a day externally.

On the 21st all the ulcers were healed, the teeth almost firm in their sockets, and the gums only slightly swollen and inflamed.

On the 22nd, without leaving his room, he got a sharp attack of rheumatic toothache, which was quickly and permanently removed by the application of the magnet.

Looseness of the teeth.

A woman had suffered for some time past from looseness of the teeth, which, though they were also painful, yet in other respects were quite sound. She had in this manner already lost a good many sound teeth.

Aqua Silic. was given her to rub the gums with. After only eight days' application she noticed a great improvement, and eventually the teeth got firm again.

From various other unrecorded observations I would almost conjecture that the *Aqua Silic.* is an excellent preservative of the teeth, and should like to see it find a place on every toilet table. It is most conveniently applied to the gums with a camel's hair brush.

Sore nipples.

A woman recently confined had been suffering for the last fortnight from sore nipples; rags dipped in rum had been of no use to her, and only irritated.

On the 19th of January rags dipped in *Aqua Silic.* were applied the whole day. In the evening acute pain came on in the nipples, and affected the whole frame.

The silicated water was put aside at once, and white of egg applied. The pain did not subside till two hours after.

On the 20th the nipples were only bathed three times with the silicated water, and the burning sensation did not follow the application immediately, but an hour after. As soon as the lotion was applied the nipples became quite white, as the vessels contracted, and the blood receded internally.

On the 21st it was diluted with three parts of distilled water, and then affairs went on more smoothly; all burning ceased, the nipples began to heal, and there was only one little sore place left, which, however, would not and could not heal, as it was always re-irritated by the act of suckling.

As the silicated water produced no healing effect, on the 25th two drops of *Silica* 30 in half an ounce of distilled water was applied locally; but there was no improvement after three days' time.

Then an ointment of *Zinc* and *Nitrate of Silver* was ordered by another medical man. After each application there was a painful feeling of itching and burning which lasted half an hour. The ointment seemed to heal well, but the nipples were excoriated after each application of the child to the breast, and three days after an eruption appeared on them. The child was removed from the breast, and in three days the nipples had healed; but when it began to suck again they were as sore as ever, so that after some further trials with *Arnica* 2, *Graphites* 18, which turned out useless, nursing had to be entirely abandoned.

Scrofulous ophthalmia.

A girl, eight years old, had suffered for some time past from a scrofulous inflammation of the eyes. Ten drops of *Aqua Silic.* internally three times a day. After this, improvement set in, which went on to a complete cure; and the face, too, which was swollen from her scrofulous habit, recovered its natural shape. The remedy was used for some months continuously.

Cataract.

An old officer whom I had cured with a few doses of *Belladonna* 30 of an obstinate jaundice, for which *Mercury* to salivation and other means had availed nought, and who had, in consequence of my treatment, become a great admirer of homœopathy, was affected with a cataract in one eye. After I had refused for some time to do anything for it, and as he thought that an operation at his advanced age was superfluous, I came across an observation of Dr. Argenti's, in the *Archiv für Hom. Heilk.* (xix, 1, p. 178), where *Silica* 30 had completely cured a cataract in three months.

I made this known to the patient and left him to decide whether he would make a trial of the remedy, as I myself had no faith in it. He then took *Silica* 30 for some months, but without any alteration. I then gave him for some time the triturations, but without effecting the slightest alteration. He had already been suffering from the cataract a year and a day, and had got accustomed to it, when I tried the silicated water. He took seven drops three times a day. After four weeks' trial it seemed as though the lens were a little less cloudy in some parts, and he certainly could see somewhat more clearly, but there was no further improvement, and, after using the remedy for six weeks, left it off entirely. During the whole treatment there was no deposit in the urine, the secretion of saliva was not at any time increased, a loose tooth remained as loose as ever, a chronic rheumatic pain in the right leg, and a habitual winter cough remained uninfluenced.

Weakness of the sight.

A middle-aged journeyman carpenter had for many years suffered from an eczematous eruption on the chin, which healed up without any treatment in the spring of 1846; but, at the same time, a peculiar affection of the eyes was developed.

He (the patient) had formerly enjoyed excellent sight, but now he saw things mistily and indistinctly, and could not distinguish small objects; besides, everything looked as if it stood awry, which prevented him from working, as he did not know how to guide his axe. The pupil was cloudy and smoky-looking, as in incipient cataract. In the beginning of March he took ten drops of the *Spirit of Sulphur* three times a day. After this the eruption came out a little more, and he was annoyed with an itching of the whole head; objects no longer looked as if standing awry, but the power of vision itself had scarcely improved.

On the 22nd of March he began to take seven drops of the *Aqua Silic.* three times a day.

By the 1st of April the left eye had greatly improved, he could see more clearly with it, but the right was still weak.

He can see better with the left eye alone than with both together, as the right eye, being weaker, confuses the sight. When he looks at a window-frame with his left eye closed, the cross-beam appears lower; but when he opens this eye, it rises and resumes its proper position. The eruption comes out more, and the feet perspire more freely.

May 3rd.—He can see now tolerably well; so much so that he can see a line and return to work, but the eyes have not yet recovered their former strength. The eruption is healing, the feet perspire freely, and there is a chalky deposit in the urine.

31st.—The eyes are better, but still somewhat cloudy, so that he is unable to read print because the letters run together. He perspires easily and freely; there is no deposit in the urine. The appetite is unusually good.

July 5th.—The left eye is almost sound, but he is still unable to read print with the right. He perspires more freely than ever, especially at meals; his feet also perspire. The appetite is still remarkably good. The eruption on the chin is almost healed. The nostrils, which were always dry, begin to get moist; the left more so than the right. For the last fortnight there has been a trace of rheumatic pain in the left leg.

After the lapse of some weeks the patient returned. The face had continued to improve, but he had a sharp attack of gouty inflammation in the left foot, which caused him to limp. I explained to him that I considered this as a very favorable turn in his malady, and strongly advised him not to check it in any way, but only to continue taking his drops. He never turned up since.

Weakness of the sight.

A young lady discovered accidentally that she could not see clearly with one eye; she saw as through a mist, and could only make out large type with difficulty. In other respects she was in perfect health, and could only attribute it to the disappearance of a perspiration in the feet; since then the feet were always cold. Towards the end of October, 1846, she took ten drops of *Aqua Silic.* night and morning. At the end of a month the feet kept warm and perspired again, and the sight had so far improved that she could make out moderately-sized letters, as the headings of chapters. When menstruation came on in December the sight was so defective that she could not distinguish large print. The feet retained their warmth. As after eight days' use of the *Aqua Silic.*, ten drops twice daily, no improvement set in, twenty drops three times daily were ordered. In a fortnight's time she could again read the entire heading of a chapter.

I did not see her again for three months on account of an illness, and she had not taken any more medicine. The sight was decidedly worse again. She was obliged to return to the *Aqua Silic.*, and after some weeks the eye was strong enough to permit her reading even the (ordinary) type. She continues to use the remedy.

Weakness of sight.

A joiner, 58 years old, had been troubled, since the Christmas of 1846, with a dimness of vision, which had gradually increased.

On May 15th, when he consulted me, it seemed to him as though there was a thick smoke or mist before his eyes, which prevented him from distinguishing anything clearly; the eyes were also red and inflamed, and there was lachrymation. He suffered, besides, from a continual creeping sensation in the spine, as if from a mouse, according to his own expression. Twenty drops of *Aqua Silic.* three times a day.

May 20th.—The inflammation of the eyes had quite ceased, and the smoky appearance was lessened.

26th.—The sight improves, and the creeping in the spine had lessened considerably.

He did not return after this date.

THE CONTAGIOUS DISEASES ACTS.

By DR. ACWORTH.

IN the April number for the present year of the *British Journal of Homæopathy* is an article written by Dr. Ker in favour of the Contagious Diseases Acts. Though written with much apparent care and, as it were, in arrest of judgment, I venture to think that it will not stay their doom. It is put together in such a way, however, as may make "the worse appear the better reason" to those who may have given but slight attention to the subject. And so it is well to crave a hearing for what may be said on the other side. Not that the question will be determined by an appeal to medical men alone. It has other issues than merely sanitary ones. Great Britain will now be the open court in which it will have to be fairly tried. And the jury that "true deliverance makes" will not be the members of our profession only, but the People whose name begins with a great P instead of a little one, as Mr. Dickens tells us. Their verdict has not yet been given.

The first part of this paper is, in substance, one that was read at a Confidential meeting on these Acts, and will deal

with them in a general way. The second part will have to do with Dr. Ker's paper in particular.

That eminent moralist, the incomparable Fouché, concerning whom Sir Walter Scott remarks that the wonder was that he died in his bed, once stigmatised one of his master's acts as being a great deal worse than a crime—as nothing less than a blunder. To me the Contagious Diseases Act (for I shall speak of the Contagious Diseases Acts for 1864, 1866, and 1869 as one) would appear to partake of this double character. But not having graduated in the Fouché school nor learned to use his elevated standard in meting out judgment on any moral question, I would like to invert his celebrated dictum, and, in characterising the Contagious Diseases Act, would speak of the blunder after speaking of the crime. I prefer to consider it from this point of view, for could the Act be shown to be expedient, or rather could it be *made to seem* as fruitful of good material results as there are plenty of documents to prove it the reverse, I, knowing that it could only *seem*, and in the long run could never *be*—since the moral determines material well-being—would offer it every opposition in my power. And whilst prepared to show that the working of this Act can never be attended with satisfactory results, my opposition to it starts from higher ground. And that higher vantage ground is this—that the Act is altogether wrong in principle, and, therefore, can never be rendered right in its details; that no fair trial can be asked for that which is in its very essence foul; that this Act is one made in cruel mockery of, and in utter antagonism to, the whole spirit of English law and liberty; that it violates every sentiment of justice; that anything like right it laughs to scorn, and saps the very foundations of morality.

I have said it was a crime. If there was not crime in its inception, there was something very like it in the way it was concocted and carried through its different stages till it grew into a law that only its friends, till very recently, have known anything about. It originated with, and is mainly due to, a clique of medical doctrinaires, who, with very exaggerated notions of a disease that, even according

to the most eminent amongst them, has been growing milder for some long time past, have managed, by alarming nervous gentlemen allowably ignorant on this interesting subject, to form with them an Association for stamping out the said disease. Several members of this same Association helped to form the Select Committee on this Act of 1869, which was passed in a hurry at the fag-end of a session, and in such a way, as we learn from more than one M.P., that nineteen twentieths of the House of Commons knew nothing at all about the matter. All that Hansard has to say thereon, I believe, is comprised in a single line. Amongst the medical men in favour of the Act those whose names carried with them any weight, when undergoing examination, knew nothing, and frankly confessed to their knowing nothing, of the operation of such an Act in France, whilst the evidence of those who might know a great deal (except it were to be given in favour of the Act) was never thought of being called for. Dr. Chapman, whose article in the *Westminster Review* is quite exhaustive on this very point—the operation of such like Acts abroad—tells us his examination was refused. That of Dr. Balfour* and Mr. Simon, the only two of the witnesses examined before the Committee of 1869 whose evidence was hostile to the Act, and outweighed that of all the others put together, could not have been decently avoided. Of the other seven medical men examined, six are employed and paid under the Act, and the remaining four witnesses out of the thirteen were Government officials interested in or else connected with it. So that not only the Committee would seem packed, but the evidence also would seem packed along with it. As far as possible, and this was very far, the Committee was formed and the evidence was given by men whose foregone conclusion was arrived at when they first “took sweet, sweet counsel together.” And everything was managed so exceedingly well, and with that great caution we are told in the evidence which the introduction of the Act required, that, one may almost say, no debate was heard upon its merits, though practically it suspends the

* [Dr. Balfour has since authorised Dr. Lyon Playfair to state that he has changed his opinion to one in favour of the Acts.—Eds.]

Habeas Corpus Act for women wherever its provisions are in force. Then it bore such a name that no one supposed it had to do with women, but with cattle, with which, however, by this same Act, considering they are really treated as such, they are not inconsistently classed. It would seem, too, as if its promoters and abettors had joined together in a conspiracy of silence, not only to let nothing be heard at first about it, but afterwards nothing against it. On such a momentous question as this it might well be supposed that public Journalists, who pretend to care for the interests of truth, would have been willing to open their columns equally to what could be said on both sides. Speaking generally, it has not been so. They have been open to those in favour of the Act, but closed to those against it. Now, however, that the opponents of the Act have made their voice heard in other ways they begin to make it heard in the Daily Press as well, showing, as has often been shown before, that it is not this that forms and leads opinion so much as, indeed, it is formed and led by it. The whole course of action in regard to the Act has had something very criminal about it. It is not presumptive of a good cause that it will not bear very close examination, and avoidance of all discussion of its merits by no means argues strongly in its favour. So much for the introduction of the measure, which does not recommend the measure itself. Let us now see something of what that measure is.

This any one may easily do for himself, for the Act may now be had for a penny, though some may think it, as Hamlet thought his thanks, even then rather more than a halfpenny too dear. But it is now reprinted in a paper called the *Shield*, as a cheap and ready mode of obtaining its repeal, so that even those who begrudge the penny for it may find, after all, it is very well laid out. Mr. Banks, Mansfield Road, Nottingham, supplies the Act or *Shield* to the would-be penny-wise and not pound-foolish, let me add, if they send him a pound to aid the Association, which he is secretary to. However this may be, the Act is one that any one may easily go into for himself. I need not do more than make references to it, which will show

themselves rather than it at fault if unjust or ungenerous to its merits.

It may, perhaps, be as well to mention briefly here that the Act of 1864 was merely a slightly tentative one. That of 1866 applied to garrison and sea-port towns, where soldiers and sailors are the victims of disease, not altogether owing to themselves, but in great part to the unnatural life which they are compelled to live. It applied, not merely to these towns, but to districts within a radius of five miles round them. That of 1869 embraced a great many other towns, and extended the radius to fifteen miles. By these Acts, which I have spoken of as one, not only are prostitutes within the districts mentioned put completely under the power of the police, but any woman, no matter how pure, whom they or anybody chooses to accuse of leading a vicious life.

The Act of 1869 does not differ from the others in its aim, but only in its larger sphere of operation. That aim is to stamp out the venereal disease. It is made, therefore, in the interests of those who are to be saved from what this law is not, but which we are told the policeman is—"a terror to evil-doers." It is made to the praise of men who do so well that while they are to be defended by the intervention of the State from infection dependent on their "own sweet will," "their own sweet will" is to be a weapon of offence, and to have full scope for infecting women who are not by the said intervention so defended.

Is venereal disease, then, not to be stamped out? I answer that *stamped out* it will never be, but not the less let it be dealt with. But are we to do evil that good may come? Let a worthy object be obtained by worthy means. If by means of this Act the stamping out could be effected, the means would be found infinitely worse than the disease. The disease is so great a physical evil that there is no need to make it greater than it is. But, magnify it however much we may, it is not so great as the moral evil—the unrestrained passion out of which it grows. It is one, notwithstanding, that philanthropic men, and more especially medical men, may very fairly do their best to overcome.

But if it be by means which this Act employs—means which outrage all our ideas of English law—that would rob a woman of her civil rights, and even that inalienable one over her own person, which, though she may abuse, yet men may not—means that trample down anything like justice to the weak, and wrong the most sacred instincts of our nature, then I say that moral evil is at work producing a thousand-fold deadlier effects than those which the venereal specialist would combat.

Now, to combat these, what does this Act do? But first let us hear what its originators say in regard to the objects of their Association.

“1. This Association has been formed to promote the extension of the principle of the Contagious Diseases Act of 1866 to the civil population.” As if in the districts where it is in force it were not extended to the civil population! As if all the population were not civil that are not naval and military.

“2nd. It holds that sufferers under any kind of contagious disease are dangerous members of society, and should, so long as they are in this state, be prevented from communicating it to others.” And so this Act applies to women only! And this although the women are relatively few, and the men many, who communicate it!

“3rd. It desires to impress on the public the necessity of regarding the Venereal disease as a contagious disease of the gravest character, which is constantly transmitted from parent to offspring; and proposes so to remove those affected with it from opportunity of propagating their disorder.” Then, of course, it lays hold of libertines in general, and vicious husbands in particular! Nothing of the kind. For the safe use of these, women may be abused, that the innocent, forsooth! may not suffer for the guilty. Men who contract disease at their own option, and “run to meet what they should most avoid,” are to claim the action of others, not their own, to save them from what they might entail upon their families! How very admirable if only this might be! As if man’s legislation could upset God’s! As if other sins of fathers beside that of lust were not visited on the children to

the third and fourth generations! As if the offspring of drunkards and gamblers were not, through their parents, involved in suffering which the State can give no security against! And if it could, would it give this security by encouraging drunkenness and gambling? And after all this we are gravely told that—

“4th. It aims at the moral and social improvement of a numerous and degraded class.” But how and by what means? By means as immoral and anti-social as poor human wits can well possibly conceive.

“5th. In carrying out these objects, it is opposed to the system of licensing prostitution, which prevails in some parts of the Continent.” And so it puts the Prostitutes’ licence, not in her hands, but those of the Policeman; and he, of course, is not her referee! If, by chance, I lost my diploma, being registered in due form as a Physician, should I find difficulty in practising as one?

Such are the objects of the Association formed to promote the extension of this Act. Now, let us see how they are carried out by it. One can only do so generally. Both time and patience would be largely needed to expose all its vicious details. Here is Clause the 4th:

“4. Where an information on oath is laid before a justice by a superintendent of police, charging to the effect that the informant HAS GOOD CAUSE TO BELIEVE that a woman therein named is a common prostitute, and is either resident within the limits of any place to which this Act applies, or, being resident *within ten miles of those limits*, or having no settled place of abode, has, within fourteen days before the laying of the information, either been within those limits for the purpose of prostitution, or been outside of those limits for the purposes of prostitution in the company of men resident within those limits, the justice may, *if he thinks fit*, issue a notice thereof addressed to such woman, which notice the superintendent of police shall cause to be served on her:” and on this notice her liberty is forfeit, and she is summarily handed over to a surgeon to undergo what I scruple not to call, using words in their true and legitimate sense, and as signifying she is treated like a beast, a bestial and brutal

violation of her person. And this, of course, is nothing worse (a sign how this Act tells already on our morals) than the *voluntary* examination modest women may submit to. But even a prostitute may take a higher view. And so, on her refusal to submit to this, she is by another clause of the Act liable to be made the inmate of a prison, with or without hard labour. Now, I want to know why her liberty is forfeit. It is not for breaking any law, for prostitution is undefined. But another clause may give us the reason, for here we have the "penalties for permitting any woman whom there is reasonable cause to believe a prostitute, and *to be affected with a contagious disease*, to resort to any house for prostitution." Others with a clean bill of health do so resort. So, here we have a woman whose liberty is forfeit, not for her being *known* to be, not for even her being *believed* to be, but only for there being good cause for a policeman—who, apart from any unintentional mistake, may have very good cause, I mean a very bad one, as is shown by the operation of such a law in France—to believe her to be a common prostitute. But not only this, not only is the prostitute *supposed*, but we have her disease *supposed* as well. We have a woman whose liberty is forfeit for being merely SUSPECTED of disease, which, even according to Mr. Berkeley Hill himself, is not to be found in 84 per cent. of those who have been subjected to legal violation, and is only serious in 2 or 3 per cent. We have a woman whose liberty is forfeit for being merely suspected of disease *the prevalence and propagation of which are licensed and legally justifiable in man*. We have a woman whose liberty is forfeit, not merely for being suspected of a disease, the prevalence and propagation of which are legally justifiable in man, but whose liberty and person suffer still even when she is found to be free therefrom. We have a woman whose offence is undefined, whose trial is a policeman's "good reason to believe," whose summary conviction is a justice's bare warrant, whose sentence instrumental violation of her person; and, to crown the whole, the execution of that sentence is assigned to a surgeon who can stoop so low—can stoop so low, as it seems to me—as to wrong not

only the woman herself but the noble profession he belongs to. Well might it be said by a medical seceder from the party to which we owe this Act that, rather than take service under it, he would turn to breaking stones upon the road.

And men can be found to sanction all this because, as we shall probably be told, it applies to a very degraded class alone! It is not true; but supposing that it were. Is such an Englishman's idea of right? Is such his love for justice? The same mode of reasoning that was used in days gone by to justify the slavery of the past is to justify the slavery of the present. And yet we are living in times of reform—in the latter half of the nineteenth century—under what calls itself a Liberal Government—and in a land where Christianity is preached and—practised according to Contagious Diseases Acts! Prostitutes are to be what slaves once were, and turned to their enslavers' use because they are so deeply sunk in degradation. And yet I read in the *Daily News* that "the law in its wisdom protects all classes of the community, and lays even the most unfortunate and degraded under no disabilities." To which, let us add, 'as is shown by this Act.' Degraded! It is exactly the most degraded that have greatest need of justice, nay, of mercy, degradation being too often, alas! the result of social conditions. And "aiming at their moral and social improvement," as the originators of this Act profess to do, it is rather strange they should do it in a way that may make the most abandoned woman feel that there may be a sin of injustice towards herself that is worse than prostitution. Violation of the person of the most abandoned woman, I believe, has hitherto been punished as a crime; but now it is a crime for her to refuse to submit to such a violation. Of course, she does not mind what she resists; and, of course, to extinguish her last lingering sense of shame is to aim at her moral improvement!

But the Act does not really aim at this. It is purely, or rather is meant to be a purely, sanitary measure; so it does not regard a degraded class alone. It is made in such a way that even honest women are exposed to the espionage of the police—are liable to be denounced by the vilest of

the vile—and at any time may be arrested on suspicion, and not on account of being diseased, but to ascertain whether they are really so or not. And so we have the following clause :

“6. Where any woman, in pursuance of the principal Act, voluntarily subjects herself by submission in writing to a periodical medical examination under that Act, such submission shall, for all the purposes of the Contagious Diseases Acts, 1866 to 1869, *have the same effect as an order of a justice* subjecting the woman to examination ; and all the provisions of the principal Act respecting the attendance of the woman for examination, and her absenting herself to avoid examination, and her refusing or wilfully neglecting to submit herself for examination, and the force of the order subjecting her to examination after imprisonment for such absence, refusal, or neglect, shall apply and be construed accordingly.”

Now, no woman voluntarily subjects herself to a periodical medical examination. It is all a farce. The woman is bullied into it. The policeman goes up to her and says, “I have good cause to believe you to be,” &c., &c. ; “you must go before a magistrate if you do not sign this paper ;” and she must sign or go. And after signing, the surgeon must examine her; whether he believes her innocent or not, so it is voluntary altogether. There is no compulsion, only he and she *must*. Let me quote what is said in evidence by Mr. Parsons:—“One or two women have willingly offered to take their oaths that they were modest women, but no one has the power to relieve them but the magistrate, to whom they are unwilling to go. Were they brought up by the police? They were. The only alternative they have is to go before the magistrates, and the magistrates have relieved them. I have pointed this out to one or two, and they say, ‘Oh, dear no! I would rather not do that for any consideration. I would far rather come for periodical examination for twenty years. I do not mind coming before you, sir,’ because the examinations are very private, whereas if they go to the magistrate’s court it is known all over the town, and the husbands and

friends become acquainted with it." So much for voluntary submission.

But now let us turn away from what *may be* to what *is*. Let me quote from the evidence given to the Committee, not by the opponents, but the supporters of the Act. Let us see the power it gives to miscreants to denounce an honest girl to the police. "A poor girl was brought from the country to be examined at the request of her own step-father, who accused her of prostitution." "She was not only not a prostitute, but a virgin."

Again, Mr. Parsons is asked, "Has any woman been brought to you not diseased? Ans.—Yes. Has she been brought to you by false accusations? Ans.—Yes. Has any injury been done to that individual to your knowledge? Ans.—No injury to person, but a considerable injury to feeling."

Again, he is asked, "How do you obtain the information of a woman not being guilty of prostitution being brought before you as a public prostitute? I knew one instance of my own knowledge, by happening to know the woman as a respectable married woman."

Again, "Have you had many cases of virtuous women so brought up? No, not many. Have you had half a dozen such cases during the whole operation of the Act? I should think less than that." But this is from the surgeon of one district, and before that district was extended. But what does it matter whether one or many? Ought any woman to be exposed to this? Ought any policeman, ought any magistrate, to have the power thus delegated to him? We are told that other innocent persons are subjected to the mistakes of the police. But are they liable to be sentenced without trial, and has their false arrest no remedy at law? It is not so with innocent women suspected of prostitution. Not only may they be condemned without a trial on the denunciation of the vilest miscreant, but even when their innocence is proved the law still shields the wronger, not the wronged. Let any one who doubts this look at Clause 22 of the Act of 1866.

I think I have said enough to show the monstrous

tyranny and injustice of this Act, not merely as regards a particular class, but as it regards a sex. But if it regarded the former alone, it were worthy of all execration still. For justice is really the foundation of the world. "If this fails, the pillared firmament is rottenness, and earth's base built of stubble." Why should the sins of prostitution be visited on poor prostitutes alone? Are they not much "more sinned against than sinning"? We hear it said that a stop should be put to their solicitations in the streets, but never that a stop should be put to men's, though made to modest girls. And we are told of the outward decency of Paris, though one of its not most moral writers calls it the very Brothel of Europe. Aye, outward decency! We know how fair is its Père la Chaise, but it is full of dead men's bones—all fair without, all rottenness within. And we are to hide this rottenness away, or rather hide ourselves from it and ignore it, and think we are acting wisdom's part! No, the ostrich is not Minerva's bird. Speaking as a physician, I would say let us have disease thrown out on the surface of the body, not pent up festering within. If there are women who sell their persons, it is well to be aware of the ugly fact. But we are told that if they choose to do so we may justly interfere with the conduct of the sale, though, of course, it is not legalised thereby. I stay not to expose such specious sophistry, but only to dwell upon that word, choose. Choose, forsooth! Why, what is their choice? Seduced by scoundrels, and afterwards deserted, or sold by vile hags in early childhood to wretches who outrage and throw them then aside, what choice is there left them between the streets and death? Choose! if any one wishes to know about such choice let him read the *Report of the Rescue Society*, and out of 471 such choosers he will find the great majority are children, and a large proportion of these so young that their ages range downwards from thirteen years to seven! Is it such as these that this law is to protect? No, all its protection is quite the other way. It panders to the passions that create this children-market, which is regulated, as other markets are, by the law of demand and supply.

Enough about the tyranny and injustice of this Act. A few words more as to its morality. We are told that it does not license prostitution, and all kinds of sophistry are used to show us why it does not. The *Saturday Review* says it does not license, but only recognises its existence as a fact, just as we should recognise that of a foul drain. Admirable logic! and worthy of the would-be smart writers on its staff. If the law does not quarrel with the drain, but with its foulness, it legalises the existence of the drain. In forbidding the adulteration of food the law recognises the sale of food as legal. "F.R.S.," a writer in the *Times*, says, "Our Legislature restricts free trade in intoxicating liquors by a licensing system: is this a legalisation of drunkenness?" I answer, no; but it is a legalisation of the *sale of liquor*. A F.R.S. may flounder in his logic as well as a *Saturday Reviewer*. How easy it is to turn the tables thus:—"Our Legislature restricts free trade in fornication by a licensing system: is this a legalisation of fornication?" Certainly it is; that which is not licensed is disease in woman, which is no more licensed than is drunkenness. One grows tired of refuting sophistry like this.

This Act not only *does* license prostitution, but in this respect, I believe, stands alone as a legislative Act. Such an Act does not disgrace the statute book of any other country than ours. On the Continent it is merely a question of police. Not only does it license prostitution, but it does so in a way that is more immoral than the very thing itself it licenses. If this be a necessity, as some maintain, let us have the institution fairly dealt with through which fornication is carried out. War is a necessity, and will be, I suppose, till civilisation sinks the brute and takes up Christianity instead; and so those who fight for us, soldiers and sailors, our vicarious sufferers, are held in highest honour. Why should it not be so with prostitution? Why should not its army of martyrs be honoured by another kind of notice than that of the policeman—be made illustrious by better decorations than magistrate's warrants are supposed to be—or distinguished by other orders of merit than

violation or a prison? If fornication be a necessity like war, surely prostitutes should be treated quite as well as soldiers and sailors for whom this Act was made. Because men are wronged in being kept single, are we to right them by wronging women too? If a standing army must stand on such a footing, I think we shall learn soon to do without it.

The Act does not merely license prostitution, but panders to all that is vilest in our nature. I have been quarrelled with for saying this before, but the fact remains. For whilst it legitimates the sovereignty of lust, injustice and cruelty it makes its ministers. And if this be not pandering to what is vilest in our nature, I really know not what is. It patronises vice in such a way that law and licentiousness meet together—policeman and brothel-keeper shake hands with one another. The existence of the latter was once disallowed, but now he “is a valuable source of information,” so at least the evidence says, and so is a coadjutor of the former in carrying out this Act. We have no *disorderly* houses now, but only orderly ones. And if in these there is any disorder, at least there is no disease. Their masters and mistresses look to this, and so stand well with the police. So unholy alliances with bawds and brothel-keepers is another distinguishing feature of an Act that “aims at the moral and social improvement of a numerous and degraded class.”

Yes, after all this we are actually told that the reformation of the prostitute is aimed at. And this when every reformatory in the land is crying out against this Act! This when ladies are turned away from hospitals, may one say, because they really aim thereat! This when we have a government grant of thousands and tens of thousands of pounds to meet police and hospital expenses, and tens for prostitutes wishing to reform! And this when we have it in evidence that a complaint is made of the paucity of women! The reduction of prostitutes is no object of the Act. Their return to virtue, so far from being contemplated by it, is rendered almost a thing impossible. Whatever its aim, its action is to press any girl or woman that

has fallen into the continued service of vice, to convert suspected into public prostitutes, and degrade them all to the same low level. The entrance to that Inquisitorial Chamber, where young and comparatively innocent offenders are mixed up with older and hardened ones, and where, herded together like cattle for inspection, all are warranted sound for profligacy's use, might well have written over it, says one who boasts of being more than a sponsor for this Act, what Dante saw written over that of hell—"All hope abandon ye who enter here." Is there more needed to prove this Act a crime?

Now let us turn for a few minutes to the blunder, if, indeed, it has not been spoken of already, for, viewing it largely, all crime is a blunder, whether it be committed by law-makers or law-breakers. And why this particular Act should prove a blunder must surely be obvious to the merest common-sense. In the first place, it only applies to one sex. Do *men*, I wonder, never spread contagion? Are *women* put into quarantine alone? Is the vaccination of little *girls* only deemed adequate to save our country from small-pox? We are told this precious piece of legislation would have been made to reach the male sex if it *could*. But why could it not? Because "the 'dare not' waits upon the 'would.'" Because it was made *by men for men*, and could not be made *against* them. It is simply a question of *might against right*.

In the second place, why it should prove a blunder is this. It largely increases the operation of a cause whilst merely treating its effects. No wise physician does this, whether he belong to our profession or the State. The origin of syphilis is involved in much obscurity, but that its great feeder is prostitution I suppose there can be no reasonable doubt. "The gods are just, and of our pleasant vices make instruments to plague us." And I suppose there can be as little doubt that prostitution is the result of passions unrestrained. Anything that acts as a check to these does, therefore, *pro tanto* tend to lessen it. So the opponents of this Act are right in saying that in guaranteeing impunity to vice you stimulate a passion that

must be held in check if a cure is to be looked for of prostitution and of all the disease that follows in its train. Are we not, then, to treat the disease? By all means; but in a more logical way than the Contagious Diseases Act prescribes. For this must tend to increase the disease, not only by giving false security to passions that enlarge the area of prostitution, but it does so also in another way, and in such a way as proves, in the third place, another illustration of the blunder of this Act. For the very means of repression it makes use of in regard to the disease itself have, in the countries where they are employed, tended only to stamp the said disease *in* instead of stamping it *out*. There is no need for me to refute the statistics which the advocates of this Act bring forward in relation to the districts where they are in force. I know full well they are unreliable, but were it otherwise the fact remains that repressive measures in regard to the disease have always tended largely to increase it, by increasing clandestine prostitution—prostitution which is never reached by means of physical repression. The *Westminster Review* has clearly shown us this, and as clearly shown the why. So odious are these repressive measures to those who practise prostitution, that every conceivable stratagem is used to do so without detection; and so successfully, we are told, that even in police-ridden Paris itself not a seventh of its prostitutes are under control or registered as such. And amongst the clandestine prostitutes that escape the sanitary supervision of a despotic and irresponsible police disease is rife in its severest forms. Let me give only the following extract from the *Westminster Review*:

“The magnitude of the evils, both physical and moral, connected with prostitution in Paris, and in great measure referable to the system of surveillance practised there, are now causing it to be called in question even by Frenchmen. For while, as we have explained, the proportionate (and recently the actual) number of registered prostitutes in Paris is lessening, while the number of brothels is lessening, and while the number of girls living in them is lessening, the number of clandestine prostitutes whom even the Paris

police cannot touch, is steadily and enormously increasing. And simultaneously with the progress of this change, the recognition and establishment of prostitution as an indispensable element of civilisation have caused the social life of Paris to become more and more profoundly contaminated with sexual vice. The tides of immorality and dissoluteness have successively risen and spread themselves through increasingly wide areas of domestic life, and at length the thoughtful and experienced men in Paris are appalled by the vast development of disease and profligacy around them, and the eminent surgeon of the Hôpital du Midi, M. Lefort, has felt constrained to devise a remedy for the evil—a remedy peculiarly characteristic of the country of its prescriber. M. Lefort, who, like most Frenchmen, dreams of no remedy except that which may be applied by the forcible agency of government, suggests that the only means of combating the evil with a chance of success are the appointment of a body of police sufficiently large to control 50,000 women; the compulsory residence of all the prostitutes of Paris in brothels—all women leaving them without permission to be punished by imprisonment when recaptured; the appointment of a medical staff sufficiently large to examine all the women in these brothels twice a week; and finally, the condemnation of young girls (minors) after detection in the act of prostitution three times to enforced residence in brothels as regular prostitutes, their parents' reclamation of them notwithstanding. Such is the goal to which the system of governmental control of prostitution is tending in Paris. Such we may add is the goal to which it inevitably tends in all places, and the greater the city the stronger the tendency. The mere statement in England now of M. Lefort's proposal will, we apprehend, insure its condemnation, and we shall be somewhat surprised if it finds favour even in Paris; indeed, we incline to believe that the time is not very far distant when the official mind of that great centre of faith in the efficacy of bureaucracy will abandon the hope of lessening the venereal disease, and promoting morality by government agency, and with that hope will abandon altogether the

system of *police médicale* to which registered Paris prostitutes are now subject."

And with such an example as Paris now affords of the total failure of its most debasing system, even looking only to material results, are we now asked to repeat the experiment and give that debasing system a fair trial? If in Paris the disease is not to be stamped out even by its medical police, that can act quite despotically towards its defenceless women, is it likely to be so stamped out here in this till now free country of ours? No, it is to be stamped out by another kind of force, not of a physical but moral kind, which shall deal with fallen women in the spirit of Him who would not suffer the Pharisees to stone her, nor leave her to the tender mercies of men who, saturated with sensuality and selfishness themselves, are so very far from being without sin that they would sin not only *with* her but *against* her. We must cure her just as He would cure her—for her own poor sake and not for that of others. Her moral must go along with her medical treatment, and both must be of the voluntary kind. Physical compulsion will not do. "The quality of mercy is not *strained*," whatever the authors of this Act may think, and it is not to be shown to vice, but to its victims—victims whose vice needs no heavier punishment than that which it already bears and which so inequitably is meted out by man, that no wonder that He who had no tolerance for such vice should yet, in His mode of dealing with its victim, with "mercy season justice." But, unlike His, the mercy of this Act is not to victims but to victimisers. And so, instead of being twice blessed, "it is twice cursed." It "curses him that gives and him that takes," degrading both dispenser and receiver. A more than twofold curse will lie in its effects, whatever blessing may lie in its intention. It is only as the Spirit of Him we all may reverence, whatever may be our difference of creed, is brought to bear on this social question that we can ever hope to arrive at its satisfactory solution.

The foregoing may partly serve as an answer to the paper that Dr. Ker has given us on the subject of the Contagious

Diseases Act. But there are points that yet require notice in that paper.

And, first, with regard to its statistics. One would hardly like to say that they are cooked, or cooked, at all events, by himself, whose part, as far as the fare is concerned, is only that of serving up. But one knows what a powerful *batterie de cuisine* the concoctors of the Act have always at command, by the aid of which things highly flavoured and possessing really no substance in themselves are made to go a very great way. Howbeit some of its choice *rificamenti* turn out, indeed, no better than a hash. One will be given à la Sloggett by and bye, a specimen of culinary art that was made to regale the Committee on this Act, and the taste of which has been pronounced good by Mr. Berkeley Hill and the *Pall Mall Gazette*, as well as by Dr. Ker. Meanwhile let us look at some of the *rechauffés* which the latter finds fit to bring to table again, though they give a very decided indication of being kept too long. One hardly expected to have warmed up once more the dainty dish that Miss Garrett made her own, but which, no doubt, she will have nothing more to do with since Justina put a finger in the pie. Justina's letters in the *Pall Mall Gazette* will show how much the comparison made at the very commencement of Dr. Ker's paper (*vide* page 330 of the Journal) between the French and English army, is really in favour of the latter. It shows conclusively, not from vague assertion, not from what any anonymous writer or military and naval surgeons say, but from official and authoritative information, that whereas the average in the French army non-effective from venereal diseases in 1862 was as much as 11·11 per 1000 of those present—*i. e.* not on leave—that of the English was only 10·82 per 1000. And it shows by tables supplied by Mr. Acton, and for which he was indebted to the Earl of Clarendon, that of all the soldiers in Belgium during 1868 90 per 1000 were thus disordered instead of 80 per 1000. And it gives a very sufficient reason why a comparison made between the Belgian army and ours is slightly in favour of the former. That reason is its being comparatively stationary, the movement of troops being always accompanied

by a considerable increase of disease. Dr. Ker, like Miss Garrett, uses terms the meaning of which he as much mistakes as he does that of his own statistics. For example, "invalided" in Army medical reports means discharged as unfit for duty. The mistake he makes as to his statistics is accounted for in this wise: "In the British army if a soldier is unfit for duty by sickness of however trifling a description, he is taken into hospital for treatment," whereas "in the French army only the more severe cases are admitted into hospital." It is easy to see, then, that admissions into hospital can furnish no criterion of the relative disease in the French and English army. So that at the very outset of his paper Dr. Ker's statistics are altogether false; that is, false as to the impression they are intended to convey. Let those who really care for truth, and not for any mere party statement, read Justina's (Florence Nightingale's) letters on this subject.

Dr. Ker goes on to give us more statistics, and with these, which he calls "facts," it is well to have done before one deals with his opinions. At page 332 he gives a table from the *Lancet* which it is not worth while to copy here again, as the readers of this Journal can refer to it themselves. Now, if the *Lancet* be his authority for "facts," it were well that he had told us the *Lancet's* authority. It has not generally been of such a kind as homœopaths would readily accept. It is very easy to get up tables, but it is not so easy to know *how* they are got up. There is another table that Dr. Ker gives us at page 334. When he gives us the data on which it is based, refers us to the source of his information, and tells us the mode in which it is compiled, there will be something tangible to grapple with. Shadows may be made to look very much like substance, but one hardly cares to fight them. Out of poor Paddy's scanty wardrobe even, and though it were only stuffed with straw, might be fashioned forth something representing flesh and blood to him who had to pass such a bogie in the dark. Figures, whether of persons or statistics, may be dressed up so as to seem realities, because one cannot get at them. As those of Dr. Ker are not get-at-able at present, it may be

as well to give him some that are ; and none can be better than those of Dr. Balfour, the Deputy Inspector of Military Hospitals and the head of the statistical branch of the Medical Board. Subjoined is his table *in extenso*, as copied from the parliamentary report, which is something better than the vague assertion or partial statement of Mr. This or Dr. That.

Now, any one may easily see for himself what the boasted success of this Act has been : that instead of venereal disease being diminished, it has really increased since the introduction of the Act. It will be seen, too, that it had been greatly decreasing before the first measure in regard to it was passed, and that since then it has not decreased in the same ratio at places where the Act has been in force and been thought the most successful.* Both that and prostitution were on the decline till Government took them in

* Since this was written, a supporter of the Act has sent a letter to the *Cheltenham Examiner*, for May 18th, 1870, to show that these statistics are really in its favour. This letter was answered the following week by more than one of its opponents, one of whom signs herself "A Member of the Ladies National Association." She says, and says truly, that "whatever causes were diminishing disease in the army in the first five years, their action seems to have been arrested since the Acts came into operation to the extent of 7 per cent. annually. These figures, however, give very insufficient data for any sound conclusion. In a letter to the *Lancet*, February 23, 1870, the surgeon of a regiment stationed in a manufacturing town not protected by the Contagious Diseases Acts, states that a medical examination of every man in his regiment had just taken place, and that not one man was found labouring under this disease in either form. Had this regiment chanced to have been stationed at Aldershot, and an idle, dissolute, uncared-for regiment at the unprotected station, the healthy state of the one and the unhealthy state of the other would have been pointed to as undeniable proof of the benefits of the Acts." Even so. Accidental circumstances often vitiate conclusions which supporters of this Act are too apt to base on figures that they always seem to have made to hand, and which they manipulate very cleverly. The statistical argument, therefore, in this matter is not the one to be most insisted on. Were it as strongly in favour of the Act as the larger and longer experience of Paris, where repressive measures have been fully tried, would show it to be exactly the reverse, those who think that the "stamping out" of disease cannot pay for the "stamping out" of liberties and morals, would say we will not have it. Disease, or no disease, they would say, we will not have it at any price ; or, at all events, we will not have it at the price of making moral lepers physically clean.

Table showing the Admissions into Hospital per 1000 of Mean Strength for Venereal Diseases at the following Stations for the Nine Years, 1860—68.

STATIONS.	1860.	1861.	1862.	1863.	1864.	1865.	1866.	1867.	1868.	REMARKS.
Devonport and Plymouth.....	440	470	367	351	289	360	317	312	290	10th Oct., 1866.
Portsmouth.....	503	485	407	349	387	329	359	378	348	8th Oct., 1866.
Chatham and Sheerness	351	328	313	322	313	292	326	277	275	6th Nov., 1866.
Shorncliffe	327	325	233	248	249	233	219	215	297	24th July, 1868.
Woolwich	473	399	371	292	220	204	219	255	191	6th Nov., 1866.
Aldershot	339	361	349	303	321	302	233	261	237	
Isle of Wight.....	304	295	396	246	288	259	254	327	346	
Winchester	408	380	410	301	363	344	287	288	349	
Canterbury	290	397	441	485	310	239	379	375	407	
Dover	383	401	337	313	247	183	248	354	376	
London & Household Cavalry	97	135	127	143	139	147	143	129	133	12th April, 1867.
Windsor } Foot Guards	255	328	348	348	314	316	311	326	343	
Warley .....	...	335	290	412	294	813	328	328	830	
Colchester	430	415	464	396	371	355	451	500	537	
Pembroke Dock	228	261	217	187	224	184	100	153	159	
Manchester	289	487	455	330	314	382	312	501	312	
Preston .....	...	209	358	345	406	370	272	361	379	
Edinburgh	300	260	278	305	200	286	171	244	157	
Cork	346	354	288	294	253	249	160	196	209	
Ferroy	268	195	159	213	146	124	149	202	186	
Limerick	401	360	384	328	308	335	150	272	291	
Curragh	373	364	304	308	303	258	217	280	243	
Dublin	409	363	372	399	368	384	323	333	333	
Belfast .....	...	469	342	300	283	288	215	230	329	

hand. The statistics here given are official and authoritative. Is it necessary to deal with those that are not?

Yet after giving us his unauthenticated tables Dr. Ker tells us, having told us before that the Act had not been so long in operation as to justify conclusions either for or against it, "that in course of time if both men and women could be kept within the protected districts, venereal diseases might be stopped altogether." The wonderful proviso! Shakespeare had told us before Dr. Ker "there was much virtue in *if*." Its peace-making qualities may be very well allowed without disputing his conclusions. If the sky falls no doubt we shall catch larks; and no doubt we may catch sparrows, too, if we can but manage to put salt upon their tails. Unfortunately, however, we can only put the salt on after the sparrow or prostitute is caught. But neither the one nor the other likes the process, and either does as much as such bird or woman can to escape the protection of the fowler. Both seem to have an instinctive feeling that the tender mercies of that wicked one are cruel. So they fly from protected to unprotected haunts where bird- and women-catchers do not spread their nets, nor cages are found to shut them up in. The protection that Dr. Ker's "*if*" would bring about has had an unqualified trial abroad, and what have been its beneficent results? Increased prostitution—increased disease—and such a fearful state of morals that earnest-minded and thoughtful foreigners are doing their best to get rid of such a law as we, in spite of the warning they hold out, have introduced into this country. Does Dr. Ker imagine that English people or his own countrymen, whom he seems to have forgotten, are made of such stuff that they will submit to an army of policemen being kept up, such as M. Lefort asks for Paris alone, in order to try the virtue of his "*if*?" It seems never to be understood by our protectors that their "prostitutes reclaimed" or "sent home to their friends" may only exchange public for private prostitution; and that the price which is paid for protection of places, and persons in particular, may only be infection more generally diffused. Diminution of disease where the Act is in force is quite compatible with its general

increase and aggravation through the land. Judging from the history of all repressive measures, protection only means clandestine prostitution, and clandestine prostitution means an increase of disease.

Having noticed Dr. Ker's statistics as to what the Act has done in regard to the disease, it is time to turn to some of those which he adduces in proof "that its other object" (with which this Act has nothing to do, except indirectly, in another place he tells us) "will as certainly be gained" (*as* certainly he may very safely say) "the moral and social improvement of the prostitute." Let us pass by the way in which this is brought about. The arbitrary arrest and violation of her person—imprisonment, if such gentle influence fail—to say nothing of "the fumigation of her clothes," and the cleansing process "to make her clean for hire," as Mr. Simon rather tersely puts it. This fine moral teaching may be left unnoticed now, (though prostitutes, according to report, are really growing pious under it, and that without any damage to their trade,) because what is wanted just now are "facts." Facts, others beside Mr. Gradgrind want, if it were only possible to get them; and it ought to be possible to get them from men who "aim at the moral and social improvement of a numerous and degraded class." So it is well to turn from assertions or convictions as to facts one cannot investigate, and to come to those one can. At page 337, Dr. Ker thus writes. "At Devonport, since the commencement of the period at which the Act was put in force, 550 have been reclaimed and returned to decent life. There were 2000 prostitutes there at Devonport in 1864, and now there are only 770 according to Mr. Sloggett, who at the same time says, 'these numbers which I give are not at all vague.' He says, also, that this reduction of the number of prostitutes is owing partly to the moral influence brought to bear upon them while under treatment, partly because a great number of women get ashamed of constantly being known as prostitutes. Since October, 1866, when this Act first came into operation, I have made nearly 9000 examinations in 1775 individual women, that is, the same women being examined

over and over again. There now remains in this district only 770 of the remaining number, which will be in round numbers 1000, about 300 have certainly abandoned prostitution. . . . These women for two and a half years have left the streets, and are no longer on the streets. They are gaining honest livelihoods. In addition to that, 250 are married, and leading, in the belief of the police, 'virtuous lives.' That will make 550 who have really given up prostitution."

To this the following letter from the *Hants Independent* is perhaps the best reply.

Sir,—Mr. Berkeley Hill (secretary of the Association for extending the Contagious Diseases Act to the civil population) having noticed me in your columns by name, and also a letter I read at the recent meeting of the governors of the Royal South Hants Infirmary, perhaps you will allow me to say a word or two as well on the matter.

I should not have discussed this repugnant subject had it not been forced upon my notice by my being called upon as one of the Governors of the Infirmary to decide whether or not a Lock Hospital under the Act should be attached to the Infirmary.

My attention was then called to the whole question of extending the Act to the civil population. Mr. Hill's statistics soon met my eye. I found that he had asserted that "in Devonport and Plymouth, where the Acts have been efficiently administered, of 1775 women brought under the Act, 550 are pursuing a reputable course of life, while no influx of fresh women have supplied their place." Thinking there must be a mistake somewhere, I considered who would be the best authority, and at once wrote to the superintendent of police in the locality, with Mr. Hill's statement, asking for information. He replied in the letter which follows; for the accuracy of the copy you, sir, can vouch, as the original has already been in your hands:—

"Chief Superintendent's Office, Guildhall,

"Plymouth, 22nd February, 1870.

"Sir,—I beg to acknowledge the receipt of your letter of the 19th instant, and in reply thereto to inform you that there never were 1755 prostitutes in these towns. I find from the Government returns for this borough that in 1861 there were 680, and in 1868, 452. My opinion is there are not less at the present time. I have no doubt many have left owing to the surveillance of the police, but very few have altered their mode of life. I may add there are always strangers arriving to fill the places of those who leave.

"I am, Sir, your obedient servant,

"FRED. WREFORD, Chief Superintendent."

Now, it will be seen that my correspondent is the *chief* superintendent, and that he speaks of *these towns*. He also contradicts the reclamation of the women, so much vaunted by our opponents, as well as that of the non-arrival of others to supply the place of those who leave for other towns. I think that an officer of this gentleman's position is very completely cognisant of the subject-matter, and a witness worthy of all credit when he gives an authoritative denial. The police of all towns necessarily have knowledge of the numbers and habits of the class to which I refer. I remember that in the annual police reports of this town the number was usually returned. I can fairly claim, too, on the part of the testimony I adduce that it is both competent and disinterested—not from an *employè* under the Contagious Diseases Act, as that which Mr. Hill puts forward. Besides, I have a confirmation of the Chief Superintendent's evidence, that of Mr. Paul Swain, surgeon to the Royal Albert Hospital, Devonport. He states: "As far as Devonport is concerned, I know on the best authority that the number of women has slightly increased during the last two years. It is thought that the gentleman who made this statement (about the reduction to 770) has been wrong at both ends—in *overstating* the number of prostitutes in 1864, and in *understating* the number at present practising their vocation." I also state from Mr. Bell Taylor's able report:—"That Devonport should be selected as a sample of the success of the Act is at least singular, considering that the Admiralty, backed by Mr. Woolcombe, have expressed dissatisfaction with the results obtained at that station." In fact Dr. Taylor says that, so far as he learns, disease has been on the increase at these stations, hence the following statement in a leader of the *Lancet* of the 28th of October: "We have it upon high and independent authority that cases of disease at Devonport are upon the increase. The committee of the Rescue Society in London, in one of the best pamphlets on this topic, say that 'since the exposure made by this society as to the *secrecy* with which the original Act was passed, it has been observed that the Government have made a slight distinction between the Act relating to women and that relating to animals.' Originally both were alike 'Contagious Diseases Acts.' Now that the public are becoming aware of the fact that, under this heading, the Government were on the one hand legislating for diseased animals, and on the other for women, the word 'animal' has been added in a parenthesis to the former. This fact is suggestive as to the future. What reliance can be placed on *statistics* got up by persons capable of resorting to such subterfuges as this? The public must be warned not to accept them. If they want facts they must employ disinterested and impartial men to collect them."

I do not suppose, however, that such stealthy legislation would be deliberately attempted by men of repute, nor would it long be borne by the English people. Yet had the Southampton

population any notice that the Act was about to apply here? Was any hint given to our members or the town authorities that such was to be the case? If the town had received a timely warning I feel confident that we should not now be shrinking at the dread that we are about to have thrust on us an institution hideous in its operation, and averse both to expediency and morality.

I remain, yours faithfully,
EDWARD K. STACE.

Besides this letter we have what Mr. Lynn, the Superintendent of the Devonport police force, has to tell us. "He does not know of one case of reclamation through the operation of the Act."

So much for what Mr. Sloggett puts in evidence before a Committee of the House of Commons. But this is not all. "The times have been that, when the brains were out, the man would die, and there an end; but now they rise again, with twenty mortal murders" of statistics, the ghosts of which it seems impossible to lay. The brains are out of Mr. Sloggett's statement, and yet the thing will *not* die. Those mighty conjurors, Mr. M.D., the *Pall Mall Gazette*, and Dr. Ker, have actually managed to make it rise again. Is it surprising that the opponents of the Act should somewhat distrust the statistical spells its supporters seem so dexterous in weaving? To speak seriously—all is in good keeping. The means made use of to justify the Act are only too well worthy of the Act itself.

Statements have recently been put forth by Mr. Hill in justification of those of Mr. Sloggett, but not of a very satisfactory kind. He quotes the returns of the Metropolitan police which give 2020 prostitutes for the three towns of Plymouth, Stonehouse, and Devonport, in the year 1864, but tells us that Superintendent Wreford acknowledges they were loosely made, and it may be added, are much more likely to be blunders than the returns made by the Borough police, who are acquainted with every part of the towns, and all the inmates of their brothels and frequenters of their streets. These returns, according to Mr. Hill, and the source of even these is not given, only made them 1352, a very different number from 2020.

Perhaps these last include, "for the purposes of the Act," a large number of milliners and shop girls, as those of Portsmouth confessedly did. However this may be, the most reliable statistics give only 939 to the three towns for the year 1864. These may be seen in a volume annually presented to Parliament called *Judicial Statistics*. Against the other statement of Mr. Sloggett as to the number of prostitutes reclaimed, there is to be placed that of Mr. Wreford saying that very few of the women had altered their mode of life, and also that of Mr. Lynn disclaiming all belief in the reclaiming virtue of the Act! And what means has Mr. Sloggett of knowing that 300 women had abandoned prostitution? And if true, what connection has this with the Act? Before its introduction, it was known that about four years was the average time that such women spent in prostitution; and that after this period, they came back to their places in society. Is it likely to be so now when they are permanently branded as a class, and brutalized in the process? A diminution in the number of prostitutes to the amount of one sixth had gone on from the year 1861 to 1866. To this the advent of the Act has proved a check!

But then, alas! its medical staff are not all like Mr. Sloggett. Dr. Barr, in his evidence before the Committee, in answer to question 645, regrets that "so comparatively few prostitutes have shown any trustworthy disposition to be reclaimed." What, however, might not be made of them, if only Dr. Barr and others like him had the reforming energy of their exemplary confrère!

Still let it not be supposed that Mr. Sloggett's is the only voucher for the reclaiming operation of this Act. Two Reverend gentlemen we are told of bear witness to its good results in this way. But if these are left altogether undisputed, are they to be compared for a single moment with those that voluntary efforts have produced? Any good that Chaplains do under this Act must entirely depend on *themselves* and not on *it* which is quite opposed to them in spirit, if theirs be really to reclaim. In fact, it would seem as if Chaplains had been thought of solely to give it a character which it could not otherwise get.

Again—"the hospital authorities" (we are told, but are not told what hospital authorities, or, perhaps, we might find them of the Sloggett kind) "have made great efforts to reclaim the girls, and returned to their friends 38 per cent.," and this, although one of them complains of the paucity of women! And then, as if to clench the above, we have French statistics brought to bear upon the subject, and we are told that, in the years 1860 to 1864, out of 1934 women arrested in the streets of Paris for practising clandestine prostitution, 1125—mostly young girls who had recently been led astray—were restored to their friends (it is not said to virtue) though the aim of the police in such a case is, as well as that of M. Lefort, not to restore them, but to shut them up in brothels, "their parents' reclamations notwithstanding."

"Such facts, the Association believes, warrant the conclusion that the Act is favorable to one of their objects, the reformation of the prostitute, and it believes also that such results cannot be shown by any of the numerous combined efforts which from time to time have been made by benevolent and philanthropic individuals and societies to bring moral and religious influence to bear upon her." Perhaps the best answer to be given to this will be the following extract, from a letter, written by a lady Dr. Ker well knows. After speaking of Mr. Bailey, the Chaplain of St. Bartholomew's Hospital, Chatham, as a man whom she respects, she says,—

"Mr. Bailey requested to be allowed to come to our meeting at Chatham. We gladly welcomed him. [He is a gentleman who gave evidence, you will remember, before the Committee of the House of Lords.] After the meeting he came on to the platform, and we had some conversation. After admitting certain doubts about the tendencies of the Acts, he said to me, 'I should be more ready to relinquish these regulations if I could see any possible *voluntary* means by which the fallen women could be brought under the influence of the clergy and Christian people who would seek their reclamation.' I stood silent in astonishment for a few minutes at this utterance. It seemed so strange that any one could be so uninformed as the expression of such an opinion implies him to be; that he should never have heard of the work done by voluntary agencies, and the success of that work, since the days of Bishop Armstrong and Robert Suckling,

until now. I was also struck with the idea that the clergy were to be the chief persons on whom the reformatory results we desire in this direction must depend. The clergy may supplement this exceptionally delicate work, and some few among them seem specially called by character and circumstances to take it up; but it is by no means their office primarily. They come to these outcasts *officially*, and in the first stages of this difficult and delicate work. That alone is a hindrance to the acceptance of the teaching proffered by them. Mr. Bailey's remarks seemed to me the more wonderful, because, on the same platform where we stood, were Mr. Stabb, of the Midnight Mission, the number of whose lost sheep (gathered in by that agency alone) would put to shame the meagre flock driven into Refuges by the Government compulsion, and Mr. Daniel Cooper, Secretary to the Rescue Society, who has received and sent forth to service, &c., since its establishment, over 6000 women, whose lives and histories are carefully noted and followed, often up to their death. I thought also of Clewer, of Ditchingham, and of all the other noble agencies which are 'voluntary,' and which send out their hundreds of carefully trained and instructed inmates, who once were reckoned amongst the *lost*: and yet there was this young chaplain standing a couple of yards from these men, and announcing the opinion, which is perpetually reiterated by the doctors and police before the Admiralty, the War Office, and the public, that no Christian voluntary efforts have ever been able to achieve what the medical police system has achieved, and that good people have been culpably supine until these doctors and officials, fired with charity, and burning for the salvation of souls, came forward on behalf of the fallen. It is truly a great event in our national history that the War Office and Admiralty should have charged themselves with the holy work of preaching repentance to fallen women.

"In the course of conversation between Mr. Bailey and Mr. Cooper, the following was elicited:—The erection of the Lock Hospital at Chatham cost £6000. Last year the Rescue Society received within its doors, to maintain and instruct, 500 young women who wished to be saved from an evil life. The Society was obliged, in that one year, to reject from its doors 567 other young women, for *want of funds*. Mr. Cooper said that the half of that sum, £6000, which was used to build a single Lock Hospital, at a single station under the Act, would have enabled the Rescue Society to receive those 567 who were rejected. Now, I do not know whether, with its £50,000 spent here, its £20,000 there, on hospitals, the Government claims to have restored to virtue 567 women in a year at all the places, included, which are under the Acts. But even if it claims far more than this, if we compare the results attainable, and actually attained, on both hands, with the expenditure in each case, we stand amazed at the ignorance or impudence of those who assert that nothing is done,

or can be done, by voluntary agencies, comparable with what the Government is doing by compulsion, in the work of saving the lost. How small a fraction of the money lavished by Government on this system would have housed and rescued those rejected 567 women; while the officials are boasting of the reclamations—small, indeed, compared with those achieved by voluntary workers—and (as Mr. Sloggett has lately done in writing to Mr. Cardwell) sneering at the paltry efforts or the inactivity of Christian workers. Mr. Bailey honestly admitted, moreover, that *he* and the Government agency were only the hand, as it were, that passed on these women to the house or the refuge, which *bore the expense* of the whole future training, and brought them daily under wholesome and happy influences. How many of the Government chaplains, doctors, or policemen, have honestly attempted the *real work* of reclamation, the educating of the mind, the industrial training of the hands, the long and patient discipline, &c., which are the only sure foundations of a real satisfactory restoration to purity and useful service in the world."

Were the moral results of the Act, then, proved to be all which they are claimed to be, they would yet be as nothing compared with those which voluntary agency effects. And the prostitutes it professes to reform it does not support, but hands on to Institutions that have to send hundreds yearly from their doors for lack of those funds that are lavishly spent on a system of legalised wrong.

So much for the "facts"—so much for the statistics—that should furnish an argument for the extension of this Act. But the proposals to secure the advantages it offers have been met by strong opposition, we are told. Is it possible? Can it really be? Yet "it is not enough to say, as some have said, that the arguments of women and laymen on a medical question ought to have no weight with Parliament." What a wonderful concession! Only think of that! And when the women using them are as insignificant as a Harriett Martineau or a Florence Nightingale, and the laymen only such poor weak thinkers as a Stuart Mill or a Herbert Spencer, or those, in fact, who are the representatives of nearly every class of mind, and the medical question only one involving the rights of our female population, and such small things as justice and morality!

But the arguments used are not only vague, but the

language too strong in which they are couched by the opponents of the Act in general, and by one—the writer of this paper—in particular, since an expression of his, once used, is quoted twice. The objection to that has been already answered; but now one word for those who, perchance, may think, and feel, and speak like him. Does Dr. Ker suppose we shall pick our phrases nicely when we are compelled to talk of matters that are simply violations of all right? There are some things only to be denounced, and the Contagious Diseases Act is one of them. It is not to be argued against, but “stamped out,” whether syphilis ever be so or not. If we saw a man committing a rape on a woman, however degraded she might be, should we stay, I wonder, to chop logic with him? or, if we had an oak cudgel in our hand, at once make use of the *argumentum baculinum*? And does rape become less deserving of such treatment because it is consecrated by the State, and receives the Hosannas of venereal worshippers? It is not seen that the prophets of old coolly reasoned over the crimes they saw committed. They denounced them in the fiercest language they could use, and a greater than the prophets brands with hot burning words the flagrant wrong and wrong-doers of His day. Heartlessness may pass with shallow folks for mind, and plausibility for logic. But the unsophisticated conscience of this country is being roused to the consideration of a question which it will settle far more satisfactorily than would Dr. Ker, with all his seeming candour. “The rude reason of the multitude may be perplexed,” says a great writer, “but the sentiments of the heart are not easily perverted.”

It is not necessary to justify expressions that Dr. Ker may take exception to. But there is one that an opponent of the Act would here record, not made in haste, but coolly and deliberately; and that is, that the Act is more heinously immoral than prostitution is. Prostitution is simply prostitution. The Act supererogates in wickedness. It is prostitution sanctified by law, with tyranny, injustice, and cruelty combined. Let those who have thrust this Act upon us appropriate what portion of the guilt they may.

It is really amusing to note the facile way in which Dr. Ker talks upon this subject, though sometimes as if his mind were ill at ease. Large questions dwindle down to small as soon as he has to treat them. For instance, what he calls the police-argument grows very little as seen by him. But this may be from mere defect of vision. The question is not whether the policeman be better or worse than other men, but whether his part be not to make him worse, and society also worse along with him. He may be as respectable in his way as Dr. Ker, and this is saying a great deal for him; but even then he is not to be trusted, nor yet the magistrate whose warrant he may serve, with the power which this Act gives him. It cannot but give rise to all kinds of abuse. And then consider the school of education! He must be in alliance with bawds and brothel-keepers,—vermin he used to be supposed to hunt as a terrier dog will, rats. That one of them “should marry a bawd” is not to us, therefore, a matter of surprise, though it is of facetiousness to Dr. Ker, who knows of no just or lawful impediment, and would not forbid the banns!

“It is too much to expect infallibility from him”—and so we entrust him with a power which makes him not only a prosecutor, but jury, judge, and jailor as well! And if his “good reason to believe” should make mistakes, the law shields him and not his victim. The feeble sophistries brought to bear upon this question, which Dr. Ker still condescends to bring after being so often and fully exposed, almost pass the bounds of patience.

Here is a fine specimen of logic! “The advocates of the Act’s extension are accused of inhumanity and cruelty, of converting women into slaves, &c. Why, among their other objections is one that the Act will prove the patron and protector of the prostitute; so it is protector and slave-driver at the same time of the same class.” How very crushing! We say the Act patronises prostitution; we do not say it protects the prostitute but the prostitute-monger whom it shields at her expense. Or, if we do so, it is with this proviso, that it protects her as the slave-driver does his slave,—for other’s uses and not her own!

“The recognition of the prostitute,” we are told, “is not the same thing as sanction and encouragement.” It is directly both the one and the other, for she is recognised solely on account of her disease. It is this, and this only, not prostitution, which the Act has ever been intended to “stamp out.” All the kind of stamping the other undergoes is in the form of a patent from the State. It has the Government *imprimatur*—is with due certificate nicely labelled—and goes forth warranted, fit for use. If the reformation of the prostitute were aimed at, “the moral influences brought to bear upon her” would be something very different from instrumental rape which her lingering womanhood revolts at, as the mistresses of reformatories know, though Dr. Ker may not. And those who cannot understand the difference between a voluntary and forced examination, whether of modest or fallen women, there is very little use in arguing with. One might as well argue a case of colour blindness.

The same thing may be said with regard to the view of the utterly debasing effects which a forced examination may be supposed to have on the woman so examined. “So dangerous, however, is she,” we are told, “to the community on account of her disease, that she must be prevented by every legitimate means from spreading it.” But to what part of the community is she dangerous? To the evil-doers who have no fear of the policeman, notwithstanding that he does his best, however bad legislators may do theirs, “to make the law he represents a terror to evil-doers *only*.” The cool effrontery of venereal special pleaders would really be quite as amusing as a farce were not the “legitimate means” they would make use of such very tragical breaches of morality. Instead of being a terror to evil-doers *only*, the law is to be a bill of indemnity to some, and direct encouragement to vice. And this is seriously said!

“But the Act is not perfect; it has one flaw in it; it does not lay hold of men. This is its weak point.” But then it is strengthened by the hope that “the day is not far off when, if the men are not compulsorily examined and confined, they will at least be heavily fined and punished

when it can be proved against them that they have communicated syphilis to a woman." And this is the erotic good time that is coming! But has not "hope told a flattering tale?" For, whatever faith one may have in Dr. Ker, the day he looks for is far enough off if this Act is to hasten its coming. One made by might in scorn of right would hardly seem the bringer-in of that venereal *millennium* which he speaks of!* Legislators must show themselves more than "English gentlemen," and deserving other epithets than those applied to them, not merely by the opponents of the Act, but by Dr. Ker, before they legislate in the direction that he hopes for. No doubt the Committee on the Act were all "honorable men"—at least, by courtesy they were—but "by their fruits ye shall know them."

Dr. Ker is exceedingly shocked at what has been said about the said Committee and the way in which their precious Act was carried, and he asks, "Does any one seriously believe this? are Parliamentary Committees to be managed on such terms?" Very "good reason to believe" so, if one may borrow the language of the Act, or dare to put oneself on a level with policemen, has been already given in answer to the question. The Select Committee was very select, not only as regards themselves, but also the evidence as well. And the same selection has been manifest also on the part of the promoters and abettors of the Act as to what the country shall hear of it or not. It was owing to this law of "natural selection" that one of the most select "members of the House" selected the 24th of May, to let us know what were *his* sense and decency, and prevent our knowing what those of others were, on a ques-

‡ It is rather curious that ere this sentence was finished the writer was summoned to see a young and lovely woman who is suffering from the effects of disease which, when she was only sixteen years of age, her husband gave her on her wedding night. Instead of his having to pay for this, she has bought herself free from the power the law gives him in respect of contagious diseases acts; so that now he roams at large, or prowls about like any other wild beast of prey, though he and his ravages are as well known as any poor prostitute is to the police. He, and plenty like him, compose a class that is just as distinguishable as that of fallen women, and, moreover, just as easily to be laid hold of, if the legislative arm to lay hold were not a MASCULINE one.

tion the discussion of which he fain would burke. But, of course, he would "never approve of what might deserve such epithets" as he may come in for, instead of the Ayr Burghs, when they have to choose a representative again.

But "it is no argument against a law that it does not do all that was expected of it." One would think, however, it was a tolerable one that of what was expected it really does nothing, and of what, it is to be hoped, was not expected, it really does a great deal. If this be not sufficient argument against it, at least, we have no lack of special pleading in its favour. But now we are getting on higher ground, so that, perhaps, we shall be able to see things by-and-bye from another than a merely syphilitic point of view. "It is said that we have no right to preserve a man from the consequences of fornication, and that if we do so, the sin will increase." Fornication is here called a sin, so we know what we have to deal with. Let us put another sin for that of fornication, and then see how the above and the following sentences will read. The fallacy of such reasoning will best be seen in this way. "It is said that we have no right to preserve a man from the consequences of fornication (thieving), and that if we do so the sin will increase. This objection is met by an argument which is not believed by all, but very decidedly by some—that men are not deterred from the gratification of their lust (thieving) by the dread of infection (detection), and that consequently fornication (thieving) will not necessarily increase by the removal of the dread. But it must not be forgotten that it is not fornication (thieving) that is visited so severely on the offender, it is contact with a diseased woman (a policeman and afterwards a gaol)"—and so on, for there is no need to go further. Doubtless, the reform of the fornicator and the thief will do more than the fear of disease or of a prison to put a stop to fornication and to theft, but till this is effected their consequent risks must surely act as some check to their increase. But to make a law to preserve a man from the consequences of his own action, whether fornication or anything else, is altogether wrong in principle, and we have a great deal too

much legislation of the kind. The consequences of our own acts are the very best teachers we can possibly have. The education which these can give is better far than any that human, not to say *inhuman*, legislation could devise as a substitute for them.

To pass from false reasoning to a moral aspect of the question. The *Westminster Review* is quoted, which says "that recognition and regulation (of prostitution) are the fruit of convictions which are wholly alien to Christian ideas concerning sexual morality, and which, becoming dominant, exclude those ideas from all share in influencing, restraining, or lessening those sexual aberrations by which venereal diseases are increased and diffused." "It would be difficult to prove this," says Dr. Ker, though it seems to be very clear. Let us see. Christianity says, fornication must not be,—the legislature says, it must. So far it is alien to Christianity. Again—"make no provision for the flesh, to fulfil the lust thereof." This is one of the precepts it enjoins. It is, therefore, alien to Christianity to do so. Imagine Christ *regulating* prostitution when it is that which He forbids to be. Regulation must be the fruit of a conviction that is so far alien to Christian ideas as to regard it as a necessary evil. Ideas of its necessity and Christian ideas are evidently here in opposition to each other. However, "as assertion meets assertion," facts must be the basis of opinion on this as on most other questions, "so let us come to facts." "There is no licensing in this regulation. In the first Act the certificate system was a part of the regulations, but it was done away with in consequence of giving ground for the charge of licensing." All such specious homage to virtue paid by vice has been already sufficiently exposed, but now to deal with facts, hard facts, "as the basis of correct opinion." Mrs. Butler tells us she has plenty of certificates that were given her by the prostitutes themselves, and lest this should not be thought enough, it is well to add the following letter to show how far the charge of licensing is proved. *To the Editor of the Shield.*

DEAR SIR,—On our way from the Woolwich meeting, on Friday, the 6th, we met on Blackheath two "unfortunate" women,

who accosted us in the usual way. They almost immediately spoke of their certificates as indicating that they were free from disease. We declined to believe in the existence of any such papers, but under the light of a gas lamp they eagerly exposed to our view the papers in question. We demurred to the papers they submitted to us being certificates at all. They seemed taken aback as if unaccustomed to the objection, and for a moment scarcely knew what to say; but at length replied, "if we were not well we should be in the hospital, and our having these papers shows that we are well." We asked what use the papers were to them. They said gentlemen asked for them whenever they sought their company. We asked them to give them to us, but they objected, on the ground that they should need them. We found almost at once, and before informing them of our views, that, notwithstanding the advantage of the Government papers answering to a certificate, they were disgusted with the ordeal of the examination, with the doctor, with the detectives, who, they said, came and sometimes waited for them to rise from their beds and dress, to take them to the examining house, and with the policeman's wife, who was witness to the indecent examination. They regarded it as a gross violation of their liberty, and called it a disgusting thing to have to expose their persons. They said that when ill they could get cured by their own doctors, and did not need to go in broad day, in a lot of fifty at a time, and sit in the examining house, with a policeman laughing at them. They especially revolted at being subjected to medical inspection at certain seasons. On learning who we were, and that we wished to get the Act repealed, they thanked us warmly and repeatedly. We asked them then to give to us their papers. One gave up hers, and the other gave to us a former examination paper, that she appeared to have kept by her in case of losing the one in present use, and begged us not to press her to give up the one last received—indeed we offered her money for it, and then she said she must not give it, for a married gentleman would want to see it, as he was a regular customer, and paid her rent every Saturday night. They revealed to us the startling fact that the papers were now a protection to them, that the regular police took care of them. The doctors and spies told them the papers would protect them from insult and outrage. They used to be brutally treated, but now great consideration was shown to them because they were under Government. They were given to understand that with those papers, if any one insulted them, he could be imprisoned for three months, and that all they had to do was to show their papers that they were Government women.

In confirmation of the above we can produce the papers in question, giving the names of the women.

Rescue Society.

Yours truly,
DANIEL COOPER.

So much for licensing. Lies, according to Jonathan Wild, are things too good to be thrown away. Dr. Ker is quite incapable of saying what he believes not to be true. But trusting allies (without a pun!) may sometimes bring a truthful man to grief. And, after the facts which are vouched for above, to repeat, as he does, again and again, that prostitution is not licensed, or to say that its licentiates make no use of the certificates, he will see would be simply to throw good things away.

His distress, which shows itself more than once at the Contagious Diseases Act being looked upon as "smuggled" or stigmatized as "infamously vile," may perhaps be considered a hopeful sign of his following the good example of some others, and seceding from a party which ought not to be his. If he wishes to come back to his home—the home he left a little while ago amongst the lovers of liberty and right—let him be sure that "no questions will be asked, and that all may be yet forgiven." Perhaps, he may yet say as much for Mr. Simon, and also for the *Westminster Review*, as now he would say against them if he could. Perhaps, he yet may be led to acknowledge that the last has shown with the force of Q.E.D. that State interference with prostitution must ever prove a thing of such "imperfect working" as largely to increase the evil that it deals with. And, leaving their iniquity all alone, perhaps, he may yet learn to feel indignant at the trial of measures in this country which have been fully tried in others and have failed.

Meanwhile, it is time to get away from mere details and much that has been already answered in this paper, and to come to Dr. Ker's last concluding sentences, in noticing which one may make a clean escape from a paltry and pettifogging treatment of the subject, and point to the *principle* embodied in the Act as the reason why the country will not have it. It is rightly supposed that the chief objectors to it, "even could the argument of want of success be satisfactorily shown to be erroneous, would still oppose it by every means in their power." But as the reasons why are not truly given, it may be as well to give them here. They oppose it—

1stly. Because it is unconstitutional; because they will not have the civil rights of women, even of the most degraded class, to say nothing of those that are modest and pure, dependent on the mere suspicion of policemen; because they will not have them amenable to spies, but to law and equity instead; because they will not barter the liberties of England for anything that France has to give them in exchange; because they will not have the Habeas Corpus Act suspended at the bidding of venereal specialists, nor any portion of our civil population under the control of the Admiralty or Horse Guards. This is their constitutional argument against it.

2ndly. They oppose it because it is immoral; because it does not merely license prostitution, but all kinds of immorality besides; because in our system of public education they will not have Government giving lessons in injustice and cruelty, as well as fornication. They oppose it because, to use the words of one objector (and Garth Wilkinson's words, though somewhat stronger, may, perhaps, be less offensive than his friend's), "the awakened womanhood of the land will not have it. Their reasons are made of fire in such a case, and could burn up a Household Parliament which is made of parchment, presently. They will not have troopers fed by Government on the carcasses of their sex—on carcasses stamped with the Government *permit*; they know all over that state prohibition and non-prohibition are the two halves of all licensing. . . . They will hate a government which crowns the infamy of prostitution with the last ignominy and wrong of public state-ravin and state-rape. . . . They will quell and choke the medical assertion that their baby-boys are born whore-mongers, and that some poorer mother's baby-girls are their pre-destined skittles in the game of ruin." And because, still to quote his burning words, "we are going to help our mothers and wives and all our sisters out of the state chains of unrighteous laws and customs. Out of sex legislation and sex oppression. Out of one morality for women, and another for men. Out of the household political Mahometanism that women to the state have no separate souls. Out of the claws of chartered surgery. Out of homes that are prisons, and

out of brothels that are graves." This is the objector's moral argument against it. And—

3rdly. They oppose it because they have the proof, which the largest evidence, that of Paris, gives, of its being altogether worthless in a sanitary as well as moral point of view; because they will not pay for getting rid of disease, and have nothing but increased disease to show for the every way costly government prescription; because the state nostrum is an arrant piece of quackery which only profits its patentees and makes the evil worse it pretends to cure. This is their argument from expediency against it; and any one of these three arguments ought to be quite enough in itself to secure its unconditional repeal. And does Dr. Ker think any tinkering with details will satisfy the opponents of the Act?

Yet, after being asked two questions—What are we to do with prostitution? and, what are we to do with syphilis?—to which at least the answer may be given, Not to do as this Act does, which instead of leaving them *in statu quo*, would leave them *in statu pejore*—we are told that women have to do with the former question alone. It is not so. They have to do with much more. They have to see that the latter question is not made to over-ride the larger one of civil right, and justice, and morality; they have to judge of the results of treatment whether by individuals or the state. Plenty of folks unable to prescribe can very well estimate the value of prescriptions. And State medicine is not to be allowed to pass judgment on itself. The truth is, we are getting sadly over-legislated, a great deal too much is being done for us, and too little left for being done by us. It has not yet been shown that this country is the worse off for being left much to individual agency instead of to that of the state." We are by no means in want of French bureaucracy or French functionaryism, and still less of French medical police. It were better to take French leave (if it really be French) to be let alone. Now that protection is done away with, we want no protection of physic by the state. We are not going to be made babies of by any Esculapian doctrinaires on account of their sanitary views.

Are we to have an Establishment of Medicine (now that the Church is growing disestablished) in connection with the State? And have the readers of this Journal any cause to be in love with the medical orthodoxy which such an establishment is likely to set up?

And now to bring this paper to a close. If the language in which it is couched be strong, it is more than justified by the occasion. And if it seem to show scant courtesy to some of the members of the medical profession, it is only because that profession is not honoured by disregard to higher interests than its own. "I could not love thee half so well—loved I not honour more," says, and says truly, Lovelace to his mistress. Dr. Ker, who has put himself forward as one of the godfathers of this Act, if it be not taking God's name in vain to say so, will hardly expect regard for him to stand in the way of that higher regard which the interests spoken of demand. And having "vowed and promised" in its name the wonderful things it is to do, "to renounce the devil and all his works, and all the sinful lusts of the flesh," things which it eminently does *not* do, the consequences he must share, for he is responsible in part for those moral *laches* it is chargeable withal. It is much to be feared that his sanitary views may have committed him to a course of action from which he has found it too hard to recede, and which, if he can reconcile, some friends of his cannot, with that love of liberty and right which they have always given him credit for till now. It would have been far more consistent with this, if, finding himself in a false position, he had acted the part of Mr. Holmes Coote, who says:—"The few earnest men who some years ago assembled together to originate the movement which terminated in the passing of the Contagious Diseases Act of 1866, had little idea of the use that would be made of their labour and advice. As one of those who took an active part in all that then transpired, I loudly maintain that the idea of the compulsory examination of women, their enforced subjection to the police, their exposure to the penalties of registration and imprisonment, were views which would have been scouted by the few quiet

gentlemen who met to devise means of giving shelter and protection to many unfortunate females, whose outcast and neglected state was bringing a scandal on the nation."

Of course every man should be the proper judge of what were the right thing for him to do. But if Dr. Ker were so far committed with his party that he could not secede from it like Mr. Coote, he might yet have made it a point of honour to bear his share of obloquy in silence, rather than try to bolster up an Act which will not be suffered very long to disgrace the *Statute Book* of England. For, let him be assured that whatever he may say, and whatever the party he is acting with may do, if venereal disease be not "stamped out," the Contagious Diseases Act will be.

FORCE, PROTOPLASM, AND STIMULUS.

By DR. DRYSDALE.

(Continued from p. 321.)

CHAP. II.—NATURE AND DEFINITION OF FORCE.

§ 39. IN the foregoing chapter the history of the discovery of the mechanical equivalent of heat was traced. The effect of this discovery upon the progress of science may be described as incalculable. At once the dynamic theory of heat was established, and that of all the other so-called imponderables was almost taken for granted. The whole universe appeared now to arrange itself into two great categories, viz. of matter and its motions—matter with its properties the object of chemistry, and force or motions that of physics, which last is brought under the laws of mechanics. This apparent simplicity, however, is not yet attained, for we find ourselves immediately confronted with a new claimant for our notice in the person of "energy." What is this energy? Are we to be again plagued with the "essences" of the ancients, which were supposed to give the qualities and forces of matter by com-

ination with it; or is it merely a new name for force invented to obviate a real difficulty which we now encounter? That force in action is capable of being explained by the movement of either masses or molecules of matter we can readily enough understand, but there is another equally important condition in which it may exist, when it is said to be stored up; and the body is then said to possess potential force or energy. How is this to be explained? how can we conceive motion that is not motion—or, motion in a state of rest? To arrive at a clear understanding of this subject, it will be necessary to go at length into the general question of the nature and definition of force.

§ 40. In the *Imperial Dictionary* we find the following definition of the word "Force:"

I. Strength, active power; vigour; power; might; energy that may be exerted.

II. Momentum; the quantity of power produced by motion or the action of one body on another; as the *force* of a cannon ball.

III. Strength, energy, as *the force* of the mind, will, or understanding, the *force* of an argument.

Even in scientific works, where greater precision is required, there still prevails a great want of uniformity in the use of the word, which is the source of much confusion. Thus the term force is used in three different senses:—1st, as the cause of motion; 2nd, as actual motion; 3rd, as the result of motion. For example, the chemical actions which start a cannon ball, the motion of the ball, and finally the power or strength of the blow, have all been called force. To escape the confusion, some authors think it sufficient to say that here the powder has force, and the shot has energy. The force of the powder before ignition is here also called potential, *i. e.* capable of being called into activity. But, unfortunately, the same author immediately uses the same word potential in conjunction with "energy;" so that we at once lose the greater precision which we seemed to have gained. As the subject is intricate, it may be best to enter somewhat minutely into an examination of the definitions given by the leading

authorities, stated as far as possible in their own words. The ordinary definition of force in dynamics is, "Force is any cause that changes or tends to change a body's state of rest or motion." (Goodwin's *Mathematics*, p. 203.)

The definition, as quoted by Mayer, p. 259, is, "Force is whatever produces or tends to produce, changes, or tends to change, motion."

This, as Mayer remarks, is redundant, and may be reduced to the simple definition "that which produces motion." How far this is sufficient is now the question.

We cannot do better than enter on the subject under the guidance of the clear-sighted Mayer. He appositely remarks, "The question is not what force is in its essence, but to what the word force is to be applied."* In the same sense Tait says, "Till we know what the ultimate nature of matter is, it will be premature to speculate as to the ultimate nature of force; though we have reason to believe that it depends upon the immediate action of highly attenuated matter diffused throughout space." The latter clause is objected to by Sir J. Herschel,† and in fact ridiculed, "as resolving the entire assemblage of natural phenomena into the mere knocking about of an inconceivable number of inconceivably minute billiard balls." These extracts illustrate the above remark of Mayer, for it is evident the question is already diverted to the origin and physical nature of force.

§ 41. Let us, therefore, leave on one side these questions, and follow Mayer :

"The word force is used in two different senses in the higher or scientific mechanics, viz. :

"I. By it is understood any pressure or pull, any effort of an inert body to change its state of rest or motion, and if this effort be regarded by itself, and independently of the result, it is called 'pressure force,' 'pulling force,' or shortly 'force,' also, in contradistinction to the following sense—'dead force.'

"II. In another sense, what is called 'force,' is the product of

* *Was eine Kraft für ein Ding ist, sondern welches Ding wir Kraft nennen wollen*, p. 271.

† "On the Origin of Force," *Fortnightly Review*, vol. i, p. 435.

the pressure into the space through which it acts, or also the—whole or half—product of the mass into the square of the velocity. For it is necessary to the production of every real motion, that the body in question should actually traverse a certain space under a pressure, and in the direction of it, and now the magnitude proportional to the pressure and the space passed through is also called 'force;' but for distinction from the mere pressure, which alone never produces actual movement, it is called '*vis viva* of motion,' or 'moving force.' (p. 258.)

He points out that the first of these senses is the one adopted by Newton, and the second by Leibnitz. To avoid the confusion inseparable from an ambiguous term, he gives reasons why we should either abandon the use of the word force altogether, or confine it strictly to one of these two senses, and if the word is retained, he has no hesitation in giving his verdict for the second sense. For he says that, strictly speaking, the first is only applicable to statics where the pressure is constant and the space null, and to the higher departments of mechanics; and that it is undesirable to define a fundamental conception in a way which excludes it from the elementary stage of a science. Having decided in favour of the second, he shows that it is in conformity with the laws of thought and the usage of language to connect the production of all motion with the expenditure of force, and thus arrives at the following definition:

§ 42. "*Force is that which is expended in the production of motion; and this which is expended is, as cause of the effect, equal to the motion produced.*" (p. 265.) This will be found to be the most intelligible in a practical point of view, and to render us most assistance in the conception of the true nature of the transformations of the physical forces.

§ 43. Helmholtz divides force into *Spannkraft* and *lebendige Kraft*. These terms have been generally adopted by physiologists in Germany. In English they have been rendered by the terms *tensive* and *active force*, or simply *tension* and *vis viva*, the latter being used instead of the literal English rendering *living force*, in order to avoid the ambiguity which the use of this last expression might occasion in physiology.

§ 44. W. Thomson calls the *Spannkraft* "statical me-

chanical effect," and the lebendige "dynamical." He says—

"It is convenient to divide stores of mechanical energy into two classes—statical and dynamical. A quantity of weight at a height, ready to descend and do work when wanted, an electrified body, a quantity of fuel, contain stores of mechanical energy of the *statical* kind. Masses of matter in motion, a volume of space through which undulations of light or radiant heat are passing, a body having thermal motions among its particles (if not infinitely cold) contain stores of mechanical energy of the *dynamical* kind." (*Ph. Mag.*, IV, iv, p. 304.)

§ 45. Rankine makes the following important contributions to the subject :—

"In this investigation the term energy is used to comprehend every affection of substances which constitutes, or is commensurable with a power of producing change in opposition to resistance, and includes ordinary motion and mechanical power, chemical action, heat, light, electricity, magnetism, and all other powers, known or unknown, which are convertible or commensurable with these. All conceivable forms of energy may be distinguished into two kinds—actual or sensible, and potential or latent. *Actual energy* is a measurable, transferable, and transformable affection of a substance, the presence of which causes the substance to tend to change its state in one or more respects; by the occurrence of which changes actual energy disappears, and is replaced by *potential energy*, which is measured by the amount of change in the condition of a substance, and that of the tendency or force whereby that change is produced (or what is the same thing, of the resistance overcome in producing it) taken jointly. If the change whereby potential energy has been developed be exactly reversed, then, as the potential energy disappears, the actual energy which had previously disappeared is reproduced.

"The law of conservation of energy is already known, viz. that the sum of actual and potential energies in the universe is unchangeable." (From Rankine's paper "On the General Law of the Transformation of Energy," *Phil. Mag.*, s. IV, vol. v, p. 106.)

The phrase "potential energy" is objected to by Sir J. Herschel as "unfortunate, inasmuch as it goes to substitute a truism for the announcement of a great dynamical fact." In reply to this Rankine* says, the kind of quantity meant is expressed by Newton in the 39th proposition, though only in symbols. Then Rankine continues :—"The application of the word 'force' to that kind of quantity is open to the objection that when force is taken in the sense in which Newton defines *vis motrix*, the power

* "On the phrase Potential Energy," *Phil. Mag.*, 1867.

of performing work is not simply force, but force multiplied by space. To make such an application of the word force, therefore, would have been to designate a product by the name properly belonging to one of its factors, and would have added to the confusion which has already arisen from the ambiguous employment of that word." "About the beginning of the present century the word 'energy' had been substituted by Dr. Thos. Young for *vis viva*, to denote the capacity for performing work due to velocity; and the application of the same word had at a more recent time been extended by Sir William Thomson to the capacity of any sort for performing work. There can be no doubt that the word 'energy' is especially suited for that purpose; for, not only does the meaning to be expressed harmonise perfectly with the etymology of *ἐνεργεια*; but the word energy has never been used in precise scientific writings in a different sense, and thus the risk of ambiguity is avoided." (p. 89.) He therefore adopted it and qualified it by the adjectives, actual and potential, "to distinguish between energy of activity and energy of configuration." Thomson and Tait have lately used kinetic instead of actual. Carnot had already used the term "*force vive virtuelle*" for potential energy in its purely mechanical sense. (Rankine, loc. cit.)

Tyndall adopts Rankine's terms potential and actual energy; but he uses also the words possible energy for the former and dynamic energy or moving force for the latter. (p. 131.)

B. Stewart and N. Lockyer in a joint paper in *Macmillan's Mag.*, Aug. 1868, adopt the terms *energy of actual motion* and *energy of position*, in place of actual and potential energy.

Bertrand says: "The word force, as we understand it, will always designate *an effort expressible in kilogrammes*."—J. Bertrand, p. 583. Miller thus speaks:

The only mode in which we can judge of the existence of a force is from the effects it produces, and of these effects that which is most universal is the power either of producing motion, of arresting it, or of altering its direction; whatever possesses this power has been looked upon as a form of force. Motion is consequently regarded as the signal of force." (p. 616.)

§ 47. According to Grove, "a force cannot originate otherwise than by generation from some antecedent force or forces." (p. 14.) "No force can, strictly speaking, be initial, as there must be some anterior force which produced it; we cannot create force or motion any more than we can create matter." (p. 103.)

“Force without antecedent force is inconceivable any more than matter, except by a creative power” (pp. 103-4). “These affections of matter called forces are themselves modes of motion” (p. 98).

In reference, probably, to these last views, Sir J. Herschel remarks that the tendency now is to deny the existence of force altogether, and to maintain that, as we see nothing but the transference of motion from matter to matter, there can be no reason “to interpose an unknown agent or inter-medium—force—as part of the process.”

Here we must presume that Herschel is objecting to the statement that “no force can, strictly speaking, be *initial*,” for he adduces the volition of animals as a true initial force. But as he admits the general principle of conservation of force, as applicable to the bulk of the muscular action required to carry out that volition, and is sensible of the disturbance of the balance which such an origination of force would introduce, he is compelled to explain “that the actual force necessary to be originated may be no greater than is required to remove a single material molecule from its place through a space inconceivably minute.”

The question becomes in this way one of such a purely speculative character, and is removed so completely out of the sphere of experiment, that we may without hesitation pass on to the illustration of Mayer’s eminently practical definition of force.

§ 47. All these definitions are mere descriptions of, or modes of naming certain phenomena, and have no pretension to be any explanation. To say that a raised weight, or separated carbon and oxygen have potential energy of position is not to explain what it is that draws or pushes masses of matter together, *i. e.* gravity, or draws atoms together, *i. e.* chemical affinity. The most that has been done is the establishment of the great law that an equivalent amount of an object which we know in the form of visible motion of masses of matter must be consumed in counteracting these forces, and reappears again exactly when they are allowed to assert their action. So long as our knowledge is so circumscribed, Mayer’s seems to us the best of all the definitions of force.

It expresses fully and accurately all that we know with absolute certainty of the subject, and likewise gives a simple and unerring test of what we shall find a thing of paramount importance as we approach physiology, viz. the distinction between the forces and properties of matter. For nothing which cannot produce motion by its expenditure can be a force; and conversely whatever is capable of expenditure cannot be a property. The inherent properties can neither be lost, nor increased nor diminished in the smallest degree, nor can they be transferred from one particle of matter to another; whereas, it is the very essence of force that is transferable, transformable, and capable of indefinite increase and diminution, possibly even to total extinction; and besides what one body loses of force another may gain, which cannot be said of any property. And if this last clause *seems* not to hold good in the case of some particular forms of force; if, for example, we cannot take gravity from one body and give it to another, that is because we do not yet know the nature of these forces and their correlation with the other forces.

§ 48. The term *energy* is very nearly synonymous with Mayer's force, but in the usual definition there is not that stress laid on the essential point of expenditure. As Mayer argues, we must deny to mere dead pressure alone the name of force, nor even does the play of loaded scales or of a pendulum require any continued application of force, and it would go on for ever but for the friction. No force is expended. But if one scale were emptied at the top and loaded again at the bottom, the oscillation would not go on without the expenditure of fresh force. Newton recognised the distinction, when he says that weight is a *causa mathematica* and not a *causa physica*. But others have neglected that, and called weight, apart from the necessary condition of space to be traversed, a cause of motion, and thus induced the erroneous idea of the *production of motion without expenditure of force*, because by the falling of a weight none of the weight is expended, it is just as heavy as before; in fact it is heavier. Thus falling force is no exception to the rule given by the definition, for the cause of gravity is not inexhaustible, as a quality or property must

needs be, but has a *maximum* which is invariable, so that when a weight reaches the earth its falling force is already exhausted.

“When,” says Mayer, “a weight has fallen from an infinite height to a distance of 15 feet (Fr.) from the earth, then $\frac{1}{10}$ of the total falling force have been expended; $\frac{9}{10}$ of this force is still left, and it is by the expenditure of this proportionally very small force, that a proportionally small effect, the movement of mass with 30 feet (Fr.) velocity, is produced. It is clear, therefore, that the falling motion forms no exception to the proposition of the proportion existing between motion and expenditure of force. The expenditure becomes null only when a weight merely presses, and does not at the same time fall. A constant force which displays action, without suffering diminution, does not exist for the physicist.” (p. 35.)

So in fact the force of gravitation may be put in the same category with elasticity, and a raised weight is like a bent spring—you get back just the force expended in raising the weight or bending the spring—no more. Therefore neither weight nor elasticity is a force in the sense of possessing energy *per se*.

§ 49. Mayer’s view of laying the stress on expenditure is confirmed also by Helmholtz, who says, “The characteristic of the physical forces is, that when they produce any change or any alteration, when they produce motion, their faculty of acting is destroyed by their action itself; that they cannot act without diminishing or losing the faculty of new action” (p. 415). This is very clear, but already the difficulty as to the distinction between dead pressure or dead pull and force has been felt by him, for he says, “The force of affinity draws together the atoms of coal and oxygen, and produces a velocity of molecular motion, *i. e.* heat; but if this velocity is removed, the force of chemical attraction between the molecules of coal and oxygen exists in the same degree as before, but its only effect is to keep together the atoms which form *Carbonic Acid*; they cannot then be separated” (p. 388). How is this? A force is consumed in its very action, but we have here a force drawing the atoms together with such strength as to excite tremendous heat and at the end it remains as strong as before! In

fact, we know that it is impossible to separate the carbon and the oxygen, without communicating for the use of the separate elements exactly that amount of (molecular) velocity which came out as heat in their combination. This is parallel exactly to the falling weight which in the act of falling consumes all its falling force, but when at the bottom is as heavy as ever. What then is this "that is expended in the production of motion?" Is it something absolutely unknown and unknowable? Or can we not arrive at an idea of it by generalizing from the one thing which we certainly know is productive of motion by its expenditure, viz., motion itself? We know that one body may transfer its motion to another, and may not this afford the explanation of what happens in all the transformations of force? In other words is not force simply motion of matter either in masses, or molecules, or atoms? The tendency of physical science is to answer in the affirmative, and in fact, the dynamical theory of the forces means neither more nor less than this. Already heat, light, magnetism, and electricity, are with more or less success referred to molecular motions and reduced to calculation on the ordinary principles of dynamics.

§ 50. The earnest student is constantly perplexed and baffled by the way in which the difficulties of the subject are passed over in most of the semipopular treatises on this subject. We hear over and over again, that the sum of the potential and actual energies of the universe, form a constant quantity, or that the great thing is to recognise energy in its two forms, viz., that of position, and that of actual motion, and then we are supposed to comprehend the whole matter, whereas our difficulties may almost be said to be only beginning. The truth is, whatever abstract conceptions we may form of it, force is merely an affection of matter and is inconceivable as separated from matter, and can only exist in reality as some individual force. Neither can any one force be viewed as the central force which may by its transformations produce all the rest; but each force is capable, mediately or immediately, of producing any other. Now comes the difficulty: we know some forces

only as motion, such as that of a moving body, heat, light, &c. On the other hand, the forces on which the aggregation of matter—giving rise to solidity, hardness, elasticity, &c.—is said to depend, and likewise those producing gravitation and chemical attraction seem not to be conceivable as states of motion of the body affected. How then are these two kinds interchangeable, and how can they be brought under the law of conservation and subjected to the rigid condition of expenditure of themselves in exact proportion to the result produced? How, again, can statical equilibrium and potential energy be conceived of as modes of motion? One of the strongest arguments for the dynamic theory of heat was the impossibility of conceiving matter in a latent state, but are we better able to conceive latent motion? As long as the nature of "interior work" (§ 17) is inscrutable, how can we understand what the motion of heat is doing when it becomes insensible to the thermometer, as the greater part of the specific heat of water is. In short, how can we ever conceive the active forces to be in a state of rest, or the apparently fixed attractive forces ever to be in a state of motion? We can see how ordinary motion may be stored up as motion in a fly-wheel, and if we knew the true nature of all the other physical forces, the difficulties above suggested might disappear. As an illustration of this possibility, and to indicate more precisely the real nature of the difficulties which surround the definition of force, we may touch shortly on some hypothetical solutions of these obscure points; premising, however, that Mayer must not be held accountable for them, as he consistently avoids all speculative questions of the kind.

§ 51. The first difficulty is how to reconcile static equilibrium and the force of chemical combination, elasticity and gravity with the doctrine of conservation of energy.

When two equal bodies in motion with equal velocities meet exactly, the motion is exactly neutralised and both bodies are brought to rest as regards visible movement; but we are told to look further, and we find that the exact sum

of both their motions is not destroyed but transferred to the molecules, thus becoming the motion we call heat. What, then, takes place when two weights exerting a pressure capable of causing the above amount of motion exactly balance each other? or when two springs are kept pressed against each other with the same force? Are they not exerting the same force if that means "what tends to produce motion?" What then becomes of the force? Where is the heat or other force into which it is transferred? we know there is none. Is there, then, really no pressure-force exerted? Undoubtedly there is, for if we cut away one weight the other starts into motion immediately with its full power. Perhaps some light may be thrown on this question by the recent theory of the elasticity of the gases.

Suppose a moveable piston placed in a horizontal tube closed at both ends and kept in the centre by an equal volume of air on each side. Here the piston is at rest in a state of statical equilibrium, being maintained in that state by the elastic pressures of the air on both sides exactly balancing each other. But what is here the mechanism of the static pressure? According to the present theory of gases it is produced by the perpetual impact of air-molecules on the surface of the piston; it is, therefore, an infinity of small motions at a certain measurable and now known velocity, but so long as the piston does not yield, the motion of these is retained unchanged as it must be by the old law of "conservation of *vis viva*." The loss of motion in a pendulum by friction is here paralleled by the loss of heat by conduction and radiation, but unlike that, is exactly compensated by the absorption of heat from the surrounding media, according to the law of exchanges. Thus the static equilibrium of gases is the result of the balancing of actual velocities. Now, if we understood the physical constitution of solids, might we not be able to account for all cases of statical equilibrium in a similar way, instead of having to content ourselves with a merely mathematical explanation by means of the principle of virtual velocities? If, now, we suppose the amount of force on the right side of the piston to be diminished either by removing some of the

vibrating particles, *i. e.*, pumping out some of the air, or by abstracting some of the actual *vis viva* of the molecules, which is in fact heat, *i. e.*, cooling that side, instantly the velocities of the particles on the left side over-balance those on the right, and the piston is pushed to the right; thus the statical pressure on the left side is shown to have been potential energy. Work is now done, display of force is made, and something is expended; for the oscillating motions of the molecules, hitherto manifested as heat, are consumed in the work of moving the piston visibly onwards, and being expended, are of course lost as heat, so that the left side of the tube is chilled exactly in the ratio of the work done in moving the piston.

Another illustration of a similar character may be derived from the following passage from Bertrand, showing the distinction between Newton's force (§ 1) or dead, or statical, or bursting pressure, and Mayer's force, or Rankine and Young's energy.

"Let us consider a kilogram of air at the temperature of 20° C. and under the atmospheric pressure of 0.76 m.; it will occupy 0.7755 m. Its energy surpasses 25,000 kilogrammetres; that is to say, that, if without furnishing it fresh heat, you employ it to raise a piston to the complete extinction of all its elastic force, you may (admitting the constancy of the properties of the gas) obtain from it this immense quantity of work. But its total heat would then be exhausted, and its temperature would sink to the calculated absolute zero, *i. e.*, 273° below zero Cent.

"Let us suppose this same kilogram of air reduced to a volume ten times less, it is heated at first; but let it cool and we shall have a kilogram of air under a pressure of ten atmospheres, and at the temperature of 20° , capable of an *effort* (a dead or bursting pressure) ten times greater than at first; nevertheless the total *work* that you can get from it, its energy in a word, remains exactly the same; the work expended in the compression having been converted entirely into heat exists no longer in the gas now cooled; the portion of work which is necessary for forcing the molecules of solids and liquids nearer to each other during the compression, and which is given out again spontaneously on their expansion, does not exist in respect to the gases, of which the molecules are too far separate, and are in consequence destitute of mutual attractions and repulsions."—Bertrand, April, 1870, p. 232.

Here the total energy of a gas is allowed to be proportioned to its *absolute* temperature, reckoned from 273° below zero C. And for illustration it is supposed that the total energy can be converted into work, in which case it can never be more than

273+20° no matter into how small a bulk the gas be compressed, nor how great the amount of work spent on compressing it, provided this last be allowed to escape in the form of heat, *i. e.* the apparatus be allowed to cool. If, however, this last be not done and the compressed gas retain all the heat of compression, not only will its bursting power, but also its power of doing work be increased by the amount spent in compression.

In the above illustration drawn from a piston in a closed tube we have statical pressure, potential energy, actual energy, and visible movement, all represented, and all shown to depend on the *vis viva* of actual motion.

Now suppose, as Newton hinted, gravitation to be produced by ethereal pulses acting on the particles of matter pushing them towards each other, like those of the air on each side of the piston, then we should have the same state of things as regards gravity as with gaseous elasticity. Again, if we suppose the elasticity of solids to be caused by similar ethereal pulses or by orbital movements of the molecules a similar explanation would apply. But we are, as yet, far from any true theory on these questions, and in default, we must look on the storing up of force in the form of potential energy, as unexplained, and be content to accept, as a fact, that the force thereby represented is equivalent to the *vis viva* of motion expended on it.

(*To be continued.*)

GOUT.

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(Read before the British Homœopathic Society.)

ABOUT eleven years ago, being thoroughly dissatisfied with the then line of allopathic treatment of gout, and rheumatic gout, I published, in my work on *Blood Disease*, the following remarks on the subject, which were severely criticised at the time by the *Lancet*, but liberally reviewed by the *Medical Times*; yet notwithstanding the lapse of these years, and the progress of science, they are just as applicable to the old school now as then.

“Of all the most uncontrollable and obstinate diseases with which the medical faculty have had to contend, none perhaps can exceed the difficulty in subduing that eccentric complaint which has been termed, according to its different phases, gout, and rheumatic gout; more particularly when this affection has put on what is regarded as its chronic character. When we come to exercise a rigid criticism upon all that has been written and published for ages past with respect to this disease, and scrutinise the line of treatment which has been founded on the acquired knowledge, we are led irresistibly to the conclusion that its true nature has not been comprehended; while the system of drugging hitherto employed has been such as to have for its main object the mitigation of the more urgent symptoms as they arise, and of rendering the chronic stage more protracted. No fixed principle seems to have been laid down, or advocated, upon which we are supposed to be guided or ruled in our work of eradicating this malady from the beginning to the end of the cure; that is to say, we have gleaned a great number of facts, and made many observations of a theoretical character, but we have not generalised from them what is the real source of the disease called gout. We have not discovered the cause of the so-called gouty

diathesis—that peculiar condition of the constitution which is supposed to engender this malady. Hence, having no fixed or settled idea of what really gives rise to the affection, a sort of haphazard treatment has been pursued, a prescribing for appearances empirically, which must be highly unsatisfactory to any reflecting and inquiring mind; while to the young and inexperienced practitioner it must be regarded as a blundering method of removing a bodily derangement, which ought not to exist in the middle of the nineteenth century. Nor is it creditable to a learned and scientific profession to have it said, that after the patient has passed through the stages of an acute attack of this disease, he should remain passively for months—yea, perhaps for years—afterwards, with puffy, dropsical joints, coupled with half-palsied and flabby muscles; a helpless cripple, painful to behold. Medical science ought not to stand by and be a witness to such a condition of the frame without uttering a soul-stirring cry from time to time for further struggles in the cause of suffering humanity, so that the mystery, if any, may be cleared away—the true spring of diseased action unravelled, and distinctly revealed to the eye of common sense; so that we might be able to lay down some grand principle, some standing rule, which should guide us in our efforts to relieve a state so lamentable to the patient, and so humbling to the profession of medicine.

“Our present system, therefore, is a very undignified one, and we cannot hide from ourselves that it is not many degrees removed from a species of quackery! We, too, often stand by puzzled and blushing with ignorant confusion, when we are taxed closely with the sharp and deep reasonings of a highly-gifted and educated patient, who, witnessing the futility of all our usual remedies to strangle the enemy, receives the advice that he is to resign himself to the arms of patience and of time, that these will affect the good which he feels ought properly to belong to art to accomplish at once.”

Having made these preliminary observations, I proceeded to inquire why gout should be allowed to remain so long a

mystery and a medical enigma? and which question is as applicable *now* to homœopathy as to allopathy.

“ Why should we not closely overhaul each, and severally, as a whole, the various organs constituting the framework of the human system, and their respective functions?—and through these media fathom the root of the evil through all its ramifications. Why should we not commence an investigation of the complaint by regarding it as a blood disease? Will not this definition immediately urge and fix us to the inquiry—What is the direct cause of this contamination? and thus simplify our ideas so that they can rest on a substantial basis and work out the problem.

Who that has seriously reflected upon all he has seen and experienced concerning this wandering affection will deny that the whole train of symptoms of this capricious complaint may not be referred to some lurking matter vitiating the circulation? Let us be convinced on this point. And we are led very naturally by the next step of reflection to ask—What constitutes the blood poison, and from what does it directly originate? Is it anything extraneous taken into the stomach, or is it engendered within the human frame itself? These are a few of the questions we may very advantageously put to ourselves.

But, in the first place, let us examine the habits of life which those persons lead who are more particularly amenable to what is usually understood and known as the “Gouty diathesis.” It is an indisputable fact laid down ages ago, that those only who lead a certain course of life possess the capability of inducing this diathesis. It has been observed over and over again that the subjects of it have been highly fed with a superabundance of a rich animal diet, and been habitually devoted to stimulating beverages, wine, spirits, and malt liquor; the latter fulfilling the part of rousing an increased appetite, and creating a more active digestion of the former. But in order that the system should retain its overload of concentrated ingesta, and the brewing of the inbred poison kept up, we find habits more or less sedentary co-operate with the above exciting causes. That these circumstances are primarily the prevailing influences

which really engender this disease, we may feel confident; and the assertion would appear confirmed when we reflect upon the results of a directly opposite line of life. Contrast the mode of living among the labouring agricultural classes, employed in the fields from morning till night, using a very spare diet of animal food, perhaps one or two meals in the course of the week, and habitually temperate in the use of stimulants. May we ask, does the gouty diathesis occur among them? Are they not singularly exempt? Let us now retire from the fields and its busy occupants, and look in upon the gentlemen living in "easy circumstances"—they who make an every-day custom of luxuriating in what are called the "pleasures of the table"—the edible refinements, not the necessaries of existence. It is to this class that belong those who become "martyrs to the gout." Yet some of these individuals will tell us that they take a large share of exercise, even though it be in active pursuit of field sports; but it so happens that, taking the year through, it is not equivalent to the concentrated nourishment which is digested and imbibed into the circulation—in a word, *the supply is greater than the demand*. Notwithstanding that energetic exertion will counteract the *occasional* excesses of the table, by rendering assimilation more complete, and by eliminating accumulations through the greater activity of the secreting and excreting organs, and by the demands for muscular repair—still, when free living in eating and stimulating is the *habitual* rule of life, and not the exception, sooner or later all the depurating organs of the body become silently clogged and obstructed, the blood poisoned and replete with irritating ingredients and diseased deposits; till at last the volcano of evils bursts forth from an overcharged circulation with such intensity as to compel the individual to undergo a period of *forced abstinence* and repose, so that art and nature may have an opportunity of bringing his organs and functions back again to a certain degree of healthy action.

"These habits and this diathesis are characterised by an extraordinary increase in the development, accumulation, and retention in the blood of uric acid, urate of ammonia,

urate of soda, lactic acid, and such like highly animalised principles, which, accompanied by a plethoric condition of the blood-vessels, may be safely regarded as the real source and spring of the precursory symptoms of the disease, such as the wandering pains, dry, hot skin, acid eructations, stiffness, redness, and a certain feeling of lameness in the joints, which, if not checked, soon become aggravated, and the actual explosion of the fit takes place in all its painfulness. Then we see the heart irritated to a degree of palpitation, by the acrid blood passing over its delicate and sensitive internal lining, the urine scanty, scalding, and high coloured, and depositing quickly a large amount of the foregoing urates; the head oppressed, and the intellects dull and irritable; the feelings morose and depressed, because the brain is overwhelmed and poisoned with vitiated blood; while the whole cutaneous surface is supernaturally roused to a pitch of extreme sensitiveness, from a like cause; the last scene in the drama ends with a severe rigor, which may be looked upon as a general convulsive bodily struggle, to throw off the great burden of morbid incubus. When the constitution has been worked up, or fermented, as it were, to this crisis, by the gradual collection of these inherent and inbred poisonous ingredients in the blood, it is but reasonable, and in accordance with our common sense and observation, to regard what is usually considered a fit of the gout as nothing more or less than in reality a grand vigorous effort of the heart and blood-vessels to dislodge from the circulation and from their deposit in the joints and structure of the frame these animal poisons, which are so injurious to the healthy function of the various organs.

We can easily account for the general, though *temporary*, relief which is obtained when allopathic drugs are employed for the express purpose of rousing the three grand outlets for these effete materials—skin, bowels, and kidneys. These portals, when properly appealed to, will even only separate and discharge from the blood the contaminating principles already floating within it, and to a certain degree remove those deposits that have settled down in the structures and cavities of the joints, but they touch not the cause of the gout. It is my

settled belief that the secret of success in the early and quick removal of this disease by homœopathy consists in our not shattering the constitutional powers, vascular, muscular, and nervous, by an over-officious and systematic drugging, and by an uncontrollable anxiety to hurry on the purification of the blood by the administration of oft-repeated and large doses of aperients, colchicum, and alkalies; whereby the internal organs, especially the heart and stomach, are reduced to such a state of feeble exhaustion and helpless inactivity, that they resemble rather the working of those in a strumous condition—the urine displaying the very opposite characteristics to those originally seen at the commencement of the gouty attack—having a low specific gravity with phosphatic deposits, instead of a normal quantity of the urates, forming a sediment. When the depurating organs of the frame prove that it is reduced to such a low ebb as this, we may naturally ask, what possible good can be expected from the “*vis medicatrix nature*?”—the inherent sanitary force: it has neither reparative powers sufficient to recover from the effects of its struggles with the disease and its forced removal by the above treatment, nor yet a capability of reabsorbing the acrid and irritating deposits which are obstructing all locomotion by their presence and painful pressure in their joints. At the same time, we find the cerebro-spinal system and its ramifications raised to a pitch of almost an hysterical state of irritable sensitiveness.

If at such a stage as this homœopathy be allowed to enter upon the scene, the patient will soon have good reasons for regarding it in the light of an angel's visit; but to continue. *Everybody seems agreed as to the peculiar habits which produce the vitiated blood in this disease, and that the body engenders within itself, as a consequence of those habits, an excess of excrementitious products—morbific from their very abnormal superfluity, which, circulating through every tissue in the system, at last gradually arrive at their acmè of repletion, and the point when toleration ceases, and the living frame recoils on its dangerous and diseasing burden, and with one grand gigantic effort tries to*

cast off its oppressive weight of evils in the form of a hot, feverish skin,—rigors,—perspirations,—one or more joints swelling, and a highly charged urinary secretion: thus we behold a fit of the gout—a disease which displays itself as a constitutional explosion, arising from a gradual accumulation of excrementitious and irritating materials permeating every tissue, and bursting forth on the synovial surfaces of the joints, filling their cavities and impeding their movements, and by depositing themselves in the surrounding structures create a pressure on the delicate network of nerves, giving rise to the most excruciating agony, pain which no reasonable person can expect to remove effectually till the foreign matter (for when separated from the blood it has become really so) thus deposited is dissolved, re-absorbed into the circulation, and separated from the blood by the emunctories. Till this is effected we may look out for bodily struggles in the form of periodical fits—the healthy efforts of the frame to shake off its incubus of evils.

Now let us trace the real origin, the cause, the anatomical basis of this trying complaint. We need not travel far out of our way to discover this; there is no more mystery in this than in the cause of rheumatism, the twin brother to this disease—they both spring from disorder of the digestive organs, but with this difference, the evils are *temporary* in the one, and are soon eliminated from the circulation by the emunctories, and the organs of digestion quiet down again to their usual routine of action; while in the other the individual persists in pursuing *habitually* such epicurean habits day by day, that the collection of the inbred impurities in the blood occur faster than the excreting organs can eliminate them; hence their retention in the circulation and subsequent deposition, which give rise sooner or later to the blood disease, whose collective symptoms form a paroxysm of gout in some one or other of its varieties.

With these facts before us, let us ask ourselves, how is it that the stomach, the organ which reduces our food to a pulp ready for the process of blood-making, should create, when severely taxed with an excess of nourishment or the

solution of anything difficult of digestion, an undue quantity of urates, lactates, and oxalates, so that the blood becomes superfluously charged with them, the heart and vessels irritated and agitated, and the cerebro-spinal nerves painfully excited?

I think the following explanation will give a common-sense view of this physiological effect. *A natural action in any organ unduly excited creates an excess of natural products, which engender through their temporary or constant presence in the blood, either functional derangement or organic disease, in proportion to their quantity.* We will regard this proposition as a law regulating the chylopoietic organs more especially, and illustrate our present case thus—

The stomach having received a quantity of food in excess of what the frame requires, the viscus stagnates because the body, being replete with blood, eloquently rebels, and requiring no further nourishment, the process of chymification goes on very slowly, but at the same time there is more vascular action excited in the gastric follicles, and a greater flow of the acid juices of the stomach, in consequence of the protracted presence of the food. The liver and pancreas, receiving their blood in direct communion with the stomach, pour out their secretions in larger quantity. Thus, when the aliment is at last passed from the stomach, it is highly impregnated with acid qualities, from which are derived the superabundance of uric and lactic acids, &c. ; these, on being absorbed with the nutrient principles, contaminate the whole circulation and produce disease more or less intense, *in proportion to their quantity and continuance in the frame.* But this is not all: associated invariably with these evils, and bringing the gouty diathesis to a climax, we may always observe that the vascular system of the frame rises to an overwhelming pitch with a surplus of blood and capillary congestion. Organs are distended and oppressed by blood—their secretions increased and stagnating from want of application and disbursement by exercise, and while rendered inspissated by stagnation, they set up an irritation which makes these organs hotbeds for brewing continued mischief, till the circulating fluid becomes what has been already described—a reservoir of acrid and

irritating impurities—a circle of floating evils such as may be observed more or less any day in those patients who do not care to educate themselves, and to study to proportion rightly the supply of nourishment and stimuli they take, to the demand required by the daily repairs and the daily decays of their material organism.

Let us now become practical, and see if these views tally with actual practice. We will therefore go to the bedside.

F. D., æt. 59, an intelligent and well-developed man, formerly in easy circumstances and in active out-of-door occupation, lived well, taking his beer daily, and three or four glasses of gin-and-water at bedtime as a regular “night cap,” was admitted into our hospital, October, 1869, and states that he has had fits of gout off and on for fourteen years (*attended with diarrhœa*), coming on in the night, attacking the toes and spreading to the knees, the elbows, and passing to the hands. In June last he was attacked so severely, that he became quite crippled, and was induced to enter an allopathic hospital, where he got 8 drops of *Colchicum*, 10 grains of *Nitre*, and a drachm of *Salts*, three times a day. This the patient took perseveringly for nearly four weeks, notwithstanding that the bowels were purged a dozen times a day or more; it was then changed to 15 drops of *Colchicum*, 5 grains of *Iodide of Potassium*, and a drachm of *Salts*, which was taken for about another week, when feeling no better, the pains and purging continuing and his great powers at last yielding, he was advised a change of air, and he went to his home in London, where, disgusted and hopeless, he took a good supper of beer and cheese, which of course aggravated his symptoms. He continued *in statu quo* under domestic diet and care. The *change of air* not succeeding, he was re-admitted in August, when he was again subjected to the same purging *Colchicum* treatment for another month, with the addition of blisters to the joint. But great prostration now supervened, and he was ordered 6 ounces of brandy a day, with eggs, &c., which he felt did him much harm; so he gave the spirit secretly away to others in the ward. The end was that

his physician said he could do no more for him, that he was past relief, and hopelessly incurable, and he was discharged in a very weak state.

When he came under my care, the knees, feet, toes, and hands were puffy, hot, red, shining, and very painful; night sleepless, pulse quick and jerking, skin dry and harsh, urine pale and neutral. *Aconite* and *Belladonna*, with the aid of a suitable diet, soon relieved the more urgent symptoms, bringing back sleep and mental composure; the joints were enveloped in "water dressing," the water containing a drachm of *Iodide of Potassium* to a pint of water. In a week, he said, "I am so much better that my confidence in treatment is coming back, and I feel that you are quite right in stopping my meat; for I felt that it was only feeding my disease." When the inflammatory condition of the joints had subsided, he was ordered *Pulsatilla*. He was also placed *for an hour* in a hot bath with half a pound of pearl ash in solution. The first bath removed the pain and semi-palsied condition of the left arm, which had continued unrelieved since June.

Nov. 30.—He has had no meat for about a month; he has had a bath every third day; his bowels are still relaxed; his pulse is full; tongue clean; appetite healthy. The joints are reduced, flexible, and pain nearly gone; he is dressed and waddles about the room, and is happily looking forward to be able to show himself to his former attendant, to convince him that his case was not hopelessly incurable under the homœopathic system of treatment.

Dec. 20.—Has been out of doors walking several times, and is gaining strength daily. He has been allowed some meat every other day. The pulse is firm and full. The bowels have ceased to be so relaxed. The urine has been and is most variable; some days alkaline, at others neutral or slightly acid; even the state of the mind, as ease or excitement, seems to influence this secretion. The hot saline bath has been continued for an hour about every third or fourth day, with increasing benefit. He sleeps better, and has recovered a very happy expression of countenance. Discontinue *Pulsatilla*, and take *Arsenicum* *ter die*.

Jan. 3.—I was obliged to discontinue the *Arsenicum*, as the appetite became too voracious, the digestive organs too active, the pulse too full, and the joints puffed up with a return of the old pain ; so the meat was omitted again, and we fell back on the *Pulsatilla*, under which plan he soon recovered, and was discharged fit for employment on the 21st of January.

This patient was introduced to the members of the British Homœopathic Society, January 6th, and his gums were scrutinised, but there were no indications of lead gout. The man had not followed his trade as a painter for several years. The reduction in the size of the joints and their consequent painless immobility was much remarked upon. The subsidence of the swelling in and around the various joints and the absorption of the gouty deposits was as evident in this case as in many others in which I have tried the hot alkaline baths, supplemented, if necessary, by saline water dressing to the parts when very hot and painful. I insist upon this process if possible, because I deem it of primary importance that we should get our patient out of bed and into exercise as soon as we possibly can. And to effect this object we are justified in using every expedient in conjunction with an appropriate internal remedy.

Patients who have had repeated attacks of gout should be told that the deposits in the spongy ends of the bones and their covering act as a source of irritation, like any foreign body, such as a splinter of wood, a piece of shell, or a bullet ; is the weak point in their organizations, and of course the first to be influenced by any bodily derangement, and therefore requires their utmost and constant efforts to keep in a passive condition, so that inflammation, swelling, and pain, should not be set up and thus prevent exercise ; hence the necessity for keeping down an excess of blood, and the circulation as free as possible from irritating elements by strict attention to the digestive organs and the requisite locomotion. If exercise cannot be taken because of the pain, then the study as to quantity of nourishment becomes still more urgent. To preserve this healthy balance is our greatest difficulty, yet it is the secret of suc-

cessful treatment; unless the patient regards health as worth a struggle, and aids the physician on this very indispensable point, the best of remedies are of no avail.

The following is a type of case one very frequently meets with in private practice.

A. B., age about 45, of strong physical development, and with an hereditary disposition to gout. In his early manhood, his circumstances were such as to compel him to follow an arduous out-of-door occupation in the "bush," coupled with a rough and uncertain commissariat. As he advanced in years, fortune placed him in an easy luxurious position, in which notwithstanding the *irregular* bursts of physical exercise which field sports urged him to take, he could not keep down the accumulative effects of the voluptuous exuberance; the excess of supply over demand was *regular* and would predominate, and so he became gradually an inheritor of the family failing.

Warnings small and great constantly preceded each fit, and when the paroxysm had come and gone, and the good results of a certain process of treatment both remedial and domestic were self-evident to the patient, he had still not the moral courage to face the ordeal of restrictions, which would have kept his enemy in abeyance and made existence tolerably content—peaceful. Oh no! When the pains were past, and he could shift for himself again, he relapsed into an *easy indifferentism*, and thus invited a fresh attack, till the joints became too stiff and painful to walk, and horse exercise was only left to him; but as the incentive to take the latter vigorously was frequently uncertain, the tide was fast ebbing in which he had full opportunities of proportioning his food to the requirements of the frame, and keeping the disease in check by diet and exercise. The patient had perfect confidence from repeated experiences that his physician could subdue the acute attack when it came, with *Aconite*, *Bryonia*, *Gelseminum*, &c., aided by hot saline baths and a suitable regimen, and likewise could keep under control and gradually lessen the effects of the chronic stage by *Arsenicum*, *Pulsatilla*, *Hepar*, *Sulphur*, &c., coupled with sulphur or Turkish baths; but when once the

sufferer was safely on his legs again, and no longer under medical supervision, he chafed and fretted under the monotony of regimental restrictions, broke through his resolutions of amendment and fell an easy prey to his old enemy, whose oft repeated visitations will sooner or later reduce an otherwise valuable life to a crippled and useless condition, an object over whom the angels might weep tears of pity and compassion.

Acute sciatic rheumatism.

W. L—, æt. 45, was admitted an in-patient December 8th, 1869. Has worked in a starch manufactory, and previous to his attack enjoyed good health. His occupation has compelled him to be two or three hours at a time in a damp atmosphere, exposed to cold draughts, and with the hands and wrists steeped in cold water. His illness began early in August with a severe catarrh, ending in the right limb becoming affected with an excruciating pain along the course of the great sciatic nerve, and his labours came to an end. Two distinct allopathic practitioners had him under their care for three weeks each, but no relief was obtained from either. He was then sent into an allopathic hospital, where he continued for six weeks. He was ordered a series of six Turkish baths, the heat of which created some sweating and relieved the pain, but this was nullified by submersing the man in cold water, which brought the pain back with greater violence. Notwithstanding the remonstrance of the patient, this course was persevered in till the sixth bath gave him such continued agony that he lost his sleep for five nights, when a hypodermic injection at the knee relieved his suffering for a time. He was allowed full diet and beer daily. He was only purged once, as there was a tendency to diarrhœa. Failing to get even relief from this source, and the limb beginning to swell, he was taken away by his master. Hence we see that this case was under allopathic treatment for three months not only without a cure, but without even relief.

Present state.—His general aspect is that of a healthy

man. Complains of pain from the hip to the toes on the outside of the right leg, which is tender to the touch. The skin has been harsh and dry from the first, and will not sweat, and there is a great want of healthy sensibility about it. Pulse is steady at 80, but full and jerky. Tongue clean; appetite good; bowels inclined to be relaxed; urine dark and sedimentitious from the beginning; slight pain occasionally across the lumbar region. He lies full length in bed, stiff with pain, but his great complaint arises from want of sleep. *Bellad.* 1^x and *Bryonia* 1^x were prescribed every four hours alternately; a hot sea-salt bath at 100° F. for one hour; a meat diet was allowed, but all stimuli were withdrawn.

December 15th.—He looks more cheerful, and is in less agony, and said, “I have slept, sir, better than I did even after they injected that stuff into my skin at the Hospital.” The first bath, though the temperature was still maintained at 100° F., was hardly warm to his feelings, but the second created quite a powerful glow, followed by a profuse sweat, which gave him immense relief. Continue *omnia*.

20th.—The character and position of the pain has shifted, and appears to be no more in muscles of the limbs. *Gelsem.* ϕ gt. i, ter die, with *Bell.* 1^x at night, was ordered.

January 3rd, 1870.—Has continued to improve daily, and the bath continues to have the most beneficial effect upon the skin. The pain was not now felt constantly, and was described more like a stiffness and aching in the course of the sciatic. *Colocynth* 2^x η v, ter die, was prescribed, with a dose of the *Bell.* at 9, 10, and 11 at night.

12th.—Has a catarrh and slight diarrhœa, which, however, does not aggravate his complaint. Give *Arsenic* 3^x gt. i, four hours.

22nd.—Cold well. Continue bath, and to have a regular suit of flannel. Give *Sulphur* 1^x gt. i, ter die.

28th.—Has been walking out of doors daily for the last week or so. He has had no stimulant of any kind.

February.—I have seen this patient since, and I found him going on most satisfactorily and at his work again.

Discussion on Dr. Vaughan-Hughes' paper.

Dr. YELDHAM said he agreed in the generally received opinion that gout was essentially a blood disease. Acute attacks were doubtless often excited by indulgence in alcoholic drinks; and as an instance of this he read an extract from a letter he had that morning received from a patient in the country, whom he had treated for gout just five years previously, who had been a total abstainer in the interval, and had been free from gout until the present attack, which he (the patient) said was induced "by two or three imprudent glasses of champagne and sherry when dining out." As regards the treatment of acute gout, he, Dr. Yeldham, generally gave *Colchicum* in doses of five drops of the mother tincture every four hours, and even oftener if the symptoms were very urgent, and seldom failed to afford speedy and marked relief. In these quantities, which produced none of the physiological effects of the medicine, he had found it to be an excellent and, he considered, a truly homœopathic remedy for acute gout. Next to *Colchicum* he regarded *Bryonia* as most truly homœopathic to this form of the disease. In the dyspeptic symptoms and inflamed joints it offered a close analogy to gout. As to the local treatment of acute gout, he never used any other applications than warm water and dry wadding, preferring the latter. To relieve the local after-effects of an attack, viz. the tenderness and œdema, he was accustomed to apply, very lightly, a wove cotton-roller. This supported the weakened vessels, relieved the sense of tension and weight, and enabled the patient to get about many days sooner than he would otherwise do. In respect of chronic gout, hygiene must necessarily enter largely into the treatment. The two homœopathic remedies from which he had seen the best effects in chronic gout were *Sulphur*, from the matrix to the sixth dilution, and *Nux vomica*.

Dr. MADDEN trusted he should be excused for what he was going to say, but he felt bound to inquire whether we are expected to discuss the treatment of gout in general, or the *homœopathic* treatment of gout in particular, and he should also like to know whether the cases related in the paper were to be taken as samples of homœopathic treatment or otherwise. He felt strongly on this point, because he believed that medical men came to this Society to hear about homœopathy, and what it could do in disease, and he felt convinced that if there were any such inquirers here to-night they would have been much impressed with the prominent part which *auxiliaries* took in the treatment, and the very unimportant position to which *medicines* were allocated. For his own part he believed that the auxiliaries alone might be safely credited with all the improvements which took place while the

patients were under observation. When we hear of carefully regulated diet, excluding the use of meat, of local applications, of a solution of *Iodide of Potassium*, of hot baths containing pearl ash, &c., it is not difficult to account for the changes which took place in the patient's condition. Moreover, of the remedies actually chosen, *Bell.* seemed to be much depended on, and he was not aware of any special relationship between it and gout; on the contrary, it seems rather to have been selected as a palliative for one symptom, namely, the sleepless nights, than as a remedy for the entire disease. He differed altogether from the author in his views of the nature of gout, which he did not consider to be a blood disease, neither did he believe that the phenomena of the paroxysms were dependent on the presence of an excess of uric acid in the system, seeing that some of the worst cases were those where no such excess existed. As regarded treatment he was convinced that a careful individualising of the cases and a judicious selection of the remedy in accordance with the peculiar symptoms of each would lead to results quite as favorable as those obtained by the use of auxiliaries. Moreover, he considered that a most rigid examination into the state of health of the patient during the intervals between the attacks, was essential to the success of preventive treatment. He especially directed attention to the admirable article on dormant gout by Dr. Drysdale in the 26th vol. of the 'British Journal of Homœopathy.'

Dr. DUDGON was unable to see how Dr. V. Hughes' case of gout could be said to have been treated homœopathically. He did not agree with the author in his theory of the nature of gout.

Dr. COOPER wished to ask the members present what their opinion was as to the propriety of giving even homœopathic medicines for gout. Some two years ago a gentleman despairing of the allopathic treatment came under his care with a severe attack of acute gout. *Aconite* and *Bryony* reduced the inflammation in a few days, so much so that the gentleman was enabled to leave his bedroom and walk about the house. But the moment the great toe got strained or twisted in stepping, an attack was certain to come, and it seemed impossible to prevent this. Despairing of treatment the patient determined to remain without medicine, but, continuing in the same state, he went to Buxton, and deriving no benefit from the baths there, came to London and consulted an eminent specialist—also without benefit. After remaining in this state for nearly a year, he was seized with a thorough good attack of acute gout, and has since remained free from the disease. Now, the question I should like to hear discussed is: Whether it would not have been better to have left the patient without medicine in the first instance? Whether, in fact, the subduing of the inflammation was not prejudicial to the eradication of the *materies morbi*?

Dr. HALE felt the greatest satisfaction in listening to the

remarks upon the papers by Drs. Madden and Dudgeon, feeling them to be so entirely in accordance with the sentiments expressed in some observations of his own, lately made at a previous meeting of the Society. In the cases related by Dr. Hughes he could not discover the homœopathy of much of his treatment, especially of the external application of *Iodide of Potassium* to the inflamed joints or of pearlsh in the form of a bath. In the first case related by Dr. Hughes, the patient introduced to the Society at a former meeting exhibited a considerable amount of gouty inflammation lurking in the joints of the fingers; he thought therefore that it was rather premature to say the man was cured. Dr. Hale took exception to Dr. V. Hughes' theories as to the cause of gout, and, in his experience, he had seen so many cases where the condition, habits, and diet of the patients had been so utterly different from Dr. V. Hughes' description of the causes of the disease, that he considered Dr. V. Hughes' statements required great limitations. Whatever might be the *matertes morbi* of gout, or whatever might be the exciting causes of a fit of the gout; as a matter of experience, it is but too well known that in a considerable number of cases it is impossible to indicate the tendency to attacks of gout. Dr. Hale mentioned a curious case of gout which rarely manifested itself in an acute attack, in which the patient in his ordinary health had neither smell nor taste; but, upon the least appearance of gouty inflammation in the joints, the power of both returned, and were lost again as soon as the gouty inflammation disappeared. Dr. Hale could not agree with Dr. Cooper that gout should be left to take its course without treatment, although it is a well-known fact that a good fit of the gout appears to give a temporary immunity from attacks. Dr. Hale questioned the advantage of Dr. Yeldham's 5-drop doses of mother tincture of *Colchicum*, which he thought was too near an approach to allopathic treatment; he believed, however, that *Colchicum*, administered in homœopathic doses, was very valuable in some forms of the disease, where it was homœopathically indicated. In his former practice as an allopath it was his custom to administer the *Vinum Colchici*, uncombined with any other drug, and, observing that it almost invariably relieved the pain, yet without producing any effect upon the great emunctories of the body, he was at that time at a loss to account for its beneficial action, the explanation he could now give with every show of reason was, that it was really the proper homœopathic remedy in these cases. With regard to urinary deposits in gout, his experience was that they were seldom seen, and whenever they appear they augured well; but the worst cases are those in which no urinary deposits are seen. Dr. Hale did not believe that there was any specific for gout, but properly chosen homœopathic remedies were of the greatest service in relieving the sufferings during an acute attack. Dr. Hale repeated the remarks with which he began by saying that if Dr. Vaughan-Hughes' paper

had been sharply criticised by himself and others, the only motive was the endeavour to arrive at truth.

Dr. DRURY agreed with Dr. Madden that, in the interval between the attacks, much might be done for a gouty patient, but few patients would be content with this, if they could not get speedy relief from the intense agony of an acute attack; and the patient that got effectual relief at such a time would understand the argument, and more readily submit to a course of constitutional treatment with a view to warding off fresh attacks. Any attempt to reason with a patient instead of relieving him where this was possible would be very short-sighted, whether the right thing or not, otherwise. Now, interesting as Dr. Hughes' cases were, and instructive, there was no doubt that they were open to the remark that they could not be regarded as homœopathically treated cases. While saying this, he would at the same time say that, where a palliative could be legitimately used, it was most desirable to avail ourselves of such an agency if we could relieve our patients thereby. But palliatives should not take the place of regular homœopathic treatment. As to whether gout was or was not a blood disease, the presence or absence of an alkali or acid really proved nothing. He, Dr. Drury, was inclined to believe that it was a blood disease, but it was one of those questions that each would decide for himself according to the bias he had got from his teachers or elsewhere, and after all the point was likely to remain an open question, from the impossibility of deciding it. Some years ago a curious case came under his observation: he attended an officer nearly fifty years of age for an attack of measles, which was followed by a sharp attack of gout, apparently brought on by going out before he was sufficiently recovered. It was a curious thing to see such a combination as measles and gout. In this case *Sabina* gave such speedy relief that the patient wrote to know the name of the medicine that had worked such wonders. In regard to medicine *Colchicum* probably approached as nearly to being a specific as a medicine could do, but it was open to many objections, and would fail at times, showing that gout, like all other diseases, required to be treated in accordance with existing symptoms, and, though Dr. Madden had condemned the use of *Belladonna*, yet he believed that where it was properly indicated, as *Bryonia* often was, it was a most valuable medicine. The chronic gouty swellings had been spoken of; he would ask gentlemen, when dealing with them, to try the effect of washing the parts two or three times a day with a diluted preparation of *Staphisagria*, for which purpose the first decimal might be used; he thought they would find this a useful remedy. A patient had recently asked him what he would do if he sent for him when suffering from gout, as he always got relief from Blair's pills. He replied he would forbid their use, as they most likely contained *Colchicum*, and would do harm in the long run. As the gentleman still praised the efficacy of his

favourite remedy, he said he should advise them not to be taken, but that if he did not get relief after trying the properly chosen remedies he could do as he thought proper; but if he was bent on taking the pills, he should do it on his own responsibility, as medical men were not disposed to advise the use of medicines the contents of which were kept secret; having confidence in his own medicines he could dispense with the pills.

Dr. VAUGHAN-HUGHES, in replying generally to the observations made upon his paper, said, in justification of the use of palliatives which he had found so beneficial in gout, that he felt no reserve on this point, as it was pretty clear from all he had heard and seen that homœopathy had no specific for gout when taken in all its bearings. He began with the hot saline bath as far back as twenty-three years ago, and in a case as remarkable and hopeless apparently as the one related this evening, and with the same happy results. As to the alkaline water-dressing to the various joints, he could not say that it was homœopathic to the swellings, though *Iodide of Potassium* was said to produce nodular swellings in the periosteum. All he could vouch for, was that it caused rapid absorption of the adventitious deposits and relieved the excruciating agony. His view that the anatomical basis of this disease was seated in the digestive organs, and secondarily in the blood, would sufficiently account for *poor* as well as *rich* man's gout. He would have been more satisfied if his colleagues had thrown light on the subject by broaching some theory of their own, as well as in discussing his.

HÆMORRHAGE FROM THE STOMACH AND BOWELS.

By Dr. SHULDHAM.

(Read before the British Homœopathic Society.)

MR. PRESIDENT AND GENTLEMEN,—I trust that the subject of this evening's paper will, by its mere individual interest, serve to counterbalance any shortcomings in my treatment of the same; inasmuch as the disordered conditions known as hæmatemesis and melæna are somewhat rare ones in practice, somewhat troublesome to treat, and somewhat obscure in their origin. Let these points of interest be my apology. Time being usually considered

precious, I will no longer take up yours, Gentlemen, with empty preambles, but rush at once in *medias res*, by giving the outlines of two cases that have occurred in my own practice; one we shall call hæmatemesis, as vomiting of blood was the prominent feature; the other we shall term melæna, as blood passed by stool was the most striking symptom.

Let us begin like painters of the figure, from above downwards, and take the case of hæmatemesis first, and, by the way, this very term hæmatemesis only gives us part of the morbid condition, for though the patient should vomit blood, yet blood will also pass by the bowels if there is a lesion in or exudation from the digestive track, and the term melæna is only expressive of half the morbid picture, whose chief characteristic is the passage of dark blood mixed with the evacuations from the bowels. It appears to me that the two terms are descriptive of really one state, that state consisting of an exudation of blood from the mucous membrane of the digestive system, the vomiting being purely accidental.

The first case I would draw your attention to, was that of a lady forty-two years of age, married, of a spare slight frame, of the nervo-bilious temperament. Previous to my being called in, she had been suffering from strange unaccountable pains in her stomach for the last three weeks, and on Thursday, January 7th, 1868, she took some medicine prescribed for her by her usual allopathic adviser. The medicine was made up without the patient having been seen by the medical man; the result of this leap in the dark was relaxation of the bowels. What more could have been desired? What more indeed is often effected by our old school friends? In this case certainly a little more than was anticipated had been effected, for, together with this medicinal diarrhœa, a mixed proving of *Rhubarb* and *Colocynth*, there was also great sickness, increased pain at the epigastrium, and especially dark-coloured evacuations. No doubt the patient thought the medicine had "searched her," and congratulated herself on being relieved of "the black bile." But mark the sequel: on Saturday morning,

about 11 o'clock, the patient threw up a quantity of dark grumous-looking matter, mixed with a small amount of undigested food. There was in all rather more than a pint, I would imagine. In the afternoon of that same day I found the patient in bed looking terribly blanched, but with a tolerably firm pulse of 80; in fact, the pulse tried hard to give the lie, as it were, to the other conditions. She was complaining of great nausea and pains at the epigastrium, which extended back to a circumscribed spot between the scapulæ; there was a feeling of weight also at the epigastrium, and a sensation as if the body were tied with a cord; while a most disagreeable taste in the mouth (one of those undefinable tastes which savour of neither fish, flesh, nor fowl) was counterbalanced, I had almost said contradicted by a fairly clean tongue. There was frontal headache, and pain in the eyeballs, together with a slight amount of dimness. The bowels had been relieved on Saturday, the motions being somewhat dark. The urine was scanty and high coloured. The feeling of nausea recurred on the patient's making the slightest movement, and only about a table-spoonful of beef tea had been taken since breakfast.

I must mention in parenthesis that the patient had suffered, some two years previously to this attack, from a bleeding polypus of the uterus, which had been removed surgically. At the monthly period there had been profuse flow, generally accompanied by headache and sickness. Of the said headache more anon.

Since the removal of the polypus the menstrual flow had been less profuse, but still sufficiently so to weaken and distress the patient exceedingly.

To return to the patient's more immediate symptoms. I gave *Arnica* 1^x, ten drops in half a tumbler of water, a dessert-spoonful to be taken every two hours, perfect rest enjoined, and only small quantities of beef tea to be given occasionally; a few spoonfuls cooled down every hour or so, according to the patient's capacities and inclinations for taking the same. On calling on Monday morning, I found that there had been towards night a fresh attack of vomiting, but only a slight one, though fresh blood had been

thrown up. The pulse was 85, but weaker; the tongue furred, great nausea complained of, but less epigastric pain, headache increased, the urine was clear and palish, the bowels had not acted.

The previous vomiting and the existing nausea led me to prescribe *Ipecac.* 3ʳ, ten drops, in half a tumblerful of water, a dessert-spoonful every three hours. I also suggested that the patient should suck small pieces of ice, beef tea as before, but in case of returning vomiting, I recommended that it should be given in the form of injection, so as to give the stomach complete rest; and indeed if we could treat many of our cases of urgent and continuous vomiting with injections of food, we might obtain happier results. There had been little or no sleep, the patient feeling so restless, and the uneasy sensations at the epigastrium keeping her in a state of continued irritability, so that, as she expressed it, "she was afraid to go to sleep." On Tuesday the pulse was 75, but very weak, the epigastric pains less, and though there had been occasional nausea, no actual vomiting had occurred. Half a teacupful of beef tea had been taken by the mouth, together with a small piece of toast, the head was still aching, the tongue was less furred, the bowels inactive and only fitful, restless snatches of sleep had been obtained, with weird ancient marinerlike dreams. *China* 2ʳ was next prescribed, and *Ipecac.* left out in case of returning nausea or vomiting.

Wednesday.—The pulse 75, decidedly stronger, the tongue cleaner, the headache markedly diminished. A small cupful of beef tea had been taken and retained, and a morsel of dry toast. In the afternoon some qualms came on, which was good enough to yield to the persuasive influence of one dose of *Ipecac.* The night's rest still disturbed, some uneasy feelings at the epigastrium. The bowels still inactive, the urine this time scanty and depositing a cloudy sediment, not brickdust. *China* continued by day, and one dose of *Arsenic* at night.

Thursday.—Patient slightly better, but complaining of pain in the left side and in the left hypogastric region, possibly due to the approach of the monthly period, which

was due. More beef-tea had been taken and an egg lightly boiled.

Pulse 75, and fairly strong. Bowels inactive. Headache better. *Arsenicum* had not relieved the restless night feeling.

Friday.—Another restless night, pain in hypogastric less severe, menstrual flow has set in slightly. The tongue was clean, pulse firm, 75, hands warmer, inclining to be hot, the patient stronger, the bowels still disinclined to move.

The patient mentioned that she usually suffered from headache of a seemingly congestive character during the first few days of the menstrual flow with great flushing of the face and heat of skin. I left out the palpably indicated *Belladonna* in the third decimal dilution, to be taken in the event of this headache putting in an appearance, but also continued to prescribe the *China* and left off *Arsenicum*.

Saturday morning brought in the news of another restless night, but it also brought me the refreshing intelligence that *Belladonna* had not failed me at this juncture. The expected headache came on, with the sudden and customary flushing of the face, and pain in the eyes, and heat of the skin, but within twenty minutes of taking the first dose of *Belladonna* its severity disappeared, much to the surprise and delight of herself and her niece, who had seen the attack and the defeat. A second dose of *Belladonna* taken three hours afterwards sufficed to remove all traces of it. The removal of this headache, Gentlemen, you will say was a trifle, and the notice of it needless interpolation as far as this paper is concerned, but when I tell you that it was usually accompanied by sickness and great prostration, you will allow, that this quieting the head gave the stomach also rest, and warded off the possibility of a fresh attack of hæmatemesis. The bowels still remained inactive, but the tongue kept clean; the menstrual flow was moderate in quantity. I prescribed *China*.

On Sunday morning, I learnt with pleasure that the patient had passed a good night with some refreshing sleep.

The headache had not returned. The strength was

improved, the pulse 75 and stronger, the tongue clean. The menstrual flow rather profuse; and some uneasy feelings about the abdomen which are peculiar to her at the monthly period exist, but are not so severe as usual.

Claret and water was taken the previous day, and seemed to agree with the patient, neither flushing the head nor upsetting the stomach. Monday found the patient with improved strength, but the bowels had not yet acted, and as a week had passed without an evacuation, I gave three doses of *Nux vomica* 3x, which was kind enough to fulfil the duty imposed on it by the next day. The evacuations were very dark in colour, and of firm consistency. The tongue was clean; the pulse steady and firm, 75; headache had not ventured to return with such odds against as *Belladonna* could bring into the field.

On Wednesday the patient came downstairs, feeling certainly rather weak, and by so doing increased the menstrual flow, and also allowing the headache to think of returning, but *Belladonna* kept the enemy at bay. Having brought my patient downstairs, I think I can now dispose of her in a few words. After this date strength was gradually gained, though there was great blanching of the skin, and constipation was a troublesome feature to the patient and the patient's friends; and I may add that *Nux vomica* did not help me at this pinch, or *Opium* either, but time and brown bread were the chief agents in ministering to the comforts and necessities of my patient. I saw the husband twelve months after this attack of vomiting of blood, and heard that there had been no recurrence of it, and that *Belladonna* had since then become one of their household gods, whose aid was invoked once a month, and whose aid had never been refused.

Before commenting in any way upon this case, I will ask you kindly to lend me a hearing of the second one to be reported. And I do not intend to weary you with such a lengthy detail of particulars as I have just now done; indeed, did I wish it I could not do so, as I have not been able to follow out the case throughout, and make the necessary notes thereon. It is a sketch rather than a

finished picture. The case I am about to relate is somewhat fragmentary, and also somewhat doubtful, perhaps, as to its real character, for a different diagnosis was formed before the patient was transferred to my care, and it would be interesting, therefore, to bring it before your notice, Gentlemen, to hear your own conclusions. Problems are always more interesting than axioms, and if you can add your Q.E.D. to the end of this as a kind of medical tailpiece, it will be all the more satisfactory to myself. The case is as follows:

The patient is tall and also thin, standing some six feet two inches in height, of a pale sallowish complexion, sunken eyes, and rather a nervous expression. When I was called in he had been suffering from extreme prostration that had both preceded and followed the evacuation of some pitch-like stools, first noticed on the previous Friday, my first visit being paid on Monday. There had been slight nausea on the Friday and Saturday, but no actual vomiting. There was extreme marble-like pallor of the countenance at the commencement of the attack, and great prostration. Nourishment had been taken on Friday; beef tea and brandy had been given, which seemed absolutely necessary, and which seemed to revive the patient's strength. The motions were pitchy dark, but fairly consistent; the urine was normal, or, if anything, rather pale. Saturday another pitchy stool was passed, and the symptoms were somewhat better. Sunday brought a similar bulletin; the nights had been rather restless, but not markedly so. There was some slight uneasiness in the abdomen after taking food, but not actual pain.

On Monday I saw the patient myself, and found him sitting up in bed with a blanched-looking face, and a dullish-looking eye; that is, the iris was dullish and lacking the bright activity of health. The skin was cool, the pulse very feeble, and, though a very thin man, the heart's sounds were only faintly audible; the tongue was quite clean; the abdomen fairly soft to the touch, and no pain caused by pressure. The liver was not seemingly enlarged or diminished in size. The motion passed that morning was of a firm consistency, but pitchy dark, only there seemed to be a

certain graduation of tint, the lighter belonging to the portion of fæcal matter that had left the bowel last. No nausea was complained of; the urine was plentiful and slightly pale in colour. Great weakness was complained of; no headache, but the patient could not look up quickly, and rather shunned the strong light. I inquired of any former attacks of a similar character, and I received the following statement from the patient and his wife.

As my diagnosis was dependent on the history of the case, as well as on the symptoms then presented to me, I will ask your permission to tell the tale as it was told to me. In June, 1868, during very hot weather, the patient was seized with a sudden attack of prostration which left him weak for some days. Three weeks after there was a severe attack of faintness, accompanied by deadly pallor of the countenance. Stimulants were ordered and agreed with the patient, who remained in a feeble state for some weeks. And when in September of that same year the patient made an effort to go to business, he was suddenly attacked by vomiting of dark-looking matter resembling coffee grounds, tremendous prostration of strength, great pallor of countenance, and followed the next day by pitch-coloured motions. This attack of vomiting occurred on a Sunday, and in the four following days the bowels acted three times, and each time the evacuations were of a pitch-like character. Vomiting occurred twice on Sunday, and on both occasions the matters rejected from the stomach presented the same dark, coffee-ground like appearance. On the fifth day the evacuations from the bowels were normal in character. There was great prostration for a whole week, and stimulants and liquid food were administered freely without causing pain or distress. The urine kept of a natural colour throughout the week, the tongue was clean, slight giddiness was complained of when the patient sat up in bed, and the pallor of countenance was noticeable till the end of the week. At the end of the week the appetite was fair and the strength returning, but there was continued debility complained of till Christmas. One symptom of a rather noteworthy character preceded this attack of 1868,

and also the one I was called in to see the end of, and that was, the passing of very foetid flatulence. Thirst, also, was complained of before each attack. Now, thirst is not unnatural with the thermometer at 110 in the shade, but in winter weather it would lead us to expect something abnormal. And this very thirst may possibly be the result of the hæmorrhage that has been going on, for, as we well know in surgery, this is one of the most trying symptoms after a capital operation, and the battle-field has given us only too many instances of this terrible and almost quenchless thirst. Sir Philip Sydney has made this thirst nobly historical. So that it might almost be considered as one of the diagnostic signs of an extravasation of blood from the gastric or intestinal mucous membrane, and lead one to suggest quiet to a patient who suffered from this symptom in conjunction with others of a suspicious character.

To finish the interrupted first chapter of my second case. I said that there had been pitch-like stools for three days, great prostration, extreme pallor of countenance, nausea, but no vomiting, a clean tongue, a pale conjunctiva; and for this I prescribed *China*, in drop-doses every three hours; ordered beef tea and brandy and water.

On Tuesday I found the patient looking brighter and stronger, having passed a fair night, the pulse weak, 72, tongue clean, no nausea, nor pain or uneasiness in abdomen. The bowels had not acted; the urine clear and palish. Continued *China* every four hours.

Wednesday.—Still improvement, fair night, fair appetite, pulse a trifle stronger, but the bowels had not acted, which was a cause for great uneasiness to the patient. I assured him to the best of my power that all was doing well, if he could only believe it, but here he turned a sceptical eye on me, which, of course, I regretted, and also said something about *Castor oil*, which I also regretted, as I felt sure that if he took it on his own responsibility he would be a sufferer. However, I met him half way, and prescribed *Nux vomica*, every four hours, and allowed him a cutlet for his dinner.

Thursday brought general improvement with it, but still the unfortunate bowels had not done their accustomed duty

even at the persuasion of *Nux vomica*; the urine remained perfectly clear, there was no fulness of the abdomen, no uneasiness, and so my own mind was at rest, and I prescribed the *Nux* again. But on Friday morning the bowels were still unmoved, and all the other symptoms favorable; but on Saturday there was the news that there had been an evacuation of firm consistency and normal hue, the blackness having entirely disappeared. However, though the patient rejoiced over this long-expected action, yet I found that he was weaker after it, and that he had felt weaker all Friday evening. I returned to *China* and cutlets, allowing some brandy and water. On Monday the bowels acted again, the evacuations were still of a healthy colour, and the patient was mending fast, having come downstairs. *China* was prescribed three times a day, solid food, and sherry. On Wednesday there was further improvement, more strength had been gained, the patient had taken a short walk out of doors, enjoyed his food, looked better, the lips were more coloured, the whites of the eyes not so deadly white, and the bowels had again delighted him by acting. So that I felt that there was nothing left for me to do than to prescribe *China*, and give him his *congé*. I did both. I met him out walking about four days after, and found that he was keeping his health and regaining his strength; so that all was well that ended well.

And now, Gentlemen, I would leave this second case in your hands as a problem to work out. In my own mind it is solved as a case of hæmorrhage from the bowels, not a case of melas icterus. The prostration, the white conjunctiva, the clean tongue, and the normal urine, divide it off from jaundice, and the previous history of the case seems to be "confirmation strong as holy writ" of the existence of a hæmorrhage, and not dark bile.

In both the cases reported the urine remained tolerably clear; in both the pulse was feeble, but not ranging higher than 85 or lower than 70; in both cases the bowels were constipated, and when the bowels acted there was increased weakness. In the first case stimulants were withheld, at first with advantage; in the second they were given from

the first, and with advantage. Both patients were of spare habit, both of the nervous temperament; the female was nervo-bilious.

In the case of the female we have to think of vicarious hæmorrhage, for, though the period came on a few days after the attack of vomiting, yet there had been the checked flow of blood from the bleeding polypus that had been removed.

In the male patient there was no enlargement of the liver or spleen; there had been no history of epigastric pain, no continuous nausea or vomiting, no periodic attacks of bilious vomiting or bilious diarrhœa, no tendency to diarrhœa, no aguish attacks, and there was no history of typhoid fever. So that we can eliminate hepatic congestion, carcinoma of the stomach, ulceration of the bowels, diseased spleen; but whence the hæmorrhage? perhaps some of you may answer the question. An extravasation of the blood it must have been from the intestinal mucous membrane, but what caused the extravasation I have yet to learn.

With regard to the treatment, *Arnica*, *Ipecac.*, *Nux*, *China* in the first case answered all my expectations, and *China* in the second. Looking at the pathogenesis of the drugs, I find that *Arnica* has the vomiting of dark-coloured matter mixed with blood, more clearly given than any of the other drugs I have referred to in our *Materia Medica*. *Ipecac.* has "vomiting of black, pitch-like substances" in one symptom. My preference would be given to *Arnica* were I called to another case of vomiting of blood. We have "vomiting of coagulated blood, of dark blood renewed by drinking or eating with vomiting of the ingesta." Again, too, the prostration seems well met by the *Arnica*, which has "languor and extreme prostration with fainting" amongst its symptoms. *China* in both cases was indicated by the anæmic state, and in both cases gave relief. *Nux* behaved well in one instance, but responded rather slowly in the second case. *Ipecac.* removed the nausea and tendency to vomiting in the first. Each case must be studied by itself for its own individual symptoms, and though generalising in homœopathy is scarcely sound or scientific, yet at the same

time, when we are called hurriedly to an urgent case, it is as well to have the outlines of our polychrests in our memory, and *Arnica* and *Ipecac.* would be the two drugs I should think of at first, allowing a margin for any characteristics possessed by other drugs that should more accurately adapt themselves to the case in question. I should, also, in a case of hæmatemesis, give ice to suck, and, with the patient's permission, feed by the lower bowel, so as to give the stomach all the possible rest; and I should prefer, also, injecting stimulants to giving them by the mouth, if needed. The two cases fully show that stimulants can be either exhibited or withheld, according to the peculiarities or necessities of the patient. Keeping the feet very warm would also be a useful accessory.

Sir Henry Holland, a worthy advocate of old school practice, recommends rest, cool drinks and non-interference with regard to medicines, condemning aperients, and thinking astringents of doubtful value, a very wholesome expectancy. But though this is admirable enough in fair weather, yet when a storm is brewing, we not only look for, but require more help than that given us by the gentle pilotage of expectancy; this help we find in homœopathy.

Discussion on Dr. Shuldham's paper.

Dr. DRURY thanked Dr. Shuldham for his interesting paper which, together with the remarks that it had led to, contained much of practical value. There was, however, a class of cases that ought not to be overlooked. It was, no doubt, easy when a large quantity of blood was shown to the doctor as having been passed at stool or vomited, for him to pronounce it a case of hæmorrhage, and if vomited, he might be able to say whether it came from the stomach or lungs; but of how much more value was it when he saw no blood, but found the pulse suddenly giving way, and a rapid sinking of the vital powers, to be able to say we have internal hæmorrhage to deal with, and while administering stimulants to restore strength give, at the same time, medicine to check the further loss of blood. An opinion so pronounced and acted on, confirmed afterwards by vomited blood or pitchy stools, will give confidence to the friends, and give the patient all the

assurance that the knowledge his complaint is understood can give him. In regard to remedies for abdominal hæmorrhage, there was, perhaps, none that stood so high as *Arnica*, and in such cases the medicines should be given in rapidly repeated doses. Where there was vomiting of bright red blood, *Ipecacuanha* deserved a preference, and where blood was passed by stool it was of importance to know whether it was hæmorrhoidal, and in such cases different remedies were needed, than in the cases contemplated by Dr. Shulldham's paper. *Hamamelis* was one of those medicines that, like *Ipecacuanha*, might be of use, whatever part of the canal the blood came from. So, in like manner, after any loss, *China* would be of use in restoring strength; but there was a remedy that, like *Arnica*, met a constitutional state that he believed was a most useful one in suitable cases; he alluded to *Sulphuric acid*, where there was a tendency to purpura.

Dr. YELDHAM remarked that cases of vomiting of blood might be divided into two classes—those that occurred in men, which arose commonly from organic changes in the liver and stomach, and were proportionately incurable; and those which occurred in women, which were often complicated with uterine derangement, and were for the most part curable. These latter cases, as he had himself observed, would sometimes occur at longer or shorter intervals. Some of the cases were exceedingly intractable. He had seen and treated some interesting cases of the kind in the hospital. One of the most remarkable was, some time ago, under his colleague, Dr. McKechnie. In this case, which extended over many weeks, and ultimately did well, there was bleeding, not only from the stomach, but from every mucous cavity of the body. The treatment of these cases was necessarily variable. In sudden attacks he trusted most commonly to *Aconite* and *Arnica* in the first instance, and subsequently to *Ipecac.* and *China*. The most perfect quietude should be observed. Ice should be applied to the pit of the stomach, and iced milk given to drink. As illustrating the importance of Dr. Drury's caution to be watchful for the cause of sudden attacks of collapse, he might mention a case that occurred in his (Dr. Yeldham's) practice many years ago. A lady, æt. 50, was seized with sudden blanching of the surface and collapse, and without any other objective symptoms died in a few hours. Immediately after death the sphincter ani gave way and large quantities of black blood poured from the bowel. That the patient died from internal hæmorrhage was made manifest by post-mortem examination. Two or three years ago he saw a case with a colleague, of obstinate vomiting of blood in a male patient of about 60 years of age. No treatment in this case was of any avail. He died, and a post-mortem betrayed a thickened and softened state of the lining membrane of the stomach.

Dr. LEADAM, V.P., in the chair, remarked that the case de-

scribed was one of *melæna mitis*, and was to be considered as having its source in the liver or hepatic veins. *Melæna* was of two kinds, although the malignant form was that to which reference was generally made when the disease was spoken of. In the mild form the evacuations were often sebaceous and of a greenish-black colour, the blood being intimately mixed with the excreta, so as to cause it to be of a uniform appearance. In such cases, under the influence of medicine, the secretions assume a brownish colour and the oozing of blood at the upper part of the intestinal tube is thereby known to have ceased. He had recently had the charge of a case which he had hoped was a case of the milder form of the disease, but which was accompanied by a daily spirt of arterial blood from just within the sphincter ani. Under the use of *Hepar*, *Hamamelis*, and *Ipecac.*, the excretions acquired a brownish character. The arterial spirt ceased for a time, but returned when the patient went under allopathic treatment, and shortly there was a development of cancer in the rectum.

20TH ANNUAL REPORT OF LONDON HOMŒOPATHIC HOSPITAL.

Minutes of the Annual General Meeting of 28th April, 1870.

THE Twentieth Annual Meeting of the supporters of this institution was held in the board room of the Hospital in Great Ormond Street.

The Right Hon. Lord EBURY in the Chair.

The Rev. THOMAS NOLAN, the Chaplain, having opened the meeting with prayer, and

Mr. J. R. WARREN, the Clerk, having read the minutes of the last Annual Meeting, which were approved and confirmed,

Mr. CHARLES TRUEMAN, the Official Manager, then read the following Report :—

“The board of management have the gratification to announce that the general condition of the hospital is satisfactory. The total number of patients treated since the opening of the hospital to 31st of December, 1869, was 81,732, of which 7398 is the number of the past year, being 6872 out- and 496 in-patients,

against a totality of 7467, composed of 7002 out-patients and 465 in-patients, 1868. While, therefore, there has been a decrease in out-patients of 130, not quite 2 per cent., the number of in-patients is greater, being 31, an increase of 7 per cent.

“It will be seen on reference to the balance-sheet, that the balance at the bankers at the commencement of the year was £81 17s. 9d., and that the total income of the year was £3725 5s. 6d. against £3187 13s. 1d. in 1868. In this income, the governors and subscribers will note with pleasure that, although the subscriptions remain nearly the same as in the preceding year, the dividends from the reserve fund are slowly, but the board trust surely, increasing, being in 1869 £167 2s. 5d. against £121 12s. 2d. in 1868. The amount of donations, it is true, is less, being only £902 14s. 4d., against £1682 1s. in 1868. But this source of income will vary, and the announcement that £2354 3s. 6d. has been added to the reserve fund in two years cannot but be received with pleasure.

“The invested fund of the hospital, exclusive of house and furniture, now amounts to £6599 10s. 9d., in consols and new 2 per cents., at a cost of £6072 1s. 11d.

“Amongst the donations of the year, the board are gratified to find that the friends of Dr. Quin have been again thoughtful as to the reserve fund. Three sums—two for £100 each, and one for £20, are from his friends; in addition, there has been another gift of £130 from the Society for the Relief of Persons Imprisoned for Small Debts; and a sum of £400 has been received on account of the legacy of Lord H. Seymour to the hospitals of London and Paris, of which our hospital is a participant.

“Turning to the expenditure, it will be seen that the total disbursements on account of income have been £2191 1s. 10d., against £2131 8s. 9d., in 1868, an excess of £50 13s. 1d.; and the board trust that this will not be deemed unsatisfactory when the number of additional in-patients (31) is considered. The balance at the bankers on 31st of December was £625 3s. 11d.

“The board have to congratulate the governors and subscribers on the success of the dinner held at the Freemasons' Tavern, on the 28th April last year; the nett proceeds, thanks in a great measure to the energetic and admirable speech of the chairman, Lord Elcho, and to the indefatigable exertions of the stewards, amounted to £1285 13s. 1d., and this sum bringing up the income of the hospital to the amount already named, £3725 5s. 6d. has enabled the board to effect various essential improvements, to organise what it is hoped will prove a better system of nursing, and yet to leave balance sufficient to carry on the working of the hospital through the present year. The buildings, the general appurtenances, and the furniture of the hospital are all in good order.

“An inspection of the hospital was made on the 2nd instant by

Drs. Yeldham and Chepmell, the medical gentlemen appointed for that purpose, and they conclude their report, which may be seen *in extenso* in the clerk's office, by the following words:—

“We were altogether gratified by our inspection; the satisfactory state in which we found every department of the hospital could be brought about and maintained only by constant watchfulness and thought on the part of those who are actively concerned in its management and working.”

“The board wish to add that the inspection took place without any knowledge on the part of the hospital officials that it was to be at that time made. They do not doubt that the governors and subscribers will to-day cordially thank the inspectors for their useful services on this occasion. The thanks of the board of management are also especially due to the lady visitors for their indefatigable attention to the inmates of the hospital.

“The following members of the board, Messrs. Crampertn Ellis, Humphreys, and Vaughan Morgan, retire by rotation, but, being eligible for re-election, offer themselves again to serve. Drs. Carfrae and Orlando Jones, both of the external medical staff, residing at some distance from London, found themselves compelled to resign their posts; and Dr. Miller, also of the external staff, on leaving for Australia, was obliged to relinquish his. The board, therefore, took the necessary steps to supply their places, and in virtue of the powers confided to them, have the great satisfaction to announce that the vacancies were duly filled by Drs. Dudgeon, Madden, and Moore.

“The resignation of Dr. Yeldham, of the internal staff, led to the election of Dr. Madden (by your own suffrages); and later Dr. Hale, by virtue of the powers vested in the board, was appointed to succeed Dr. Markwick, and the board are much pleased to state that they have also appointed, subject to the approval of the governors and subscribers, Dr. Bayes to fill one of the vacancies in the external staff. The confirmation of these appointments—viz., Dr. Hale to the internal staff, and Drs. Dudgeon, Bayes, and Moore, to the external staff—will be to-day submitted to the meeting. The board cannot but congratulate the governors and subscribers that they are able to submit to fill the vacancies men so well known, so highly esteemed, and some of them of such long practice in homœopathy, as those already named.

“The board cannot conclude this report without recording their grateful appreciation of the invaluable services of the officers of the medical staff, whose skilful and considerate attention has earned for them many expressions of gratitude from the in- and out-patients confided to their care.

“To the members of the staff who have left, the board have conveyed the necessary expressions of thanks for past services, but they consider a few words of grateful feeling are due, more especially to Dr. Yeldham, who has served the hospital since it

was founded, on the 10th October, 1849, in Golden-square; he has assisted at its rise and progress; has by his constant assistance largely contributed to its welfare; has been of most exemplary punctuality in his attendances; and his aid has been available at all times when required. Thus having had the interests of the hospital at heart, his service has been, to use the words employed by one of our colleagues, Mr. Ellis, 'heart service.' The board feel that the governors and subscribers will with pleasure record this day a special vote of thanks to Dr. Yeldham."

The Noble Chairman then addressed the meeting. He said: Ladies and Gentlemen,—You have just heard the Report, and I now rise for the purpose of moving its adoption. I recollect on two or three former occasions I remarked, with reference to the attendance at these meetings, that the friends and subscribers of the London Homœopathic Hospital entertained so high an opinion of the care taken by the Board of their interests, that they neglected to appear here a single day in the year in order to receive an account of their stewardship. (Hear, hear.) I am happy, on the present occasion, to observe a much larger attendance, for although the Board are much flattered by the confidence implied by your absence—(laughter)—they are more encouraged when you are here to listen to the report. (Applause.) I am, therefore, very glad to see our Board Room fuller than usual, and I hope it will be even fuller next year. Ladies and Gentlemen, we present a report which, by the indication of feeling during the time it was being read, is evidently satisfactory to the meeting. (Applause.) It is very gratifying to feel that this is so. It is stated in the first paragraph that the number of out-patients had been rather less than in the year before, but that is accounted for by the fact that the Hospital was under repair part of the time, among other reasons, so that it would have been impracticable to have treated so large a number as formerly even had they come here; but I congratulate you on the marked increase of in-patients, for the treatment of such is more to the credit of the Hospital and to the further advancement of science—(hear, hear)—while so careful has been the management of the funds that very little additional expense has thus been entailed. Our

balances have increased, our reserve fund has largely augmented, and, also, we have been able to effect improvements which were much needed for the working of the Hospital, and which will materially enhance the advantages it offers in the treatment of disease. I wish to explain as to the donations, which are stated in the Report to have been less than in the previous year—namely £902, as against £1682 in 1868. If this were not explained, it would look as if we received a larger sum in the year when we had no dinner than when there was one. Now, the real sum, instead of £902, was £2000; but it was thought better not to put it into that year, which was a nominal year. The truth is, the £1682 contribution was when "A Friend of Dr. Quin's" gave us £1000, so the comparison should be between £902 and £682, with the addition, of course, of the £1285 obtained by the dinner. It is very gratifying to those who administer its affairs to be able to give so good an account of the institution placed in their hands; but I would impress upon you that this does not indicate that there should be any relaxation of the efforts of its friends to carry the Hospital further. As to the inspection of the Hospital by Dr. Yeldham and Dr. Chepmell, they do not confine themselves to telling us that it is well arranged and carried on, but they have also told us that in certain things there is room for improvement—for instance, with regard to the accommodation of out-patients, and these are changes which we heartily desire, but which we cannot carry out without more money, and for this reason I hope that you will get as many of your friends as you can to assist us. I am sure you will feel, with me, that this is a very satisfactory balance-sheet, and that everything is going on very fairly, and I hope you will not relax from your efforts so as to produce greater results. (Hear, hear, and applause.) There is nothing, I am sure, which medical men will say is more important than nursing, and the expression in the Report on this point is hardly strong enough. Speaking of the various essential improvements effected, it says the Board has been enabled "to organise what is hoped will prove a better system of

nursing." Now, from what I know myself, I have reason to believe it will be, and such as you must thoroughly approve of. (Applause.) There is a paragraph with regard to the inspection of the Hospital at a time entirely unknown to the officials, and I think that this, coupled with the fact that there is a yearly inspection, and that we have the benefit of the Report of the Lady Visitors, proves we have as good an inspection as can be desired for an institution of this kind. (Hear, hear.) I am sorry that Dr. Yeldham is not still one of our medical officers, and I join most cordially in the thanks and compliments contained in the last paragraph of the Report, with regard to that very distinguished medical man. Another portion of the Report which I can refer to with pleasure is that referring to the names of the medical men who have been appointed to fill up the vacancies,—Dr. Hale on the internal staff, and Drs. Moore, Dudgeon, and Bayes on the external staff, which appointments you will be asked to confirm to-day. This must be a subject of great gratification to all present who have long desired that we should have the best medical men, and I am sure, with the additions to which we have just alluded, nothing will be wanting that talent, kindness, and assiduity can effect in the way in which the patients of this Hospital will be treated. (Applause.) I, therefore, with the greatest pleasure, move the adoption of the Report. (Applause.)

The Hon. W. WARREN VERNON, in seconding the adoption of the Report, said he should do so in a very few words, for in the first place he was suffering from indisposition, and secondly it had been so fully treated by the Chairman. There was one point, however, alluded to by the noble Lord, on which he would lay great stress, and that was that they should, through their friends make known, not only the efficiency, but the very existence of the Hospital. (Hear, hear.) He was astonished to find so many persons perfectly unaware of that fact, and if they could induce their friends who attended the annual meetings to carry away with them their impressions to their own homes, Homœopathy would not be the fable such as it was sometimes

contemptuously held to be. The Hospital had much increased since it had been under the management of his friend Mr. Trueman, who had placed it in such an efficient state. (Applause.) He cordially agreed with all that had fallen from the Chairman, as to the loss of Dr. Yeldham's valuable services. Over and over again he had heard the patients talk of the doctor's kindness and attention, which made him feel that the loss was one which would not be easily repaired. (Applause.)

The resolution having been unanimously carried,

Dr. MADDEN said,—My Lord, Ladies and Gentlemen, I have been requested to propose a vote of thanks to the Board of Management, the House Committee, the Treasurer and Sub-Treasurer, and to the Lady Visitors, and I have much pleasure in doing so. The task set me is at once easy and difficult. Easy—because one can always say something on a subject with which one is familiar. Difficult—because the more you know of persons the more apt you are to be biassed in your judgment. Easy—because of the many kindnesses which I have received at the hands of those I have to ask you to thank. Difficult—because the very closeness of my association with them makes me dread lest I should appear to exaggerate their claims upon your kindly feelings. My Lord, we have all heard much of large joint stock companies that, with every reasonable warrant for success, have failed through the carelessness and supineness of their directors. This will never be the case with the London Homœopathic Hospital while your present Board of Management exists. We know how much the comfort of a large household depends upon the energy and kindness of the major domo, and those who are best acquainted with this Hospital will readily testify to the successful working of our House Committee. My Lord, you have often heard of the evils of *red-tapeism*, and yet I feel sure you will say that if there is to be order and discipline,—if there is to be a place for everybody, and everybody in his place, there must be a certain quantity of red-tape. Now I find in this Hospital just the correct amount of this article. In no way does it tie our hands or hamper

our actions, but it does keep things together, and ensures a sufficient amount of order and regulation, so that we of the staff can be made to feel the reins if we become wilful or negligent. But there is another side from which to view this question. I have no doubt but that those whom I have asked this meeting to thank have mixed motives for what they do. They have, for instance, the good old Saxon quality of justice, which makes them do their work because it is an honour to do one's duty. Thus their kindly feelings will lead them to do much for the comfort of the many sufferers who come here for relief. But I am sure that, over and above these reasons, they have as a mainspring of their activity here a love for homœopathy, and this at once points to *our* duty. If the Board of Management takes so much pains to keep this Hospital up to the mark, we of the medical staff must take equal pains to keep the treatment up to the mark. We must never forget that this is not only an Hospital—it is a *Homœopathic* Hospital, and it is our sacred duty to keep it so. Some two or three years ago, several of our colleagues, unconnected with this Hospital, were anxious to enlarge the basis of our operations, by granting greater liberty in the matter of treatment. My Lord, I fear that here as elsewhere, liberty meant *license*. We cannot afford liberty of this kind. We have seen too much of its results in individual practices to wish to let it enter within the walls of our Hospital. The longer I practise homœopathy, the more convinced I am that the desire for liberty does not originate in any imperfection in our system, but in the carelessness of its practitioners. It is not an easy matter to treat patients homœopathically; the necessary painstaking individualisation of each case is irksome, and one naturally looks for some royal road to a safe routine, and accordingly some seek for it in large doses and some in the use of auxiliaries. I am satisfied, however, that in the vast majority of cases neither one nor the other of these would be required if we were sufficiently careful in selecting our remedies. My Lord, you have often spoken of the importance of utilising this Hospital as a school of inquiry, and this is another strong reason why

the treatment should be carefully studied. Inquirers do not come here to see what medical treatment in general can do for disease. They come here to see what homœopathy can do, in order that they may compare it with other methods of treatment. I feel, therefore, that we are in an especial manner bound to use a pure unmixed homœopathic treatment within these walls. I do not mean to hint, by these statements, that we are not practising pure homœopathy here, but I refer to the subject on account of the suggestions already mentioned, to the effect that we should allow more liberty of practice. Did I believe that such liberty was necessary for the welfare of the patients, I should urge the dropping of the word "Homœopathic" from the name of our Hospital. But I do not believe in any such necessity. On the contrary, I am satisfied that a pure homœopathic treatment carefully carried out will compare satisfactorily with any method of treatment at present known. My Lord, Ladies, and Gentlemen, I will occupy your time no longer. I have shown you how well the Board of Management, &c., have done their duty and earned your thanks, and I have hinted at the way in which we of the staff can best show our own appreciation of all the kindness we are daily receiving at their hands.

Mr. VAUGHAN MORGAN, in seconding the motion, said that on the principle of *place aux dames* he would first refer to the ladies, who formed an important part of the governing body. (Applause.) No man of woman born had the tender touch and sympathetic feelings of the softer sex, and it was fortunate that the lady visitors had these qualities, while they could not but imbibe from their husbands some medical knowledge. Next to them in importance was the House Committee. (Hear, hear.) If he spoke of the Treasurer perhaps it might be thought he wanted to get something out of the Hospital—(laughter)—so he would say that any deficiency the Treasurer might have—(renewed laughter)—was made up by the Sub-Treasurer (Mr. J. B. Crampertn), who was always there doing something for the benefit of the Hospital. (Applause.) Then let them see the efficient manner in which the Official

Manager (Mr. C. Trueman) did his work. (Hear, hear.) He was the round man in the round hole, and most assiduously did he fulfil his duties. (Applause.) But, with all Mr. Trueman's good qualities, he had one fault, and, if any allopath doctors came to visit the Hospital, he would advise them to lock him up in a cupboard. (Laughter.) His was not a good specimen of homœopathy, being in bad health, and it would be rather a slur on them if they could not pull him round. (Hear, hear.) He thought the medical men ought to form an inquest and sit on him. (Laughter.) As to the Committee, he could say that everything was so well done by the House Committee and the Official Manager that they had always the greatest pleasure in attending at the Hospital. (Applause.)

The resolution was then put and carried.

Dr. YELDHAM moved the confirmation of the appointment of the gentlemen named in the Report on the medical staff, observing that they occupied a front rank amongst the homœopathic practitioners of England, and congratulating the friends of the Hospital that it was so strong in its medical staff, which included men second to none in the country. (Loud applause.)

The resolution having been carried,

Mr. PHILIP HUGHES moved a vote of thanks to Dr. Yeldham on his retiring from the post of senior Surgeon of the Hospital, with which he had been connected since its establishment, twenty years ago. He had the greatest pleasure in moving this resolution, for, having himself been concerned with the institution nearly the whole period—from its formation in Golden-square—he had the opportunity of knowing the skill and kindness of Dr. Yeldham towards the patients, and which called for their blessing, as well as the judgment, the courtesy, and feeling he had ever displayed in his communications with the Board of Management and other members of the institution. (Applause.) The Hospital had had many difficulties to struggle against. It had suffered from want of funds, but they always had Dr. Quin to encourage them and support them with his parental care—(loud applause)—and he was sure that Dr. Quin respected

no one as a coadjutor more than Dr. Yeldham, in whose skill and judgment he had the fullest reliance. (Applause.) An appointment in an hospital was frequently the stepping-stone to fame and wealth; but as homœopathy was isolated it must have been with Dr. Yeldham a labour of love that he perseveringly continued to give his services for so many years as surgeon to that institution. He hoped that in now retiring, bearing with him the esteem of all and the gratitude of the patients, he would look back with gratification to his long connection with the Hospital and might the blessing of God ever rest on him in his retirement. (Loud applause.)

Dr. LEADAM, in seconding the resolution, said he could testify from personal observation to the benefits conferred on the patients by Dr. Yeldham—to the high-toned character and feeling which he always brought to bear, and if Dr. Yeldham was not present he could say much more in order to amplify if possible the cordiality with which they would welcome that motion. He had done more for the institution by his energy and judgment than any other man, and he was sure the medical staff would look with regret on his retirement, although he hoped Dr. Yeldham would not entirely forsake the interests of the Hospital. (Hear, hear.)

The resolution having been carried,

The CHAIRMAN said, I entirely participate in these sentiments, and it is a matter of great gratification to me, Dr. Yeldham, to be the individual means of presenting you with this resolution. (Applause.)

Dr. YELDHAM said he should be something more or less than mortal if he did not feel deeply moved by the expressions of kindness and esteem which had fallen from his lordship, his friend Mr. Hughes, and his old and valued friend Dr. Leadam; but being entirely mortal, he would say he was deeply moved by their great kindness, which, however, he must regard as a standard by which he would be able to measure his own deficiencies rather than his deserts. He deserved no credit whatever for the manner in which he had discharged his duties, for he felt that the man who accepted a public appointment was bound to fulfil his

duties honestly, and to the best of his ability—(applause)—and the more so if his services were given gratuitously, for in that case an appeal was made to his honour, and the laws of honour should be, if possible, more sacred than any written law. (Applause.) As to his services, it had been a pleasure and a duty to him to render them. He could not but recognise the fact that on the devotion of medical men who believed in the principle of homœopathy must chiefly depend the amount of support to be gained by an institution such as that—(hear, hear)—and entertaining that feeling, he sought to excite all the interest he could for the Hospital. It afforded him the greatest gratification he could have that the long services he had been able to render had been acknowledged as they had been that day. (Applause.) It was one of the greatest pleasures of his life to work for the Hospital, for he felt the great importance of it to the cause of homœopathy—a far greater importance than appeared on the surface. He had heard regrets expressed that it had not borne tangible fruit—that more medical men had not joined it, and more students visited its wards; but he had always felt that the influence exercised by the hospital was more of a moral than a material character. (Hear, hear.) There was no doubt that by many they were still hated with a cordial hatred—(laughter)—but that did not prove that the hospital did not exercise a beneficial influence. It stood there as an open challenge to the world. (Applause.) A lady had told him that, having a physician of the old school dining at her table, she asked him what he thought of homœopathy? He replied, “It is dead and buried:”—(laughter,)—on which she replied, “There is the London Homœopathic Hospital, and it is more flourishing than ever;”—(hear, hear)—and that shut him up. (Laughter.) No doubt members of the old school did wish it was “dead and buried,”—(laughter)—but that hospital emphatically proved it was not. Repeated reiteration of what was detrimental could not but act prejudicially to any cause, and, therefore, the very fact that they possessed this hospital was a great power in their hands, so that thus it exercised a great moral

influence. He would not detain them longer in returning his thanks, but he could assure them that the overwhelming kindness of the chairman, and of all other friends, would stimulate him, if any stimulant were needed, to exert himself in future for the good of the hospital. (Loud applause.)

Mr. ALEXANDER J. ELLIS, F.R.S., in proposing a vote of thanks to the medical staff for their able and efficient services during the past year, said they had just thanked the most efficient member of the staff, who had now retired, and had welcomed those who had recently joined, and who, he was sure, would in future years deserve a vote of thanks such as this which, however, had especial reference to the old members. He would particularly allude to Dr. Quin, for though he did not now often attend the Hospital, yet his services as Consulting Physician and as chairman of the committee for drawing up the laws, were such as to merit their thanks. With regard to the general conduct of the staff, their efforts for the good of the institution could only be expressed by the word "extraordinary"—(hear, hear)—and the meeting could not but thank them, together with the outgoing members, for their deep interest in the Hospital. (Applause.)

Mr. JOHN BOODLE, Deputy Chairman, said, that after the exhaustive remarks of the previous speaker, and at that late hour, he would content himself by merely seconding the resolution.

The motion having been carried,

Dr. DUDGEON, as the junior member of the staff, acknowledged the compliment, observing that as to the older members they fully deserved it, and as to the juniors he hoped they would do their utmost to merit a similar expression of confidence.

Mr. PHILIP HUGHES proposed a vote of thanks to the Medical Inspectors, Drs. Yeldham and Chepmell, referring to the great advantages which the institution derived from an inspection by two such gentlemen, who had suggested improvements for the future. It must be borne in mind that even the best hospital was open to improvement, and

nothing would so much ensure that as a wise inspection, which would tell them how it could be brought to a state of excellence. He hoped that this institution, which had risen up as a seedling, would grow up into a strong plant, and establish itself in the principles on which it was founded, and for the good of humanity. (Applause.)

Mr. ALFRED ROSHER seconded the resolution, which was carried.

Dr. YELDHAM, in the absence of Dr. Chepmell, returned thanks, observing when they made their inspection everything was in the most satisfactory state, and they had nothing to record but approbation. He had been in the habit of visiting the institution two or three days a week since its establishment, and he had watched its gradual improvement, and its growth almost to perfection, under the judicious management of its excellent official manager, Mr. Trueman. He was bound to say that nothing could exceed the judicious and unceasing care with which that gentleman watched over the Hospital in all its departments. (Applause.) The few suggestions which he and his colleague (Dr. Chepmell) had made bore nothing of the character of complaints as to insufficient accommodation for the out-patients, but were simply directed to the decorations of the rooms in which gentlemen who were kind enough to perform the duties of that department, and who were men of the highest rank in the profession, had to pass many hours, with the view of rendering the rooms more comfortable and pleasing to the eye. (Hear, hear.)

On the motion of Mr. POPE, seconded by Mr. CAMERON, the members of the Board of Management retiring by rotation were unanimously re-elected.

The Rev. THOS. NOLAN, the Chaplain, having congratulated his lordship in presiding over a meeting without any jars of any kind, proposed a vote of thanks to the Chairman, bearing testimony to the readiness with which Lord Ebury took part not only in this, but in every other good work. (Applause.) As a minister of the Gospel he felt quite in his place in advocating an institution such as that. It was remedial, and so was the Gospel itself, and the work in

which they were engaged especially brought down the blessing of God, for it was an embodiment of the example set by our Lord, who went about doing good. (Hear, hear.) Looking back to the past year with thankfulness, he looked forward to this with hope. (Applause.) He had the greatest pleasure in moving a vote of thanks to his Lordship for presiding. (Applause.)

Mr. J. B. CRAMPERN, Sub-Treasurer, seconded the resolution, which was enthusiastically carried.

The CHAIRMAN,—In thanking you, I can fairly say this for homœopathy, that, if I have been able to do anything for the Hospital, I should not but for homœopathy be occupying my present position to-day. (Applause.) I may mention for the information of some of you, that the able, eloquent, and excellent divine who has just addressed you, and who has long been my friend (Mr. Nolan)—(applause)—has the spiritual superintendence of this Hospital, and I am sure the patients largely profit by the services which he is kind enough to bestow, not only himself and his curate, but through a most excellent scripture-reader, Mr. Cousens. (Applause.) With these few remarks be good enough to allow me to tender you my very best thanks for your great kindness in acknowledging my humble services to-day and during the past. (Loud applause.)

The ordinary business having terminated, the meeting was made special, for the purpose of obtaining the sanction of the meeting to an alteration in the bye-laws by the medical staff, and approved by the Board of Management.

Mr. TRUEMAN (the Official Manager) announced, amidst loud applause, the receipt of another donation of £100 from "A Friend of Dr. Quin," and by which donor the Hospital was not for the first time benefited in a like amount.

Mr. CAMERON then read a letter from Dr. Quin (which will be found at the end of the report of the meeting), asking him to move on his behalf, in his absence on account of ill-health, a resolution which Mr. Cameron intended to second, empowering the Board to appoint a consulting surgeon, with the view of conferring that distinguished honour on Dr. Yeldham on his retirement from his active

duties as Senior Surgeon, in acknowledgment of his long and valuable services to the Hospital. Mr. Cameron accordingly, in the name of Dr. Quin, moved the resolution, and seconded it in his own, and Dr. Yeldham was, amidst loud applause, elected Consulting Surgeon to the Hospital.

The CHAIRMAN,—We have now changed our laws, and, having gone at once to the constituency, have finished an excellent day's work by electing Dr. Yeldham the Consulting Surgeon to this Hospital, if he will accept that office. (Applause.)

DR. YELDHAM, in reply, said he had resigned his appointment with regret, and it afforded him the greatest pleasure to maintain his connection with the Hospital and its medical staff by most gratefully accepting the office just conferred on him. (Applause.) The proposition had emanated from the medical staff, and he would ever look back to this token of their friendship with pride; but what invested it with peculiar importance was its recommendation by his old friend, Dr. Quin, the chief founder and supporter of the Hospital—(applause)—and who occupied so eminent a place as a physician, and whom they had ever recognised as one who merited the esteem of all, and had ever been a wise counsellor and good friend. (Applause.) They missed Dr. Quin's cordial and cheering presence at their meetings, but while they deplored the cause of his absence, they must all sincerely wish with him (the speaker) that his health might soon be restored, and his life spared for many years.

The Rev. T. NOLAN then pronounced the benediction, and the proceedings terminated.

Letter of Dr. Quin above referred to.

“Belgrave Mansions, Grosvenor Gardens,
“April 28th, 1870.

“My dear Cameron,—You kindly consented to second the motion I intended to submit to the consideration of the meeting to be held to-day at the Hospital. I am unavoidably prevented being present, and therefore write to beg you to bring forward

the motion for me, viz., moved by Dr. Quin, and seconded by Mr. Hugh Cameron, 'That the Board of Management shall have the power to appoint a Consulting Surgeon on the Medical Staff when they are of opinion that the long services and distinguished merits of a surgeon of the Hospital deserve that honour to be conferred upon him on his retirement from the active duties of his office.'

"Our object in making this motion is to afford the Board of Management an opportunity of placing on record the deep sense entertained by all interested in the welfare of the Hospital of the invaluable services performed by Dr. Yeldham from its first establishment,—services marked by the most assiduous and punctual discharge of his duties, by his skilful and humane treatment of the patients, by the perfect harmony and cordiality which have ever existed between him and his colleagues, and by the efficient and valuable aid given by himself and his friends by their contributions, from first to last, to the revenue and prosperity of the Hospital.

"In suggesting that this graceful and well-merited compliment should be paid to Dr. Yeldham, we feel that no one could give stronger testimony to his services than ourselves, who have been associated with him from the foundation of the Hospital, now nearly twenty-one long years ago; at the same time we feel assured that in so doing we merely echo the opinions and wishes of his colleagues and of the Board, who would regret with us that a name so bound up with the welfare of the Hospital should cease to appear on its Medical Staff, or that the charity should lose the advantage of his counsel and experience.

"Hugh Cameron, Esq."

"Yours ever sincerely,

"FREDERICK F. QUIN.

Report of In-Patients under Treatment during the Year ending December 31st, 1869.

The classification here adopted is in accordance with the one recently drawn up by the Committee appointed by the Royal College of Physicians of London.

	Cured.	Much Improved.	Improved.	Not Improved.	Dead.	Under Treatment.	Total.
<i>General Diseases :—</i>							
a.—Enteric fever	2	...	...	...	...	...	2
Febricula	2	...	...	...	...	...	2
Relapsing fever .....	...	...	...	...	...	1	1
Hooping cough	1	...	...	...	1	...	2
Erysipelas	2	...	...	...	...	...	2

	Cured.	Much Improved.	Improved.	Not Improved.	Dead.	Under Treatment.	Total.
<i>b.</i> —Acute rheumatism	34	5	...	1	2	5	47
Subacute "	6	2	1	1	...	1	11
Muscular " .....	...	1	...	...	...	...	1
Chronic "	1	6	1	...	...	5	13
Chronic osteo-arthritis .....	...	2	...	...	...	2	4
Syphilis—							
Primary	1	1	...	...	...	...	2
Secondary	4	5	2	...	...	...	11
Cancer—							
Scirrhus of breast .....	...	...	1	...	...	...	1
" rectum .....	...	...	...	...	1	...	1
" mesenteric glands ...	...	...	...	2	...	...	2
Osteoid cancer of knee .....	...	...	1	...	...	...	1
Elephantiasis tuberculosa .....	...	1	...	...	...	...	1
Scrofula—							
Diseases of glands	3	1	1	...	1	1	7
Laryngitis .....	...	1	...	...	...	...	1
Pulmonary consumption.....	5	13	15	1	...	1	35
Abscess of elbow.....	...	...	2	...	...	1	3
Caries of pelvis	1	...	1	...	...	...	2
Disease of hip-joint.....	...	8	...	1	...	1	10
Chronic disease of knee-joint.....	...	1	...	1	...	...	2
Rickets .....	...	...	1	...	...	...	1
Purpura—							
Simple.....	1	...	...	...	...	1	2
Hæmorrhagic	2	...	...	...	...	...	2
Chlorosis	1	2	...	...	...	...	3
LOCAL DISEASES :—							
<i>a.</i> — <i>Diseases of Nervous System :—</i>							
Of Brain and its Membranes—							
Meningitis .....	...	1	2	...	1	...	4
Abscess .....	...	...	...	...	1	...	1
Apoplexy .....	...	1	...	...	...	...	1
Softening.....	...	...	...	2	...	...	2
Cephalalgia .....	...	...	...	1	...	...	1
Of Nerves—							
Paralysis—							
Hemiplegia .....	...	2	3	1	...	2	8
Paraplegia .....	...	1	3	1	...	1	6
Locomotor ataxy.....	...	2	...	...	...	...	2
Functional Diseases of Nervous System—							
Epilepsy	1	...	...	3	...	...	4
Shaking palsy .....	...	...	1	...	...	...	1
Chorea.....	3	2	...	...	...	1	6
Hysteria	3	2	2	1	...	...	8
Neuralgia—							
Pleurodynia.....	...	...	...	...	...	1	1
Sciatica	1	3	1	1	...	...	6
Hyperæsthesia.....	...	1	...	1	...	...	2

	Cured.	Much Improved.	Improved.	Not Improved.	Dead.	Under Treatment.	Total.
<i>b.—Diseases of the Eye :—</i>							
Of Conjunctiva—							
Ophthalmia .....	...	1	...	...	...	...	1
Of Cornea—							
Ulcer	1	1	...	...	...	...	2
Opacity .....	...	...	...	...	...	1	1
Of Iris—							
Iritis	1	...	...	...	...	...	1
Of Choroid and Retina—							
Amaurosis	1	1	...	...	...	...	2
<i>c.—Diseases of the Ear :—</i>							
Of External Meatus—							
Inflammation	1	...	...	...	...	...	1
<i>d.—Diseases of Circulatory System :—</i>							
Of Heart and its Membranes.....	1	6	1	2	1	2	13
Of Arteries—							
Aneurism of aorta .....	...	...	...	...	1	...	1
Gangrena senilis .....	...	...	1	...	...	...	1
Of Veins—							
Varicose veins.....	...	1	...	1	...	...	2
Nævus vasculosus .....	...	1	...	...	...	...	1
Phlegmasia dolens .....	...	1	...	...	...	...	1
<i>e.—Diseases of Respiratory System :—</i>							
Of Larynx—							
Aphonia .....	...	2	...	...	...	...	2
Of Trachea and Bronchi—							
Bronchitis—							
Acute	9	1	...	...	1	2	13
Chronic	2	7	1	2	2	...	14
Asthma .....	...	1	...	...	...	...	1
Of Lung—							
Pneumonia	3	1	...	...	1	...	5
Broncho-pneumonia	2	2	...	...	...	...	4
Pleuro-pneumonia	3	1	...	...	...	...	4
Abscess .....	...	1	1	...	1	...	3
Of Pleura—							
Pleurisy	1	...	...	...	...	1	2
<i>f.—Diseases of Digestive System :—</i>							
Of Mouth—							
Stomatitis .....	...	1	...	...	...	...	1
Of Fauces and Palate—							
Tonsillitis.....	8	2	...	...	...	...	10
Of Stomach—							
Inflammation .....	...	...	...	1	...	1	2
Dyspepsia	7	...	2	...	...	1	10
Gastrodynia.....	3	...	...	...	...	...	3
Vomiting.....	6	...	...	...	...	...	6

	Cured.	Much Improved.	Improved.	Not Improved.	Dead.	Under Treatment.	Total.
Of Intestines—							
Dysentery	1	...	...	...	...	1	2
Sub-peritoneal abscess	1	...	...	...	...	1	5
Tænia	1	...	...	...	...	...	1
Colic	1	...	...	...	...	...	1
Stricture .....	...	...	...	...	1	...	1
Of Rectum and Anus—							
Fistula in ano	2	...	...	1	...	...	3
Hæmorrhoids	1	3	...	...	...	...	4
Fissure of anus	1	...	...	...	...	...	1
Prolapsus	1	...	1	...	...	...	2
Of Liver—							
Hepatitis .....	...	...	...	...	...	1	1
Abscess .....	...	...	...	...	1	...	1
Jaundice	3	1	...	...	...	...	4
Of Peritoneum—							
Chronic inflammation	1	...	...	...	...	...	1
g.—Diseases of the Urinary System :—							
Of Kidney—							
Chronic Bright's disease	3	...	...	...	1	...	4
Of Bladder—							
Incontinence of urine.....	1	2	...	...	...	...	3
Of Male Urethra—							
Stricture	2	1	...	...	...	...	3
Ulcer .....	...	...	1	...	...	...	1
h.—Diseases of Generative System :—							
Genitalium Virilium—							
Morbi Colis—							
Paraphimosis	1	...	...	...	...	...	1
Morbi Testiculi—							
Hydrocele	1	...	...	...	...	...	1
Orchitis .....	...	1	1	...	...	...	2
Locorum Virginalium—							
Ovarii—							
Inflammatio.....	...	...	1	...	...	...	1
Tumor fibrosus	1	...	1	...	...	...	2
" cysticus multiplex	3	...	...	...	...	...	3
Morbi Uteri, Cervicisq̄ue—							
Catarrhus .....	...	...	1	...	...	...	1
Inflammatio.....	1	...	...	...	...	...	1
Ulcera	2	...	...	...	...	...	2
Prolapsus.....	2	...	2	...	...	1	5
Retroversio	1	...	...	...	...	...	1
Vitia Naturalium Actionum—							
Amenorrhœa	1	...	...	...	...	...	1
Menstrua immodica	1	...	...	...	...	...	1

	Cured.	Much Improved.	Improved.	Not Improved.	Dead.	Under Treatment.	Total.
<i>i.—Diseases of the Organs of Locomotion :</i>							
Of Bones—							
Necrosis of humerus	1	...	...	...	...	...	1
Caries of ulna	1	...	...	...	...	...	1
Necrosis of phalanges.....	2	...	...	...	...	...	2
Caries of tibia.....	1	...	...	...	...	1	2
„ tarsus	1	...	...	...	...	...	1
Of Joints—							
Acute synovitis	1	2	...	...	...	...	3
Chronic	2	3	...	...	...	...	5
Of Spine—							
Angular deformity	1	2	1	...	...	...	4
Of Muscles—							
Talipes varus .....	...	...	...	1	...	...	1
Inflamed bursa patellæ	6	3	...	...	...	...	9
Torticollis .....	...	...	1	...	...	...	1
<i>k.—Diseases of Cellular Tissue :—</i>							
Inflammation .....	...	1	...	...	...	...	1
Abscess	10	1	...	...	...	1	12
Tumours .....	...	...	1	1	...	...	2
<i>l.—Diseases of Cutaneous System :—</i>							
Psoriasis vulgaris	1	1	1	...	...	...	3
Eczema	4	3	1	2	...	...	10
Impetigo	1	1	...	...	...	...	2
Acne	1	1	...	...	...	...	2
Ulcers of hands	1	...	...	...	...	...	1
„ legs	7	9	5	...	...	1	22
Ingrown nails	1	...	...	...	...	...	1
POISONS.							
Metals and their Salts—							
Lead—							
Lead colic .....	...	...	1	...	...	...	1
„ palsy .....	...	...	1	...	...	...	1
Vegetable Poisons—							
Alcohol—							
Delirium tremens	1	1	...	...	1	...	3
INJURIES.							
General Injuries—							
Burns and Scalds	5	...	...	...	...	1	6
Local Injuries—							
Scalp wound	1	...	...	...	...	...	1
Contusion of face	2	...	...	...	...	...	2
Concussion of spine	2	...	...	...	...	...	2
Fractured ribs	1	...	...	...	...	...	1
Sprain of abdomen	1	...	...	...	...	...	1
„ shoulder	2	...	...	...	...	...	2

	Cured.	Much Improved.	Improved.	Not Improved.	Dead.	Under Treatment.	Total.
Local Injuries—							
Fractured clavicle	1	...	...	...	...	...	1
" humerus	1	...	...	...	...	...	1
" radius	1	...	...	...	...	...	1
Incised wound of palm	2	...	...	...	...	...	2
" " thigh	2	...	...	...	...	...	2
Fractured femur	1	...	...	...	...	...	1
Dislocation of tarsus	1	...	...	...	...	...	1
Sprain of ankle	2	...	...	...	...	...	2
	208	147	68	29	18	40	510
OPERATIONS	18	1	1	...	...	1	21

531

Classified Summary of the Results of Treatment of the 531 In-patients during the Year 1869.

General Diseases.							
Section a	7	...	...	...	1	1	9
" b	59	49	28	7	4	19	166
Local Diseases :—							
a.—Diseases of Nervous System	8	15	12	11	2	5	53
b.— " Eye	3	3	...	...	...	1	7
c.— " Ear	1	...	...	...	...	...	1
d.— " Circulatory System ...	1	9	2	3	2	2	19
e.— " Respiratory "	20	16	2	2	5	3	48
f.— " Digestive "	41	12	3	2	2	5	65
g.— " Urinary " .....	...	6	4	...	1	...	11
h.— " Generative "	13	8	6	...	...	1	28
i.— " Locomotor "	18	12	2	1	...	1	34
k.— " Cellular Tissue	13	2	1	1	...	1	18
l.— " Cutaneous System ...	16	15	7	2	...	1	41
Poisons	1	1	2	...	1	...	5
Injuries	25	...	...	...	...	1	26
	226	148	69	29	18	41	531

RETURN OF PATIENTS DURING THE YEAR 1869.

Out-patients.....	Total. 6872
In-patients	531

7403

REVIEWS.

A Treatise on Diseases of the Eye; for the use of General Practitioners. By H. C. ANGELL, M.D. Boston, 1870.

MANY years ago we had the privilege of being dresser to a distinguished professor of surgery in a northern medical school. This eminent surgeon was no less renowned for the boldness than for the dexterity of his operations. He was the first to propose many of the most heroic operations of the century, and if he was sometimes unfortunate in these *tours de force*, he was wont to console himself and restore our confidence in his skill by candidly confessing that "we were all liable to make mistakes, even the very best of us." If courage always commanded success he should have been the most successful of operators. Whether he was so or not we are not in a position to decide. If he heard or read of any new operation he burned with a noble ambition to perform it before our eyes, to prove to us that whatever man dared he would do. As no operation was too great for his dexterous rapidity, so none was too minute for his delicate tact. He believed his fingers to be equally adapted to wield the amputating knife or the couching needle. One day, after having just performed one of the heroic operations of surgery, ligature of the innominate or common iliac or something of that sort, he brought into the operating theatre an old woman with cataract. "The oculists," he said, "pretended that it required a special education or tact to perform operations on the eye, but I will show you that the skilful surgeon can perform the most delicate operation on the eye as well as the professed oculist." And then he held up between his finger and thumb the delicate triangular knife called "Beer's," as much as to say, 'you have heard of the elephant's trunk that can rend an oak or pick up a pin, of Nasmyth's

steam hammer that can forge a man-of-war's anchor or crack a nut; you have seen how I am at home among muscles, bones, and arteries as big as my thumb,—now you shall see how dexterously I can work among the minute structures of the most delicate organ in the body.' With this he boldly plunged his knife into the cornea, but alas! its withdrawal was followed by the whole contents of the eye, which rolled in a large transparent drop—like a magnified tear—down the cheek, a pitiable sight! Anticipated triumph resulted in dismal discomfiture, which was too much for our professor's equanimity. Livid with anger he addressed his unfortunate victim in a voice hoarse with rage: "Now, my good woman, you may go to bed, your eye has all gone to"—no matter where. The moral of this story is that eye operations are not to be accomplished successfully without special study and education. And we may say also of eye diseases that they also require a special study and a special treatment.

The work before us supplies a want that we have often felt in homœopathic practice. There are in homœopathic literature plenty of works on general therapeutics, but few complete works on special diseases, or on the diseases of special organs. The clinical literature of the homœopathic treatment of eye diseases is insignificant, and is scattered throughout our periodicals so as to be of little use to the practitioner. Within the last twenty years, ophthalmology has undergone immense changes, in fact it has been in almost every particular completely revolutionised. If we compare a manual of eye diseases like Mackenzie's with any of the more recent works, such as Dr. Soelberg Wells', we shall find that the ophthalmology of to-day differs vastly from that of twenty years ago. New modes of examining the eye have been introduced; new forms of disease have been discovered, new modes of treatment have been practised, and new operations have been performed. The very nomenclature of diseases and imperfections has been revolutionised, and a practitioner who may have learnt all that could have been taught him in the schools a quarter of a century ago, would, unless he had kept himself

au courant with the changes that have taken place, hardly understand a word of many of the recent monographs on eye diseases.

In this country, where the paucity of homœopathic practitioners and the comparatively limited circle of patients having confidence in homœopathic treatment render it impossible for any to devote himself exclusively to a speciality of practice, it would have been long before one could have acquired the experience requisite to enable him to write anything like a complete treatise on eye diseases. But it is otherwise in America, where homœopathy counts almost as many patients and practitioners as the old school. This circumstance has afforded an opportunity, which has been readily embraced by many of our colleagues, for devoting themselves to special branches of practice. Dr. Angell has selected eye diseases as his speciality, and has given us a manual which will be of great use to the general practitioner, to whom it is especially addressed.

So many of the diseases and defects of the eye are treated by other than medicinal means, that the therapeutic treatment in a treatise of this sort must necessarily occupy a comparatively subordinate space. The non-medicinal remedial means being the same whatever therapeutic views we may hold, it follows that a large portion of a manual of eye diseases might be written indifferently by a homœopath or allopath. Dr. Angell shows himself thoroughly conversant with all the most recent discoveries in ophthalmologic knowledge, and with all the most recent inventions and improvements in the oculist's art.

He first gives us a brief sketch of the rise and progress of ophthalmic surgery. In the concluding paragraph he sums up the recent advances of ophthalmology in the following words :

“Since the discovery of this instrument [the ophthalmoscope] the progress of ophthalmology in all its branches has been, not only rapid beyond precedent, but more rapid than the most sanguine could have hoped for. It is impossible here to do more than allude to some of these great advances and their results. Recognition and accurate description of the different diseases of

the optic nerve and retina and their frequent connection with affections of the brain, heart, and kidney ; diagnosis of diseases of the choroid and vitreous ; classification of opacities of the lens giving rise to variety and improvement in operations for cataract ; the operation of iridectomy, rendering glaucoma a curable disease ; improved methods of making artificial pupil ; rational surgical treatment of disorders of the lachrymal apparatus ; demonstration of the laws of refraction and accommodation of the eye, which has been of incalculable value in the diagnosis and treatment of a large class of cases where imperfect vision is a prominent symptom ; the diagnosis and cure of astigmatism ; the progress in entoptics ; the detection of cysticerci in the eye ; the treatment of conical cornea ; the use of the compressive bandage ; the introduction of the use of *Atropine* and the calabar bean ; the invention of the aut-ophthalmoscope whereby we may examine at our leisure the fundus of our own eyes and 'see ourselves as others see us ;' the more cautious and less indiscriminate use of caustics, and the almost entire abolition of the so-called heroic antiphlogistic measures in diseases of the eye."

The practical part of the book commences with instructions for the examination and bandaging of the eye, which will be of much use to the practitioner. Next follows a chapter on the ophthalmoscope, its principle, and how to use it. It requires much practical experience to do this effectively, and it is only after many patient trials that we shall succeed in adjusting the mirror and lens so as to obtain an accurate view of the fundus of the eye. The directions given by the author, if carefully followed, will enable the practitioner to conduct his trials correctly, so that with time and patience he will acquire the requisite dexterity. The ophthalmoscope, as the author points out, is useful not only to the oculist, but also to the general practitioner, for by its aid some obscure diseases of the brain and nervous system have been revealed. The diseases attended by changes in the eye detectable by the ophthalmoscope are carefully detailed by Dr. Angell. The chapter on the anomalies of the refraction and accommodation of the eye, our knowledge of which is almost entirely due to the labours of recent ophthalmologists, is sufficiently full, and

the directions and cautions relative to the selection of spectacles worthy of all praise. Myopia, muscular asthenopia, hypermetropia, and accommodative asthenopia, are successively treated of. The medicinal treatment recommended for asthenopia, though meagre, is perhaps as much as the present state of our knowledge would justify, only among the remedies enumerated by Dr. Angell we find no mention of *Secale*, which in the hands of Prof. Willebrand was of great use in some forms of this complaint.

The various forms of astigmatism and the peculiar glasses required for the correction of these defects in the cornea are next described. A few words on presbyopia conclude this chapter.

The fifth chapter treats of diseases affecting the conjunctiva. Under *ophthalmia neonatorum* a case is related treated by the author with a strong solution of *Nitrate of Silver*, which experience has taught us also to be the best remedy for such cases. A very interesting and severe case of gonorrhœal ophthalmia is also related by the author, where, in addition to the eye disease, the unfortunate patient was affected with gonorrhœal rheumatism in both knees. The perfect cure of this serious disease and its complications in a month redounds greatly to the credit of the author, and shows him to be a master in the use of our homœopathic remedies.

In the treatment of granular conjunctiva with pannus Dr. Angell does not seem sufficiently conversant with Piringer's inoculation cure. We can testify to its perfect success in many cases. However, the successful result obtained by himself in a very advanced case of the disease by the judicious employment of internal remedies, a weak solution of *Sulph. of Zinc*, and assiduous bandaging, leaves nothing to be desired; and we trust this method may prove successful in many other cases. Dr. Casanova's cure of himself by means of *Tartar emetic* externally (see *Brit. Journ. Hom.*, vol. xxii, p. 13) is worth remembering in this connexion. We can certify to the severity of the disease in his case, and to the completeness of the cure.

In respect to scrofulous ophthalmia, Dr. Angell mentions

that Fleischmann found *Hepar* and *Sulph.* the most serviceable remedies in 130 cases, and he adds very properly, "I doubt the value of general *résumés* like the above." We would remark that scrofulous ophthalmia, with ulceration of the cornea, is the form of the disease in which we have found *Hepar* almost invariably curative. We say "almost" because neither it nor any other medicine will be of much use in this form of the disease if the surrounding conditions are unfavorable. Under these circumstances a change of air or other alteration of the hygienic influences is indispensable.

For phlyctenular conjunctivitis Dr. Angell recommends the introduction into the eye of powdered *Calomel*. We have not tried this means, but have seldom found any difficulty in removing an attack by means of *Merc.*, *Ars.*, or *Hepar* internally. To prevent the recurrence of this form of conjunctivitis is, however, a different matter, and often requires a long and careful treatment.

Our author only alludes to operation as the remedy for pterygium, which surprises us, as his countryman Dr. Dunham has recorded a cure of the disease by *Zinc* (*Brit. Journ. of Hom.*, vol. xxiii, p. 493). *Apropos* of pterygium, or we might as well say, *apropos de bottes*, for it was not pterygium, we may remind the reader of Dr. Drysdale's remarkable case of vascular tumour of the cornea successfully treated with *Thuja* and *Cannabis* 30 internally, and the same remedies in the first dilution externally, the details of which will be found in our seventh volume.

In addition to the remedies mentioned by Dr. Angell for rheumatic iritis we may call attention to *Euphrasia*, which proved successful in an obstinate case recorded by Dr. Dudgeon in the twenty-second volume of this Journal.

The chapter on diseases of the choroid and vitreous humour is excellent in a pathological, but less so in a therapeutical point of view, owing to our ignorance of medicines having a homœopathic relation to those diseases.

In glaucoma the author evidently trusts most to the operations first devised by Von Graefe, and since adopted by all oculists of eminence. The want of success that has hitherto attended all internal treatment of this formidable

affection, and the brilliant results obtained by the operations, are rather inimical to prolonged attempts to remedy it by internal medicines, though we would fain hope that it may be found not so incurable by homœopathic remedies as it at present appears to be. As, however, it is a disease which admits of little delay in the use of remedial means, we suspect it will be long before the present successful surgical treatment will be abandoned for less certain measures.

The diseases of the retina and their ophthalmoscopic appearances are very well described. With the exception of a case of neuro-retinitis, which yielded to the alternate administration of *Cactus* and *Sanguinaria*, Dr. Angell has little to say respecting the medicinal treatment of these affections, but in this he is no worse than other writers on ophthalmology. More definite and hopeful are his therapeutic indications for the treatment of the various forms of amblyopia. That curious anæsthesia retinæ called snow-blindness is not always such a slight affection as Dr. Angell seems to believe. One of our colleagues, a member of the Alpine Club, was struck with this form of blindness after walking over one of the vast snow fields in the Alps. He had the malady to a very serious extent, and he was at last relieved by taking *Ignatia*.

Cataracts and their diagnosis are well described by our author. In the operations for cataract, and especially the extraction by flap operation, we do not think the method he advises the best possible under all circumstances. He says nothing as to whether the patient should or should not be put under chloroform. Many eminent oculists now always use chloroform, while others, dreading the vomiting that sometimes follows its administration, prefer operating without it. Dr. Angell advises the patient to be placed in the recumbent position, the eyelids to be separated by an assistant, and the eye fixed by the operator pinching up a fold of the conjunctiva with a small pair of forceps. We think the mode of operating of Jaeger, of Vienna, preferable to this. The patient is seated; the assistant stands behind him, steadies the head, and elevates the upper lid. The operator depresses the lower lid and fixes the eyeball with

the fingers of one hand, while making the incision with the knife held in the other. The method commonly adopted in England, where the operator stands behind the seated patient and elevates the upper lid with one hand while operating with the other, the assistant being seated in front and taking charge of the lower lid, is also, we think, preferable to the position adopted by Dr. Angell. Where there is nothing to prevent it, we think it always desirable to make the flap upwards.

But at present the flap operation seems to be going out of fashion, and, instead of it, the peripheric-linear operation of Graefe, with excision of a portion of the iris, is very much in vogue. Dr. Angell gives a description of this operation. A modification of the linear extraction without iridectomy is practised by Professor Macnamara, of Calcutta, and seems to have been very successful in his hands. It is nearly the same as that described by Dr. Angell as the spoon extraction, or traction operation, but without the iridectomy commonly practised in that operation. Reclination or depression has almost fallen into disuse, and yet we have seen it very successful in the hands of Jüngken, of Berlin, who preferred it to every other operation.

In the after treatment in extraction Dr. Angell seems to rely much on careful bandaging of the eye.

The operations for soft cataract—*discission*, *linear extraction*, and *suction*—are fully described by our author, and their relative value estimated.

A useful but short chapter on spectacles and artificial eyes is followed by another on affections of the muscles of the eye, and their remedies. The operations for strabismus are briefly and clearly described.

We next come to diseases of the eyelids. For that troublesome affection, *ophthalmia tarsi*, Dr. Angell seems to have most faith in unguents. For mild cases an ointment composed of one grain of white precipitate to a drachm of simple cerate; and for more inveterate cases an ointment composed of two grains of red precipitate to the same quantity of cerate, with *Mercury* internally. We may mention that we lately saw, under the care of Dr. Madden,

a very bad case much benefited by an ointment of *Hydrastis*.

The chapter on affections of the lachrymal apparatus will be found to contain all that is useful for the practitioner to know on the subject.

In the chapter on injuries to the eye the author dwells with not more than necessary emphasis on the dangers of sympathetic ophthalmia in the other eye, the remedy for which he agrees with most modern writers in asserting is the enucleation of the injured eye. This operation he describes minutely, and he seems to consider it the best—as it is certainly the effectual—remedy for sympathetic irritation. It is at the first blush humiliating to confess that medicine seems powerless to combat these affections, and that recourse must be had to the very rude operation of cutting out the whole eyeball; but when we reflect that the eyeball we remove is, besides being the seat of painful sensations, useless for vision, a disfigurement to the face, and a source of danger to the remaining eye, the patient does not lose anything by exchanging this for a well-made glass eye, which can often be scarcely distinguished from a real eye, and which gives an amount of comfort and an absence of danger he could never have experienced while retaining the injured eye in his head.

The penultimate chapter contains a list of internal remedies, with a brief notice of the affections in which the author has found them of use. As this list contains several remedies not much known to practitioners on this side the Atlantic, at all events as ophthalmic remedies, we do not hesitate to transcribe it.

“*Aconite*.—In the early stage of inflammation of the conjunctiva, cornea, and iris, and after surgical operation.

“*Alumina*.—In chronic blepharitis of adults, and in blennorrhœa of the lachrymal passage, with thin discharge.

“*Arg. nit.*—In affections of the lining membrane of the lids, and of the lachrymal sac, when there is a copious discharge of pus.

“*Arnica*.—In injuries and in hæmorrhage beneath the conjunctiva.

“*Arsenicum*.—In superficial and deep-seated ulceration of the cornea, especially in scrofulous subjects. Catarrhal ophthalmia, with thin secretion and irritation of the edges of the lids. Ulceration of the tarsal edges, with thin secretion.

“*Baptisia*.—In mild purulent ophthalmia (*Puls.*).

“*Belladonna*.—In photophobia; injection of the ocular conjunctiva; congestion of the retina and optic nerve; dilatation of the pupil; ciliary neuralgia and pain in the optic nerve, with congestion. Neuritis optica (diagnosed with the ophthalmoscope).

“*Conium*.—Photophobia in scrofulous subjects or in scrofulous ophthalmia.

“*Bryonia*.—Scleritis or episcleritis; conjunctivitis with soreness of the eyeball to the touch and on moving them.

“*Cactus*.—Hyperæmia of retina and optic nerve; optic neuritis; asthenopic symptoms in conjunctiva with a tendency to congestive headache or flushed face.

“*Chamomilla*.—Ciliary neuralgia, especially in scrofulous or purulent ophthalmia of children.

“*Cuprum* and *Cup. sulph.*—In chronic ophthalmia, with rather scanty mixed discharge of pus and mucus.

“*Euphrasia*.—Simple or catarrhal conjunctivitis, with copious secretion or lachrymation.

“*Gelsemium*.—Accommodative asthenopia, with the usual subjective symptoms; diplopia (from functional disturbance of accommodation of the eye); ptosis from partial paralysis; chronic spasms of the orbicularis; nictitation; hyperæsthesia retina, with photophobia (*Nux. v.*).

“*Glonoine*.—Venous hyperæmia or congestion of the retina and optic nerve.

“*Graphites*.—Blepharitis, with pustular eruption along the tarsi and loss of ciliæ (*Hepar*).

“*Hamamelis*.—Redness of the conjunctiva and asthenopic symptoms; hæmorrhage into the ante-chamber; bruises of the lids. (To be used externally at the same time in each of the above.)

“*Hepar*.—Purulent ophthalmia with *Merc.*; inveterate blepharitis with purulent secretion, in scrofulous subjects; chronic corneitis.

“*Hydrastin*.—In acute catarrhal ophthalmia, with profuse discharge, especially in scrofulous or ill-nourished subjects.

“*Kali hyd.*—Inflammation of lachrymal sac, with mucous discharge; syphilitic iritis, choroiditis, and corneitis.

“*Leptand.*—Asthenopic symptoms, with yellow look of the sclerótica.

“*Macrotin.*—Accommodative, retinal, and muscular asthenopia; photophobia from asthenopia; hyperæmia of conjunctiva, iris, choroid and retina, due to prolonged exertion of myopic or hypermetropic eyes; soreness of the eyeball to touch and on moving it (*Bry.*); aching pain in the eye.

“*Merc.*—Blepharitis, chronic or otherwise; meibomian cysts; purulent ophthalmia with copious discharge; corneitis diffusa; superficial and deep-seated ulceration of the cornea; pustular ophthalmia; syphilitic disease of any or all the different structures of the eye; episcleritis; pain in the eyeball at night; scrofulous ophthalmia with photophobia.

“*Nux v.*—Asthenopic symptoms; photophobia from retinal hyperæsthesia; dilatation of the pupil from spinal irritation; diplopia from muscular asthenopia, from paralytic strabismus; paralysis of sixth nerve (*rectus externus*); homonymous diplopia; weakened power of accommodation in the eye from over-exhausting it; severe pains in the eyes during the night, with conjunctival injection, brought on by overuse of the eyes, especially by artificial light (*Gels., Merc.*); spasmodic or involuntary closure of the eyes in adults.

“*Opium.*—Hyperæmia of the conjunctiva and borders of the tarsi, with injection of the ocular conjunctiva in connection with congestive headache.

“*Puls.*—Catarrhal ophthalmia with mucous secretion. Styes, especially in children and at the age of pubescence.

“*Phosph.*—Retinal hyperæmia with congestion to the head; flashes of light, dazzling points or rings of various colours before the eyes, indicating extreme sensitiveness of the retina.

“*Sang.*—Retinal congestions, with tendency to flushed face and congestive headache; superficial injection of the eyeball, with feeling of soreness.

“*Scutel.*—Spasmodic twitchings of the lids.

“*Sepia.*—Acne ciliaris.

“*Spigelia.*—Conjunctivitis and iritis in children, particularly in those of scrofulous diathesis; congestion of the ciliary vessels, as indicated by the pinkish zone around the cornea; severe pains in

and around the eyes and on moving them; severe photophobia from ciliary nervous irritation.

“*Staphysagria*.—In hordeolum, to prevent recurrence.

“*Sulphur*.—In chronic ophthalmia scrofulosa with superficial corneitis, the pinkish zone well marked around the edge of the cornea, and photophobia (*Merc., Spigel.*)

“*Tart. emet.*—Photophobia in scrofulous ophthalmia of children; pustular conjunctivitis.

“*Zincum*.—Acute retinitis albumenurica.

“*Zinc. sul.*—Conjunctivitis, simple, catarrhal, and mild, purulent when the discharge is not very copious; catarrh of the lachrymal passages.”

The book concludes with a number of specimens of test type which the practitioner will find of great use.

Dr. Angell's treatise gives us a succinct account of all the recent advances in ophthalmological knowledge and ophthalmic surgery, and a résumé of all we know—and a good deal we did not know—respecting the homœopathic treatment of eye diseases. We may be disappointed to find that the therapeutics of eye diseases has not advanced at an equal pace with their pathology and surgery; but this is hardly to be wondered at, seeing that the cultivators of the two latter fields are numerous, while those of the former are very few indeed. As giving the best account of all that is known respecting all these departments, we can heartily recommend Dr. Angell's little work, which will prove of great value to every homœopathic practitioner. We cannot do better than advise all our readers to procure the work for themselves, and can assure them that they will derive from it much valuable instruction and much assistance in their practice.

We have only to remark in conclusion that the getting up of this book is highly creditable to the American publisher. It is printed with beautiful type on a smooth thick yellow tinted paper, and even the boards are more tasteful than we generally find them in medical works, whether English or American.

British Homœopathic Pharmacopœia. Published by the
British Homœopathic Society, 1870.

THE publication of this work marks an epoch in British Homœopathic Pharmacy. We have hitherto had no Pharmacopœia in the language, original or translated, which commanded general adhesion. The consequence has been much diversity of preparation and uncertainty in prescribing. The British Homœopathic Society was acting worthily in its position when it appointed a Committee to undertake the task of constructing a Pharmacopœia which should be a recognised authority. In choosing Dr. Madden the convener of this Committee, they ensured for its head and moving spring a physician than whom no one among us is better acquainted with chemistry, botany and pharmacy, or likely to do more complete justice to the work in hand. We have to thank him and his colleagues for a most excellent volume—a better could, indeed, hardly be imagined.

Of the most original portion of the New Pharmacopœia—viz., the processes for making tinctures for Homœopathic use—we have already spoken (p. 184 of the present volume). We regret, however, that one element of our then satisfaction no longer exists. In the complete volume the first preparation in the shape of tincture (which is nearly always to be in the proportion of one to ten) will no longer be called the 1st decimal attenuation, and treated as such for the subsequent dilutions; but will rank with the crude insoluble substances as ϕ , and be called mother-tincture. The result is that *Nux vomica* 1 will still be ten times weaker in proportion than *Zincum* 1; and, what is worse, the 1st trituration of *Nux vomica* or *Ipecacuanha* will be ten times as strong as their 1st liquid dilution. The 1st decimal attenuation of a mother-tincture will, in fact, correspond in medicinal strength to the 1st centesimal attenuation of a trituration or watery solution. This is indeed how it has stood hitherto; but the want of uniformity was objectionable, and we rejoiced at its removal. The Committee “have found, however, after much deliberation, that a

change of this kind would, for a time at least, lead to so much confusion that it has been deemed advisable not to make any such radical change."

As to the scale of dilution we are glad to see that the centesimal one has been adopted for nomenclature, although for trituration and attenuation a decimal scale of progress is recommended. The intermediate potencies between ϕ and 1, and 1 and 2, are characterised as 1^x and 3^x.

The "General Instructions" given in the first part of the work are excellent, but need no comment. Of the second part, which consists of a description of the medicines in common use and their preparations, we cannot do better than give a specimen, which shall be the first on the list, viz. :

ACIDUM BENZOICUM.

Benzoic Acid. $\text{HC}_7\text{H}_5\text{O}_2$.

Obtained from benzoin, a balsamic resin, which exudes from the incised bark of the *Styrax Benzoin*. *Nat. ord.*, STYRACACEÆ. It is prepared by sublimation, and can be purchased in a state of purity in crystals.

Characters and Tests.—Light feathery crystalline plates and needles, flexible, nearly colourless, and having an agreeable aromatic odour resembling benzoin. Soluble in 300 parts of cold water, in 12 parts of boiling water, in 4 parts of rectified spirit. Soluble also in lime water and caustic alkalies, and precipitated from the solution by Hydrochloric Acid. When heated it sublimes without residue.

Preparation.—Trituration or tincture, made with rectified spirit.

Reference to Hom. Proving.—Transactions of Amer. Institute of Hom., vol. i.

Proper forms for dispensing.—1^x and upwards, *Tincture, Pilules, or Globules.*

It will be seen that every information the chemist can possibly require is given under the head of each drug. It is first identified, and its source indicated. With this, its chemical composition, or its place in botanical or zoological classification, is set down. Then the chemist is told whether he must prepare it for himself, or can purchase it; and in the former case how he must proceed, in either how he is to recognise, test, purify what he has obtained. Next

comes the mode of preparation, whether by trituration, aqueous solution, or tincture; and, if the last, of what strength the spirit should be. Under this head we would notice one new suggestion, and one omission. The suggestion is that *Apis* and the other animal viruses are best dissolved in glycerine and alcohol (three parts of proof spirit to one of glycerine). The omission is that under *Ipecacuanha*, *Nux vomica*, and other vegetable substances treated in the dry state, the very useful alternative form of trituration is not mentioned besides that of tincture.

We next have a reference to the homœopathic proving of the drug; which will be valuable to practitioners rather than chemists. It would, however, be benefited by revision. *E. g.*, for *Rhus venenata*, no reference is made to Dr. Hale's *New Remedies*, which contains other poisonings with and provings of this plant than those contributed to the two volumes of the *North Amer. Journ. of Hom.* specified. Under *Opium*, Dr. Eidherr's proving (vol. xxiii of this Journal, p. 1) should surely have been specified. If the principle adopted were to refer only to the original provings, such additions would be unnecessary: but as they are given in some cases, we think they should be in all.

The last feature is the "proper forms for dispensing:" and these forms we hope practitioners as well as chemists will seriously take to heart. The principle that insoluble substances are always to be triturated up to the 3rd potency; dissolved in dilute alcohol for the 4th; and in rectified spirit for the 5th, from which last pilules or globules may be prepared—this principle has for a long time past received wanton and prejudicial violations. Some physicians will order a 3rd dilution in tincture of a metal—as *Stannum*—and to be dropped on *Sugar of Milk* to make powders. This implies even that it shall be made with rectified spirit, which ought not to be used till the 5th. So some chemists sell pilules and globules of the 3rd potency, which implies a similar error in procedure. In the present work the rule is rigidly adhered to. It is further recommended, in the case of most vegetable drugs, that pilules or globules should not be prepared from any attenuation lower than the 3rd

decimal. No reason, however, is assigned for this. It commends itself to us; but we think that if it is right for *Belladonna* it must be right also for *Benzoic acid*, which nevertheless (as we have seen) may have pilules prepared from its 1st decimal potency.

The second Part, on which we have now commented, forms the main body of the work. To it is appended a "Table showing the usual doses, duration of action, and antidotes of the officinal medicines:" followed by two Supplements containing medicines very imperfectly proved or rarely used. We think that a good many of those contained in Part II might with advantage be relegated to this list: as *Alumen*, *Ammoniacum*, *Anthrakokali*, *Castoreum*, *Cinnamomum*, *Daphne indica*, *Elaps*, *Filix mas*, *Granatum*, *Gummi gutti*, *Indigo*, *Lamium*, and such like, to say nothing of the too numerous minor preparations of the metals.

We have omitted to mention Part III, which gives a good account of the preparation of the few external appliances in use among homœopaths.

We conclude our review with the renewed expression of our satisfaction. The *British Homœopathic Pharmacopœia* is in every way creditable to the school of medicine whose pharmacy it embodies. And while it commends our cause to those outside us, it can hardly fail to benefit our operations within. That it may fulfil its purpose, we urge on all practitioners and chemists to make it their guiding-star in prescribing and dispensing from this time forth.*

* There is one feature in this new pharmacopœia that calls for notice the reverse of laudatory, but as it is quite unconnected with the contents of the work, we put our remarks upon it in a foot-note. The feature we allude to is the gorgeous golden emblazonment on the boards and its repetition in black on the title page. It is evidently intended for a heraldic device, and as the golden legend informs us, it is the seal of the British Homœopathic Society.

Now, heraldry has its fixed rules, and its devices are emblematical of something peculiar to the person or corporation employing it. But this "seal" is utterly false to the rules of heraldry, and its devices have no reference to the character or objects of the society that adopts it.

The shield is quartered *per saltier* by means of a thin cross, formed apparently of two wands or sticks. Now, passing over the oddity of quartering a shield *saltier-wise*, we may say that this way of quartering a shield by two thin sticks is unknown in heraldry. Again, all the quarters are of the same colour of

field, namely, *gules* or *red*, indicated by the perpendicular lines. This is also unknown in heraldry. The rule is that the colour of the field in the different quarters should be different, or the first and fourth may be of one colour, the second and third of a different colour. Another stringent rule of heraldry is that colour should not come on colour, nor metal on metal. But here we have coloured objects, the rose, thistle, and shamrock, on a coloured field; and even a *red* object, the rose, on a *red* field! which would throw a herald into fits. In the centre of the shield and overlapping all the quarters, but belonging to none of them, is an open book with a date upon it. Such a mode of displaying a device belonging to a shield is quite new in heraldry. It is only "shields of pretence," as they are called, which are so displayed. The lowest quarter of the shield is occupied by the caduceus of Mercury, the emblem of trade. (Surely the artist has not confounded Mercury's caduceus with Æsculapius's crooked staff and twining snake.) The whole is surrounded by a serpent sucking his tail, the emblem of eternity, but not forming part of the shield, only making an ornamental border for the emblazonment. It is unusual in heraldry to put national emblems like the rose, thistle, and shamrock, on the shield itself, they are usually placed beside it, as in the royal arms of Britain; but if they are to be introduced into a shield, one quarter would be enough for the three; to give each a quarter to itself shows great poverty of invention.

Now let us see what this wonderful heraldic device symbolizes. The caduceus of Mercury indicates that the corporation whose seal this is, is a trading company (we will not insinuate a fraternity of kleptomaniacs, though Mercury was the god of thieves as well as of merchants). The national emblems—rose, thistle, shamrock—denote that its trade extends through the three kingdoms; though why the emblem of the principality of Wales—the leek—should be omitted we do not attempt to guess. The Welsh members of the B. H. S. should see about this. The open book looks like a ledger, and the date, "10th Ap., 1844," would seem to fix the period when this trading company commenced business. The motto "*similia similibus*" may be supposed to indicate the kind of business carried on; "likes to likes," so—soft goods to soft people; wooden nutmegs to wooden heads—or anything similar. Of course it cannot refer to anything connected with medicine or homœopathy, as the word of the well-known legend which connects it with medicine, "*curantur*," is designedly omitted. The serpent biting his tail, the emblem of eternity, seems to express a pious wish on the part of the designer that the business of the corporation may prove everlasting.

If the members of the B. H. S. are content to have a seal of this kind we cannot object, but would it not be as well that they should forbear impressing it on works which are expected to have a circulation beyond their own body?

The Science of Therapeutics, according to the Principles of Homœopathy, by BERNARD BÄHR, M.D. Translated and enriched with numerous additions from KAFKA and other sources, by CHARLES J. HEMPEL, M.D. 2 vols. New York: Boericke and Tafel.

At last we have a Practice of Physic worthy of the Homœopathic school. Dr. Bähr has all the qualifications required for describing disease, in addition to a large knowledge, bibliographical and experimental, of its homœopathic treatment. He is thus enabled to present both sides of his subject in sufficient fulness and in due proportion. The book is complete in itself, and makes little demand upon previous or even collateral knowledge. Symptomatology, diagnosis, prognosis, and morbid anatomy receive due attention in respect of every form of disease. The only differences from such treatises as those of Watson or Flint are that pathology is not discussed as if the author had any interest in it for his own sake, and that "treatment" occupies the largest share of each section. The latter peculiarity we need not defend; the former at least does not impair the practical value of the work. The descriptions of disease—no easy things to write—are always clear and full, sometimes felicitous. The style is easy and readable, and not too prolix. Above all, the relations of medicines to maladies are studied no less philosophically than experimentally, with an avoidance of abstract theorising on the one side, and of mere empiricism on the other, which is most satisfactory.

We owe Dr. Hempel a debt of gratitude for naturalising this valuable treatise among the English-speaking nations. We only wish he had limited his labours to simple translation. The manner in which Kafka presents his therapeutic suggestions is so very different from that of Bähr that the chapters intercalated from his book look strangely incongruous. And Dr. Hempel must pardon our saying that the way in which he has "introduced on suitable occasions the new remedies" does the reverse of justice to those agents: and that the "valuable additions from our

journals and drawings upon our personal records" of which he speaks in his preface, spoil by their heterogeneous nature the unity of the work. We hope that should a second edition be called for he will allow Dr. Bähr to speak for himself. He will reduce thereby the bulk of his volumes, and will add to their literary and apologetic value.

It will be, however, Dr. Bähr's own duty to take a lesson from what his translator has done, and to make future editions of his treatise more complete. His great defect seems to be a want of knowledge of any but German homœopathic literature. The chapter on diphtheria is the only one where any reference is made to the writings of English physicians; and nowhere is there evidence of acquaintance with what has been written in France or America. The sections treating of Bright's disease and diabetes are instances of the loss sustained in consequence of this limitation of the author's view; and the chapter on diseases of the eye need not have been so curtailed had it been otherwise. This is indeed the only general fault we have to find. We shall note some particular deficiencies as we go through the book, but we repeat that our appreciation of it as a whole is very high indeed.

The "Introduction" must always form a special feature of homœopathic treatises on therapeutics. For we cannot but begin by defining our law, and examining into its limits, its rationale, and its practical application. This Dr. Bähr has done in a very interesting manner. His doctrines on the subjects of drug-proving, of the single remedy, and of dose, are those of the main body of our school. As to the rationale of *similia similibus*, he adopts the suggestion of Wislicenus that all disease is deficient reaction, and that our medicines, proved to act on the part affected and in a manner similar to that of the exciting cause present, stir up the necessary reaction, and restore healthy equilibrium. But why they should thus stir up reaction is the very thing which needs explanation. If they act similarly to the exciting cause of the disease, they cause deficient reaction: and how then do they cure it? But we pass on to the practical portion of the book.

The classification adopted by the author makes little pretension to scientific completeness, but is simple and intelligible. It takes the diseases of the brain, the spinal cord, and the nervous system first in order; and then follows pretty closely the line of Hahnemann's schema through the several regions and systems of the body, ending with those diathetic and febrile disorders which must be grouped under the head of "General Diseases." We think that modern pathology would rather lead us to place this last division first, seeing the increased importance we are learning to attach to constitutional origin in the case of local diseases. It is just what Hahnemann was feeling after in his doctrine about psora and syphilis and sycosis. But the arrangement is at least clear enough.

The diseases of the Brain are very fully treated of. Grouped under the headings hyperæmia, anæmia, apoplexy, meningitis, cerebritis, and hydrocephalus, no morbid condition ordinarily coming before us for treatment is omitted. Softening, however, discussed under cerebritis, has hardly justice done to it. Tubercular meningitis (acute hydrocephalus) is exceedingly well described. But it is the therapeutic portion of the discussion to which we must specially direct our criticism.

We find under the head of each form of disease a few prominent medicines considered in relation to it in the order of their importance. These are such as are in common use among us in its treatment, or are indicated by the law of similarity. Evidence of the former kind is rigidly subjected to the latter test, and is to a great extent disallowed if it fails to respond to it. The similarity required, moreover, is not one of superficial symptoms, but of real pathological states and changes. We cannot better illustrate this mode of weighing our remedies than by citing what is said about the use of *Belladonna* in meningitis.

"*Belladonna* is one of the medicines that is most frequently resorted to at the commencement of a supposed meningitis. In Rückert's work we find the reports of a number of strikingly successful and rapid cures which excite in our minds most particular doubts. An attentive comparison will show that in those

cases only the remedy acted in a marked manner where a sure diagnosis was not yet possible, whereas in inflammations that had progressed to a higher degree, the improvement was either slower or else was not at all due to the sole action of *Belladonna*. A number of reasons prompt us to believe that *Belladonna* is no remedy for meningitis, or, at any rate, that we possess better remedies for this disease. This opinion is confirmed by the results of post-mortem examinations in cases of poisoning with *Belladonna*, where we indeed find a high degree of hyperæmia, but never a trace of exudation; it is likewise a well-known fact that the lighter cases of poisoning with *Belladonna*, having no fatal termination, recover in a proportionally short period of time from the severest cerebral symptoms. Nevertheless, in spite of all opposing arguments, the symptoms of incipient meningitis will first and foremost point to *Belladonna*, and almost any one who is familiarly acquainted with the *Materia Medica* will first exhibit this remedy without laying particular stress on a precise diagnosis. That the *Belladonna* enables us to establish such a diagnosis, may be asserted without fear of contradiction. This medicine exerts so positive a curative influence upon hyperæmia when simulating meningitis that, where it does not cure, it at least causes an improvement within at most twenty-four hours with so much certainty, that to most cases we may apply the rule; where, in apparently inflammatory conditions of the brain, *Belladonna* is not succeeded by at least a striking improvement within twenty-four hours no hyperæmia is present; in such a case it should be discontinued, and some other remedy should be given in its stead."

He also points to an extraordinary frequency of the pulse as counter-indicating *Belladonna*; while, when there is doubt whether *Aconite* or *Belladonna* should be given, a disposition to perspire constitutes, *cæteris paribus*, a valuable indication in favour of the latter drug.

How vastly more satisfactory are such indications as these than those drawn from the side of the body affected, the aggravations at some particular hour of the day, and such like. We do not say that these *minutiæ* are valueless. Nothing is accidental; and every element in the similarity we desiderate has its place. But there is such a thing as proportion; and we are neglecting weightier matters when

we make these trifles the "characteristics" which are to determine our choice.

The few medicines, with the place of each fully yet distinctly defined, with continual reference to the requirement of the rule *similia similibus*—by this mode of proceeding Dr. Bähr's therapeutic suggestions are honorably distinguished. And he supplements their discussion by a good account of the dietetic and hygienic adjuncts to treatment which experience has led him to consider important. So that in every way his treatise is complete; and we could hardly exhibit a fairer product of homœopathic literature.

The "Diseases of the Spinal Marrow" discussed are two only,—inflammation of the cord and its membranes, and spinal irritation. It would have been well, we think, if here, as in the brain, hyperæmia had been considered apart from inflammation. Spinal congestion is decidedly more common than myelitis, and responds very satisfactorily to treatment. *Mercurius* is considered by Bähr the leading remedy for inflammation of the cord and its membranes, and a case in point is related. Cases, by the way, are too scantily interspersed; the teaching would be more impressive were they more numerous.

Next come "Diseases of the Nervous System," under which heading are discussed epilepsy, eclampsia (*infantum et parturientium*), chorea, catalepsy, tetanus, paralysis, hysteria, and hypochondriasis. *Cuprum* and *Plumbum* are placed at the head of anti-epileptic remedies; and *Secale* is suggested. It is said that "in the treatment of epilepsy it seems generally better to employ the higher attenuations in less frequently repeated doses." Upon the relation of *Belladonna* to epilepsy and eclampsia the following excellent remarks are made: "*Belladonna* has among its pathogenetic symptoms the whole series of the phenomena which characterise an epileptic paroxysm, on which account it deserves to be ranked with *Cuprum* and *Plumbum*. A careful examination of its pathogenesis reveals, however, some very essential differences. The epileptic *Belladonna* convulsions are the consequences of an intense intoxication

of the organism: while running their course they may recur several times, but never in the form of a chronic affection, as is the case with *Cuprum* and *Plumbum*. Hence the *Belladonna* convulsions, as we indeed know from experience, correspond rather to eclampsia, which has been very properly designated as acute epilepsy." *Ipecacuanha* is said to deserve the first rank among the remedies for the anæmic convulsions of children, especially when caused by protracted diarrhœa. *Cuprum* is praised in chorea as highly as in epilepsy. "In our hands," writes the author, "this agent has sufficed to cure most cases of chorea; under its use the disorder continued very rarely longer than three or four weeks. It is, however, more suitable to chorea minor than chorea major; in this latter form of the disease the violent symptoms which characterise the paroxysms may require some other remedy before *Cuprum* is employed, until the spasms are mitigated and have assumed the milder form of chorea minor." *Stramonium* is the precursory remedy most frequently indicated. Quite a full list of well-characterised remedies is given for hypochondriasis, which seems to be a more common disease among Germans than it is in this country.

And now we come to "Diseases of the Head," under which are included the maladies affecting the scalp, the cephalic nerves, the eye, the ear, and the nose. While speaking of hemicrania these just remarks are made about *Arsenicum*, that it "quiets nervous pains better than any other medicine. Its effect is rapid, and sometimes rivals a powerful dose of *Opium*. It is characteristic of *Arsenic* to exert this soothing influence only in the case of pains that become worse towards the approach of night, reach their climax about midnight, and are accompanied by an extraordinary degree of anxious restlessness." *Sepia* is considered the remedy most frequently indicated for chronic migraine, and *Spigelia* for recent prosopalgia. The diseases of the eye are too briefly discussed. The local use of *Euphrasia* in catarrhal ophthalmia is recommended; and *Staphysagria* is said to have cured several cases of very obstinate chronic catarrh, with considerable swelling of the lids, after other

remedies had entirely failed. Catarrhal, blenorrhœic, and scrofulous ophthalmia are the only forms of eye disease discussed at length:—the affections of the cornea and of the more deeply-seated tissues of the eye are dismissed with hardly a word, on the ground of the impossibility of presenting their homœopathic treatment with anything like scientific completeness. The diseases of the ear are treated of still more briefly, for similar reasons. Coryza, acute and chronic (ozœna); nasitis; and epistaxis, which make up the section on diseases of the nose, receive full attention.

The detailed exposition we have hitherto given will show the manner in which our author has accomplished his task. We shall now note only the salient points of the chapters which follow.

The account of the treatment of diphtheria is based almost entirely upon English experience, Dr. Bähr having seen little of the disease himself. The following is of importance: "In opposition to the somewhat contradictory observations furnished by our English colleagues, Baumann's notice, in No. 9 of vol. lxii of the *Allg. Hom. Zeit.*, deserves the most attentive consideration. In a series of cases he only gave one remedy from the commencement, and, according to his statement, he obtained by means of it marvellous results. This remedy was *Apis mellifica*. Its recommendation emanates from V. Meyer, who called attention to it in vol. lix of the *Zeitung*, p. 48. Baumann gave one drop of the fifteenth attenuation every two hours in a little water."

As regards the same medicine in glossitis, it is said that "there is scarcely a remedy that has such marked symptoms of glossitis as *Apis*. In one case of poisoning the inflammatory swelling was not the result of a sting in the lining membrane, or of the introduction of the poison into the stomach, so that the inflammation might be accounted for upon the ground of local action; but the inflammation occurred after a sting in the temple, showing that the virus has a specific effect upon the tongue."

The following, *apropos* of catarrh of the stomach, seems drawn from the life. "*Colocynthis* is less a remedy for genuine gastric catarrh than for a peculiar condition of the

stomach, that can be traced to a cold as its exciting cause. The appetite is not entirely gone, nor do they greatly complain of nausea or aversion to food; but the region of the stomach is sensitive, and after eating the patients complain of raging crampy pain, which can only be moderated by warm applications; there is neither bloat nor belching up of wind. Evidently the pain chiefly resides in the muscular fibres of the stomach, and has very much the character of colic pains. These symptoms yield to *Colocynth* very soon. Such conditions are met with only during the transition seasons when the air is cold, but the sun is still powerful enough to heat the blood; they likewise occur in summer, in consequence of sudden changes in the weather."

This, also, is worth citing:

"We know from experience that no medicine is better calculated to subdue the frightful cardialgic pain of ulcer of the stomach than the *Sulphate of Atropia*. . . . The fourth trituration is most advisable." The author is always understood as using the decimal scale.

Catarrh of the stomach, acute and chronic, gastritis, gastric ulcer and cancer, hæmatemesis, and cardialgia, are almost exhaustively discussed. The only deficiency we note here is that the several varieties of indigestion—as heart-burn, acidity, flatulence, &c.—are not touched upon as regards treatment. The diseases of the intestinal canal are no less fully handled. Diarrhoea is regarded as simple intestinal catarrh; and it seems strange that neither *China* nor *Veratrum* is referred to among its remedies. Sporadic cholera is improperly called "cholerine," a name which is generally restricted to the milder forms of Asiatic cholera. "Cholera infantum" is very well described, and *Ipecacuanha* indicated as its main remedy when acute and recent. "Gastric fever" is described in this place, and separated entirely from typhoid. It is divided into catarrhal, bilious, and mucous. We do not agree with the author's pathology, but as the common enteric fever unquestionably takes frequently one or other of these forms, his indications for remedies may be of value. *Mercurius* is highly commended in perityphlitis. Dysentery is considered as "catarrhal"

or "epidemic"—the former being simple catarrh of the colon and rectum. The section on colic is excellent. The place of *Colocynthis* is said to be in the "rheumatic" form, *i. e.* produced by cold in the hot season. The second dec. dilution, frequently repeated, is recommended. For neuralgic colic *Plumbum* supersedes it. As to worms, the modern view of their origin is so utterly espoused as to lead the writer to ignore the power which homœopathic remedies have not only to remove the symptoms occasioned by the parasites, but even to effect their expulsion. Constipation is hardly mentioned, save incidentally under the head of chronic intestinal catarrh.

When speaking of diseases of the liver, Dr. Bähr hazards the statement that "*Nux vomica* has a more specific relation to the liver than to the stomach." The recent pathology of hepatic changes is fairly rendered in his pages; and the relation of *Phosphorus* to acute yellow atrophy is set forth at length.

The chapter on diseases of the kidneys is hardly satisfactory. The experience of British physicians with *Terebinthina* and *Arsenicum* in Bright's disease is ignored. Quaglio's experiments, demonstrating the specific and profound renal action of *Arsenic*, are apparently unknown to the author. Nor is the distinction between the large white kidney and the contracted form, nor between those and amyloid degeneration, adequately recognised. The therapeutics of diabetes are the play of Hamlet with the part of Hamlet omitted: for neither *Phosphoric acid* nor *Nitrate of Uranium* is mentioned. Dr. Hempel mentions the latter as the "*Muriate of Uranium*;" but makes no attempt to summarise or put with any force the testimony which has come from so many quarters in its favour. A useful suggestion is given under enuresis nocturna:—that "the best plan is to gradually accustom the bladder to hold larger quantities of liquid. Children should be accustomed during the day to retain the urine as long as may seem proper, and not to yield to the least desire to urinate, as is their usual custom."

We have now arrived at the second volume, which commences with the "Diseases of the Sexual Organs." The

treatment of gonorrhœa is unusual : it consists of *Mercurius solubilis* for the first ten days or a fortnight, and *Hepar* subsequently. The author admits that the disease will scarcely ever disappear until the fourth week : so that his plan of treatment is not of striking efficacy. For spermatorrhœa the highest praise is given to *Digitaline*,—a grain of the 3rd dec. trituration every morning. The leading diseases of women are very fairly discussed : but the pages devoted to them call for no special comment.

The "Diseases of the Respiratory Organs" come next ; and in treating of these our author has put forth his utmost strength. The chapter on pneumonia is a model treatise ; the subject is handled alike vividly and exhaustively. But only less perfect praise is due to every part of this section of the work. As additions to our practical knowledge, we note the recommendation of *Iodium* in laryngismus stridulus (doubtless from its action of the glands—thymus and bronchial—so often the starting point of this disorder), of *Cuprum* in hooping-cough (*Cupr. met.*, 6th dec., night and morning), and of *Digitaline* in pure spasmodic asthma and in acute heart affections, especially serous pericarditis. The chapter is an intellectual pleasure to read ; and we can hardly do anything more profitable than consult it each time we have to treat any of the diseases included in it.

The "Diseases of the Bones, Muscles and Articulations" present nothing particular for notice, save that the author's views about lumbago are original, and that the remedy he chiefly commends is *Tartar emetic*, in frequent doses of the 2nd and 3rd dec. trituration. Nor have we more to say upon his discussion of the "Diseases of the Arteries, Veins, Lymphatics, and Lymphatic Glands." *Baryta* is commended for chronic glandular enlargements, as in the neck. "Diseases of the Nerves" include sciatica and intercostal neuralgia. For the latter a new remedy is mentioned in *Mezereum*, which is said to be especially beneficial for the obstinate form of the disease which sets in after shingles. The "Diseases of the Skin" are not well arranged, but some useful practical knowledge is communicated. *Graphites*, 4th to 6th dec., has proved of much value

in the author's hands in mentagra and chronic eczema. *Sulphur* externally is his treatment for acne rosacea. He has evidently had some experience in lupus, and his section on this disease had best be consulted if ever we have it to treat. With these end the "Derangements of Single Systems," and we now come to "Constitutional Diseases."

Passing over measles and scarlatina, we notice with regret two points in the chapter on smallpox: 1st, that the author confounds varicella with variola, regarding the one as nothing more than a mild form of the other; and 2nd, that he disbelieves in the efficacy of vaccination. Syphilis is well discussed,—Dr. Bähr's views on its pathology and treatment are very similar to those of Dr. Schneider of Magdeburg, which appeared in vol. xxii of this Journal. He confirms from his experience the favourable accounts given of *Clematis* in syphilitic iritis. In speaking of intermittent fever, a distinction is drawn between the endemic malarious form and the epidemic fevers which sometimes appear in non-malarious districts. The true anti-periodics, *Quinine* and *Arsenic*, are the remedies for the former; while such medicines as *Ipecacuanha* come in for the treatment of the latter. *Arsenicum* 30 is said to be of exceeding value in aguish cachexia. The chapter on typhus is somewhat vitiated from the absence of distinguishment between typhus and enteric fevers; but the indications for remedies are ably given. *Camphor* is strangely depreciated in the treatment of cholera; but the other standard remedies are well estimated. Of *Ferrum* in chlorosis the author says that it is a real specific for simple uncomplicated cases; he recommends the *Ferrum redactum* in the 1st or 2nd dec. trituration, but allows that it is sometimes necessary to resort to the crude substance. *Arsenicum* is the only other medicine he considers truly anti-chlorotic. *Sulphur* in the form of sulphurous springs is considered the one remedy for chronic rheumatism. Under the head of dropsy he writes, "*Arsenicum* is our most important diuretic. It is suitable in all forms of dropsy, more particularly in dropsy depending upon heart disease, and cedema of the lungs. After giving *Arsenicum*, a copious diuresis will sometimes

set in with astonishing rapidity, after which the dropsical swelling speedily disappears. The result is most doubtful if we have only ascites to contend against, and inasmuch as the medicine shows its good effects in a few days already, after a few doses had been taken, it is useless to continue it for a longer period, in the vain hope of eliciting good effects from it by persisting in its use." Further he says, "It is well known that dropsy requires to be treated with larger doses than almost any other disease, although there may be exceptions to this rule." The account of tuberculosis is very good. *Ferrum* and *Calcareo* are the only medicines credited with actual curative powers in pulmonary tuberculosis; and this only in the first stages. *Iodium*, 1st dec., is, however, said to effect great things after the expectoration has become purulent.

We have made these brief extracts from the concluding division of Dr. Bähr's works, not only for their own practical value, but to exhibit the character of his writing. We think that we have said and shown enough now to excite in the minds of all our readers a desire to possess themselves of these two volumes. We have nothing like them in our literature; nor are we likely to see them rivalled for some years to come, unless Dr. Bähr himself should issue a second edition, revised and improved, and Dr. Hempel should give it us in English just as it stands.

Chapman's Entire Wheat Flour.

In the process of making fine white flour from wheat a large portion of the flesh- and bone-making constituents is eliminated. In this flour these nutritious parts are retained, and though the flour is not of that snowy whiteness we are accustomed to, and though the flavour is decidedly "branny," we have no doubt it is much more strengthening and nutritious than the ordinary flours.

CLINICAL RECORD.

Cases of Meningitis [? Eds.].

By Dr. SUM, Assistant-Physician at the Gumpendorf Homœopathic Hospital, Vienna.*

1. A girl of four years of age, brunette, of rachitic constitution, fell ill the end of December, 1869, with great heat, headache, stupefaction, and hacking cough. Exciting cause not known. As she complained also of pain on being touched on the right side, the chest, and abdomen, *Chelid.* 6 was prescribed every three hours.

The next day the mother reported that the cough had abated but that great heat of head, and stupefaction, with constant thirst had set in. Bowels confined. To meet the cerebral congestive symptoms, which were worst in the morning, I prescribed *Bell.* 10 every three hours.

Next day, no improvement, the child lies listlessly on her back, refuses all nourishment, has great thirst, head hot, eyes occasionally squinting; there is, however, sensibility to light. Pulse quick. Pulsation can be felt over the great fontanel, which is still soft. *Bryonia* 10 given every two hours, for five days, gradually allayed the heat of the head, which was particularly bad at night; consciousness returned, she noticed those about her, and soon took interest in her toys. She had no stool during those five days, then the bowels were opened by lavement. During the convalescence slight cough, with mucous rattle, set in, and as the swollen ends of the bones and large belly indicated *Hepar*, this was given to her until she was quite well.

2. In the beginning of February, a child æt. 16 months, scalded itself severely, with hot soup, on the cheek, neck, and chest. Twenty-four hours later convulsions came on in the evening, twitchings, staring distorted eyes, the limbs hung loosely, great heat of head, with pulsation at the great fontanel, repeated vomiting, several stools during the day. *Apis* 10 every two hours; cold compresses to the head.

* From the *Allg. Hom. Zeit.*, vol. lxxx, No. 19.

The following day the heat of head was lessened, the eyes were occasionally fixed, there were several vomitings of milk, which she sucked eagerly from her mother's breast. *Apis* was continued and removed all the cerebral symptoms so that the scalded places could be treated by the simple application of oiled rags.

3. A boy, aged two, blond, with a large head, a soft open fontanel, and swollen ends of the bones, was in the evening suddenly seized with convulsions, twitchings of the hands, foam at the mouth, eyes closed. The fit lasted ten minutes, and then he fell into a comatose state, during which the head was hot, covered with perspiration, strong pulsation of the fontanel, a loose cough; he is cutting the molars in the lower jaw. *Belladonna* 10 in water every two hours produced quite healthy sleep and next morning he was quite well.

4. In the spring of 1869 a delicate girl, five years old, with decided hydrocephalus and large belly, got fever, vomiting, headache, pains in abdomen and chest. *Acon.* 10 every two hours. Not much better next morning. At night head very hot, some perspiration, slight cough. *Belladonna* 10 every two hours.

The next four days every night violent exacerbation of the headache, during the day, sopor, great loss of strength, slumber with eyes half open; but no dry tongue, no diarrhoea. Abdomen sunk in. At night much thirst, frequent jerkings of hands and feet. In this state of great prostration *Calc. carb.* 10 was given four times a day, and *Belladonna* prescribed in case the heat of head should recur at night. This was only necessary on two nights. The patient improved perceptibly. Nine days after the commencement of the disease quiet sleep set in, then the appetite returned, and, under the continued use of *Calc. carb.*, she recovered perfectly.

5. Two girls, four and six years old, belonging to different families but both lively brunettes, had for eight or ten days gastric symptoms, anorexia, constipation, alternating with looseness of bowels, at night headache that kept them awake, till at length one day they had great prostration, grinding of the teeth, transient squinting, and incessant sopor. *Causticum*, *Apis* (which I have found most suitable in sopor), *Calc. carb.* and *Sulphur* failed to arrest the fatal catastrophe which occurred on the twelfth day.

MISCELLANEOUS.

Note to the Swimming Baths of London.

By Dr. DUDGEON.

SINCE the article on "The London Swimming Baths" was written, my attention has been called to two other baths which had escaped my researches. That I should have missed these two baths is scarcely to be wondered at, when it is considered how large the metropolis is, and the difficulty of procuring any information respecting many of the baths which are not even mentioned in *The London Postal Directory*. It is astonishing also how little the proprietor of one bath knows about other baths.

One of the baths omitted in my former article is, strange to say, an open-air swimming bath. I thought that when the Peerless Pool was closed there was an end to open-air swimming baths in London. But it was not so, for the bath I am about to describe has been in operation for fifty years. It calls itself the "Original Swimming Bath," but I choose rather to name it after the district in which it is situated, the

Camberwell Swimming Bath, Addington Square. This bath is 24 yards long by 20 wide. It is constructed of cement, very much discoloured by age. It is deepest in the centre—6½ feet—and shelves off to 3 feet at the sides. A broad flagged footway surrounds the bath. The boxes, 39 in number, roomy, and coloured drab, with three quarter doors, occupy two sides of the bath, the other two sides are enclosed by a whitewashed wall, surmounted by an irregular coping of bricks. Green painted benches are placed along the wall. The entrance door is through the centre of the bathing boxes on the length of the bath. In front of the entrance a stone slab projects over the deepest part of the bath, by way of spring-board. In the wall opposite the entrance door is a large green door, padlocked, apparently leading to the Surrey Canal. Steps constructed in the cement on one side of the bath lead down to the bottom. The water is very far from fresh, its surface in some places has a thick scum of dust and blacks, and the sides and bottom of the bath have a rich

growth of slimy green vegetable nastiness, which does not all remain fixed to the place of its growth. The proprietor informed me that the water used to be supplied from the canal, but that it became so filthy he had to give up that source, and he now obtains it from the Vauxhall Water Company. Considering the state I found it in at my visit, when the proprietor extolled its cleanness and freshness, I can only wonder what it must previously have been when he allowed that it was dirty. I had to give myself a good washing with soap and water before I could get rid of the nauseous smell that hung about my hair and skin after this experience of the delights of an open-air swimming bath in London.

Until the last two years there was, I was told, another open-air swimming bath, called the *Twopenny Swimming Bath*, close by this one, and supplied from the neighbouring Surrey Canal. Some dispute with the Canal Company relative to the price of their water, which they wished to charge more for the richer it became in organic constituents, led to the closure of this bath, and it seems unlikely that it will be reopened.

The other bath I have to describe is one of the tepid kind. It is called the

Albion Hall Swimming Bath, Albion Square, Dalston. The bath is made of cement, much discoloured, giving the water a dirty look, though it is tolerably clear. Length 27 yards, width 12. Spring boards at both ends. Depth from $3\frac{1}{2}$ feet at one end, to $5\frac{1}{2}$ feet at the other. Footway all round the bath of asphalt, with a margin of stone next the water. Forty-six commodious boxes, with half doors, on three sides of the bath. Square pillars at intervals of about ten feet rise up from the edge of the bath, and support a gallery all round the room. The lighting is good, and proceeds from glazing about seven feet in height, let in betwixt the top of the gallery and the ceiling on every side. The ceiling is flat, and at a good height from the floor. This is the most highly ornamented swimming bath in London. The boxes are painted light blue and white; the pillars light blue. The front of the gallery is covered by pictures in panels, by no means badly painted. The ceiling is painted to represent a cloudy sky, but the imitation is not very successful. Several patches of the plaster have become detached from the ceiling, but otherwise the bath is in pretty good repair. It

is a pity that some of the money that has been wasted on the decorations of the bath had not been applied to facing the basin of the bath with glazed tiles. The bath seems much frequented, the company is far from select, and there is a significant notice on the wall, advising the bather to keep his eye on his box. Unfortunately he is not told how to perform this feat during his evolutions in and under the water.

The discovery of these two additional baths does not induce me to modify anything I have said in my former article relative to the necessity for open-air swimming baths in London, for though the Camberwell bath is undoubtedly an open-air swimming bath, it is exactly everything that such a bath should not be. It is too small; it is of insufficient depth—for the deep part is only a small depression in the middle. It is constructed of some rough dirty-looking cement, and the water is as stagnant and foul as ditch water. The other arrangements of the bath leave much to be desired.

The Albion Hall Bath is a tolerably good tepid swimming bath, but that is all that can be said of it. There are many better of the kind, and a few worse; but I object to the kind.

I can only repeat what I said in my former article, that London has no swimming bath possessing all the indispensable requirements of a swimming bath, viz. cold clear water, sufficiently spacious and deep, open air, and perfect security to the bather and his property, and that in this respect it is behind many second-rate continental towns.

It is, I understand, no longer intended to make the bed of the Serpentine of a uniform depth of $5\frac{1}{2}$ feet. The depth is to range from 3 feet at the head of the lake in Kensington Gardens to 14 feet at the lower end in Hyde Park. This will be pleasant for good swimmers, but the water will remain as dangerous as before for boaters and skaters. No prospect of a swimming bath being constructed in this or any other of the London lakes.

A floating swimming bath, 20 yards long by 13 wide, and from 3 to 6 feet deep, is to be moored in the Thames at Battersea Park, in such a position that it will have a sufficient depth of water at all states of the tide. The Thames will require to be much cleaner than it is at present, in order that this bath should come up to our ideal of what a swimming bath ought to be.

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THE
BRITISH JOURNAL
OF
HOMŒOPATHY.

FORCE, PROTOPLASM, AND STIMULUS.

By DR. DRYSDALE.

(Continued from p. 321.)

CHAP. II.—NATURE AND DEFINITION OF FORCE (*cont.*)

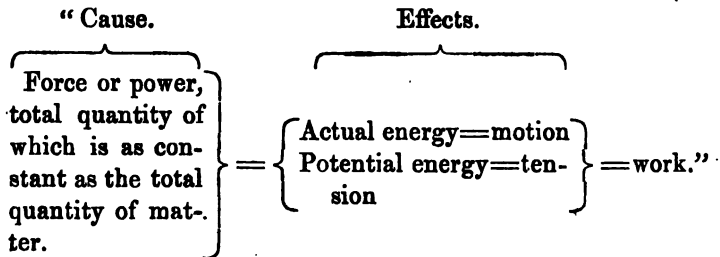
§ 52. We have here a glimpse of the possibility that the forces may be nothing but motions of matter, if under the term matter the æther is also comprehended ; and that their ultimate complete correlation may one day be established, when we shall see that they form a closed circle without beginning or end. That this is not yet apparent is owing to the break caused by our ignorance of the true physical nature of gravitation, chemical attraction, elasticity, &c. Hence arises the difficulty of a definition of force, for that must be consistent with the equivalence and possible correlation of all the forces without implying a knowledge of their true nature. In this sense Mayer's must have the preference, as it pronounces no opinion on the nature of any force, or on its origin, and is not liable to be confounded with any property of matter. The introduction of the term *energy* is no real gain in precision, though it is a convenient term when used to express "the power of doing work."

The Germans have done very well without it, and though it meets with the approval of Helmholtz and Clausius, yet it

is not essential, for there is no connection in which the word force might not be used instead of it. Balfour Stewart says that a stone when thrown up to a height, and caught there, has energy of position, but when fallen to the ground has no energy but only force, meaning the pressure force of weight. It is plain, however, that, but for the intervening obstacle, it would still have energy enough to fall (say 4000 miles) to the centre of the earth, where, indeed, it would have no energy in his sense, but then also no force in the sense of weight. Thus, there is no real distinction between the two cases, and the stone is simply caught a few feet higher in one than in the other. At the centre of the earth, of course, though a body has no weight, it is still subject to the force of gravitation, which, indeed, is now at its maximum, but is equally balanced on all sides.

The potential energy of a raised weight may therefore be just as well called unbalanced falling force. Energy is therefore not something new caused by force, but is simply a convenient name for a *disposable balance* of force. The same applies to heat, chemical attraction, and other forms of force. In attempting to distinguish between potential energy and force, some authors have mixed up the question with the metaphysical one of the origin of force, and have confounded the ideas of force and property.

§ 53. Bence Jones says, at p. 35, "To avoid the indistinctness arising from using the word force at one time as the cause of an effect and at another as the effect itself, the term conservation of energy is now adopted instead of conservation of force. Thus, force, which we assume to be indestructible and inseparable from matter, is the cause of energy, and energy is the effect of force, illustrated by this diagram :



What do we gain by this? In the very next sentence he says, "The idea of the conservation of energy is that the sum of the actual and potential energy in the world is constant." Now, if he admits this, what else can his force be but some form of the already existing store of energy, and how then can it be called the cause of energy? Or he must assert that matter by its very nature possesses the power of originating a certain definite quantity of energy, and no more, and to this power he gives the name of force. He arrives at this by a curious process of reasoning from the irrefragable position, that force is inseparable from matter, in the sense that force cannot exist without matter. This position presents no difficulty to those who look upon force as motion, for of course it is impossible to conceive motion unless there is something to be moved. But he proceeds from "the inseparability of force from matter," "the absolute union of our ideas of matter and force," and the like expressions, till he arrives by easy stages at the conclusion that it is impossible "to think of matter as inert or void of all force." He says, "As soon as it is admitted that *force is absolutely inseparable from matter*, whether gas, liquid, or solid, it will become as impossible to think that matter can consist only of centres of force as to think that matter can be inert or void of all force. *Matter, if it be inseparable from force*, must always be in a state of motion, or of tendency to or of resistance to motion, and it can never be in a state of perfect rest."

On the contrary, the majority of physicists have no difficulty in conceiving matter in a state of rest, inert and void of all force. In fact, this is implied in the idea of *inertia*, which is universally allowed to be one of the cardinal attributes of all matter. It is undoubtedly true that, as the universe is now constituted, there is no example of a single particle of matter void of force; but this is a very different thing from the above statement, and lends no countenance to the idea which underlies it, that matter must have contained an inherent store of force, which is "the cause of the energy" of the universe. We shall never escape the confusion thus engendered till we acknowledge

plainly that no property of matter can originate force, or, in other words cause motion without expending force previously imparted to it. Matter must be regarded as possessing certain inherent properties, but, above all, that of absolute inertia, which enables it to take on a variety of motions when force is *furnished from without*; but it is totally unable *per se* to display any of its qualities or originate the smallest motion.* In a practical point of view, the important thing is how to distinguish between these inherent properties on the one hand and force on the other, and to endeavour to unravel the prevalent confusion arising from a loose use of these words.

§ 54. The truth is, the discovery of the mechanical equivalent of heat has, we venture to say, given the death blow to the whole doctrine of attraction and repulsion, as inherent properties of matter. These terms are still employed by physicists, but the conviction is gradually spreading that they are only convenient expressions for facts, the real nature of which is not yet understood. Just as before the discovery of the true nature of atmospheric pressure, aspiration and suction might have been looked on as attraction, so perhaps the doctrine of attraction may be no better founded than that of the horror of a vacuum. Attraction implies the production of motion, which is impossible without the expenditure of something, and that something cannot be matter or any of its essential properties. "In no case," says Faraday, "is there a pure creation—a production of power—without a corresponding exhaustion of something to supply it." The general tendency of opinion is well expressed by Laugel, who, after explaining that Newton spoke of the attraction of gravitation merely as a formula, goes on to say "When we say that bodies attract each other, we ought simply to under-

* On the first law of motion Goodwin says—"With regard to the meaning of this law, it is intended to assert that there is in matter no tendency to motion of one kind more than another, or, indeed, of any kind; that matter is purely inert, and the cause of any motion which a body may have is to be sought not in the properties of the body itself, but in external influences." (*Mathematics*, p. 269.)

stand that things take place as if bodies attracted each other."

And again : "To suppose in the centre of each molecule a true power of attraction or repulsion, as is often done, is a notion so strange, that no one could comprehend how it became familiar to so many minds, did he not know how prone we are to give to all objects something in common with ourselves."

Further, "There are in reality no entities of this kind, nor fluids, nor attractions, nor repulsions ; reason merely presents to us matter animated with movements ; some of these movements are perceptible to us, and make up the relative and incomplete notion which by the aid of our senses we form of materiality" (p. 217).

Such comprehensive views of the universe were to a certain extent anticipated by the profound intellects of the seventeenth century, and, in fact, Bertrand entitles his elaborate disquisition *Renaissance de la Physique Cartesienne*.

§ 55. Matter without force would be a true state of chaos. It would then have no aggregation nor any of the secondary properties which that involves. There could be no chemical reaction, nor any of the phenomena of gravitation, heat, light, electricity, or magnetism, nor could life exist. Such a state is, however, quite conceivable. Matter would then exist in full mass, though no weight would be possible ; the elements would be there in full tale with their distinct chemical affinities, though these could not be manifested. In short, all the inherent properties would be there in all their completeness, and might so remain for ever without being called into exercise. This last constitutes another grand distinction between property and force. The former may be in exercise, and then may cease to be in exercise, without our requiring to ask what has become of it. Not so with regard to force ; you must follow it ;* once in operation, it must be accounted for in some way or other, it must be traced through its trans-

* "The case of a force simply removed, or suspended, without a transposed exertion in some other direction, appears to me to be absolutely impossible." (Faraday, *Phil. Mag.*, iv, 13, p. 237.)

formations into some other force or into statical equilibrium. The conception of matter emptied of all force is not more difficult than that of the absolute zero of heat, which is now a postulate in physical science. As to the origin of force, the question, like that of the origin of matter, is a barren one, and to indulge in speculations thereon is only to "darken counsel by words without knowledge."

§ 56. On the question of property and force, Dr. Bence Jones has, I am inclined to think, entangled himself in a fallacy which may be the source of those purely chemical views of biological phenomena which he holds, and which are so repugnant to the vitalist school. He leads up to the subject by dividing the course of opinion respecting the connection of matter and force into three stages, as follows :

1st. That in which there is a complete separation between the ideas of matter and force. As an example of this he cites the Mosaic record of the creation in which, for instance, light is represented as created by itself, independently of the earth and water, &c.—"that is, light or force was regarded as perfectly separable from matter." The second stage is marked by the incomplete separation between the ideas of ponderable matter and force. Here "force is considered as altogether separable from ponderable matter, but actually to consist of or to be perfectly inseparable from an imponderable æther, gas, or fluid, which is capable of being attached for a time to the ponderable matter." The authorship of this idea he ascribes to Kepler, and as its partisans he names Descartes, Leibnitz and Newton. He names this the Newtonian stage of ideas, chiefly owing to Newton's strong advocacy of the emission theory of light, which for long was maintained on his authority, and with it the imponderable-fluid theories of heat and electricity.

The 3rd stage "is characterised by the complete union or perfect inseparability between the ideas of matter and force." This he calls the modern stage, and one which rests solely on the advance of natural knowledge.

With every wish to do homage to one to whom medical chemistry is so much indebted, I cannot consider this a happy description of the progress of scientific thought. It cannot be admitted that, because Newton upheld the emission theory of light, he is to be put forward as the representative of the second stage, viz. that force consists of an immaterial gas. The modern theory, that the forces of

gravitation, chemical attraction, and cohesion, consist of *undulatory or other movements* in a kind of matter—the interstellar medium—acting upon the particles of common matter, seems to us far more consonant with Newton's views than the representation of them given above. The dispute between the ætherists and non-ætherists does not turn on the question whether an æther exists or no, for even the non-ætherists are compelled to admit the existence of an interstellar medium of some kind, but as to what is its nature, or even what it shall be called.

§ 57. In illustration of his views, Dr. Bence Jones quotes part of the following passage from Faraday's paper "On the Conservation of Force" (*Phil. Mag.*, iv, 13, p. 235) :

"What is called chemical attraction affords equally instructive and suggestive considerations relative to the principle of the conservation of force. The indestructibility of individual matters is one case, and a most important one, of the conservation of chemical force. A molecule has been endowed with powers which give rise in it to various qualities, and these never change, either in their nature or amount. A particle of oxygen is ever a particle of oxygen, nothing can in the least wear it. If it enters into combination and disappears as oxygen—if it pass through a thousand combinations, animal, vegetable, mineral—if it lie hid for a thousand years and then be evolved—it is oxygen, with its first qualities, neither more nor less. It has all its original force, and only that; the amount of force which it disengaged when hiding itself has again to be employed in a reverse direction, when it is set at liberty; and if hereafter we should decompose oxygen and find it compounded of other particles, we should only increase the strength of the proof of the conservation of force, for we should have a right to say of these particles, long as they have been hidden, all that we could say of the oxygen itself."

The chief question in the paper from which this passage is taken is respecting the difficulty of correlating gravitation with the other forces. Here Faraday evidently uses the word force in its popular sense, as synonymous with power or capability, and not as contra-distinguished from property. This is to be regretted as tending to keep up the prevailing ambiguity, but it is plain that in the first part of the above extract by "force" he means property, for he speaks of qualities which cannot increase or diminish, while in the

latter part the word "force" is used in its proper sense as denoting something that can be "disengaged."

We may notice here that an important principle is implied in the last sentence, viz. that the properties of compound bodies are as truly inherent and as little to be confounded with transferable forces as those of the simple bodies.

The conclusion of the extract is not given *verbatim* by Bence Jones, but is paraphrased in the following manner :

"If it were possible to take the ultimate atom of any one of the elements, we should find that the chemical force which constitutes and determines its nature would be absolutely inseparable from the matter of which the element consists" (p. 17).

Here we lose the idea of the possibly compound nature of the elements which gave force to Faraday's argument, and what is left is the mere truism, that the chemical properties of a substance are inseparable from it, force being here used in the sense of property. Now, though Faraday himself unfortunately speaks in this loose way, he shows that gravity, considered as a power of attraction without the expenditure of anything, is inconsistent with the law of conservation of force, and, therefore, the whole scope of the paper may be taken to be that gravity must be a force, and not a property, in the strict sense of the words here insisted on. He certainly gives no support to the arguments for the inseparability of matter and force advanced by Bence Jones, particularly in the following passage :

"The union, also, between matter and gravity is just as inseparable as the union between matter and chemical force. Matter without weight is not matter at all; the weight belongs to the matter and cannot be taken from it. The gravity can no more be destroyed than the matter itself can be destroyed. However small the matter may be divided, yet each part will have a part of the force, and there can be no more of the force lost than of the matter. We cannot think that the matter can exist without the force of gravity being always acting or ready to act in each atom of it. Nor can we think that any portion of the force of gravity can be separated from the matter. If we mentally attempt to divide any amount of the force into its constituent portions, then every portion, however minute, of the force must

have a corresponding portion of matter to which it is inherent, and without which the force cannot be thought to exist" (p. 18).

§ 58. It certainly does violence to all our preconceived ideas to suppose that weight is not an essential property of matter. In all our experience the two are indissolubly associated, and it is upon this constant connection that we depend for the demonstration of the indestructibility of matter. We may melt it, pound it, volatilize it, or pass it through a thousand different chemical combinations, and at the end we shall find it again, weight for weight, exactly as at the outset. Notwithstanding all this, it is only the association of ideas that makes it difficult for us to imagine matter as existing without weight. The facts adduced are undeniable, but the question is whether they depend on a property of attraction inherent in matter or on a force acting, like other forces, only conditionally. In favour of the latter view we have the all-important fact that weight is capable of being increased or diminished. A mass of matter weighing 1000 lbs. at the sea level loses 2 lbs. at four miles above it; if carried 240,000, *i. e.* to the moon, it would only weigh 5 oz.; and at a calculable distance in space the weight would become imperceptible. On the other hand, the inherent properties admit of no such variation—"a particle of oxygen is ever a particle of oxygen; nothing can in the least wear it." We cannot doubt, even without the evidence of spectrum analysis, that, whether on the earth or at the sun, where it is twenty-five times heavier, or in the remotest regions of space, where it weighs nothing at all, it will still be "oxygen with all its first qualities, neither more nor less." It is true that there are difficulties in the way of conceiving gravity as a force, which seem to countenance the idea that it belongs to matter as a property, such, for example, as the fact that it is not transferable, like heat, from one body to another. But this would, no doubt, be explicable if we fully understood the nature of gravity as a special force. This is a question which cannot be gone into fully here, but, as bearing on the distinction between property and force, I may cite the conclusion at which Faraday arrives in the paper alluded to in § 57, *viz.*

that the cause of gravity is a force, not resident in the particles of matter, but in something *external* to them. In support of this conclusion he quotes the following passage from Newton's third letter to Bentley :

“That gravity should be innate, inherent, and essential to matter, so that one body may act upon another at a distance through a *vacuum*, without the mediation of anything else, by and through which their action and force may be conveyed from one to another, is to me so great an absurdity that I believe no man who has in philosophical matters a competent faculty of thinking, can ever fall into it. Gravity must be caused by an agent acting constantly according to certain laws; but whether this agent be material or immaterial I have left to the consideration of my readers.”

§ 59. This sentence, so utterly opposed to all the ordinary notions entertained respecting Newton's theory of gravitation, seems to have made a deep impression on the mind of Faraday and of other distinguished physicists. Since the publication of Faraday's paper Waterston, Challis, Maxwell, Glennie, and others, have shown mathematically that all the facts of gravitation, as well as of other attractions and repulsions, are susceptible of explanation quite as satisfactorily by the supposition of external pressures on the particles of matter as by the prevalent one of attractive forces within them. This hypothesis of pressures (supposed to be caused by æthereal undulations or stresses of lines of force), unlike the ordinary notion of gravitation as an inherent power of attraction without expenditure of anything, does not conflict with the known laws of force.*

* In the illustration of the coincidence of static and dynamic equilibrium given at § 51, the dead pressure on each side of the piston must rise and fall with the temperature, but no motion is thereby produced, because the pressures or velocities of impact of the air-molecules are exactly balanced. The parallel of this is observed with respect to gravitation. A mass of matter will weigh a known amount less at the top of Mont Blanc than at the sea level; but this must be measured by a spring balance, for with the scale-beam the loss of weight of the mass would be exactly balanced by a similar loss undergone by the counterpoise. The mathematical physicists who have worked out the

Doubtless some corresponding property in matter is implied to admit of the display of the force of gravitation. This is simply the capacity possessed in an equal degree by all matter of being moved by the force of gravity. Here we must perceive that matter is passive throughout, and there are thus two classes of forces, viz.—1st, those which cannot be supposed to consist in the motions of the matter itself, but reside in something external to it, by which it is affected passively (*e. g.* gravitation and chemical attraction); and 2nd, those in which the movements of the matter itself constitute the force (such as heat, electricity, &c.). These last may mostly also transfer their motion to the æther or reciprocally receive it, *e. g.* heat may consist of vibratory movements of a hot body, which may be transferred from such a body to the æther, as radiant heat; which last, again, may be retransferred from the æther to common matter as when the radiant heat warms another body. No corresponding phenomena occur in the case of gravity and chemical attraction.

§ 60. Now, whereas the force of gravity acts equally upon all matter, the force of chemical attraction is limited to the action of certain kinds of matter upon each other. Here also two distinct factors are involved, viz. the property of chemical affinity on the one hand and the force of chemical attraction on the other, the product of these two being chemical combination. The act of chemical combination

hypothesis that the force of gravitation resides, not in common matter itself, but in waves of translation in the æthereal ocean, have shown how such a physical assumption is capable of explaining all the laws of gravitation, viz. such as the apparent attraction in the inverse square of the distances and in the ratio of the mass, and also how it can act through an intervening body. It enables us also to understand how something of the nature of motion may be expended in producing the motion of a body falling to the earth. But it does not give any hint as to how this force is replenished any more than heat and light, which are incessantly being dissipated at such an enormous rate. Here, however, Rankine's hypothesis of the reconcentration of the energy of the universe irresistibly recurs to the mind, and the question has been asked—If it is not tenable in the original form (see p. 8), may it not be in some modification? may it not be that when the undulations of light or heat reach the margin of the æthereal ocean they are transformed and reflected as waves of translation, thus becoming the cause of gravity?

implies a certain amount of motion, which, again, involves the expenditure of *something*, and this something cannot be the inherent property which constitutes the chemical relationship or affinity between the combining bodies, because that property remains undiminished and unchangeable. What is expended must, therefore, here as elsewhere, be *force*. The inherent property in this case cannot, any more than in that of gravity, be in itself a power of attraction, but only determines the effect of the acting force. This force is the same for all chemical combinations, and is therefore called the force of chemical attraction, just as we speak of the force of gravitation, but it is the property of affinity which determines what particular bodies shall combine with one another, using in the act of combination the requisite amount of the common stock of force. No amount of the force of chemical attraction will cause the combination of bodies destitute of affinity for each other. To speak of the force of chemical affinity already implies a hypothesis which the foregoing considerations show to be erroneous. In strictly accurate language we should say every chemical combination involves the existence of the property of chemical affinity and the expenditure of the force of chemical attraction. What the nature of this force of so-called attraction may be is not decided, but it probably is caused, like gravitation, by pressure from without upon the particles of matter. In what relation it stands to gravitation and the other forces is a subject on which it would be premature to speculate.

In a chemical combination—oxidation, for example—the force that is evolved is merely common force, transferable, transformable, and commensurable in all forms; in this case it is the force of chemical attraction assuming generally the force of heat or electricity. Also, when we dissolve or reduce a chemical compound we must furnish the exact amount of force necessary for the potential energy of the components in their elementary state; but what we furnish is only common force, such as heat or electricity, not any *special* force, which gives the elements (say oxygen and hydrogen) their special chemical qualities, *e.g.* the faculty of combining in definite proportions, and forming a third

substance with totally different properties. Such a faculty is the inherent property of those two kinds of matter alone, and cannot be transferred to any other substances in the universe; it cannot, therefore, be a force at all in the strict sense, and this distinction is quite easy to conceive, although, in point of fact, no display of chemical affinity nor any actual combination can take place without, at the same time, the co-operation of "that which is expended in the production of motion." So whatever part force may play in chemical combination, there must always be an inherent property in the several elements which determines it, and force alone cannot be the sole agent, but only one factor in the process. The conclusion, therefore, is that chemical affinity is a property which can be satisfied but not consumed; while chemical attraction is a force which must be expended and changed into another form in all combinations, or furnished from without in another form to be stored up as potential energy in all decompositions.

§ 61. As we approach biology and endeavour to explain Dr. Fletcher's theory of the dependence of vitality on a state of combination of matter entirely *sui generis*, and not on the addition to ordinary chemical compounds of either a substantial entity called the vital principle, or a force or forces called vital, it will be necessary to enter still farther into the question of the distinction between the properties and forces of matter in order to see what foundation physiologists may find in pure physics for the last hypothesis. For, in fact, the theory of vital forces is little else than the old vital principle in a new form, supposed to be more consonant with the present state of physical science.

The phenomena of life are supposed to be produced by the action of the proximate principles, viz. albumen, syntonin, protagon, gelatin, &c., animated by a peculiar force or forces called vital, which, however, must be drawn from, and are commensurable with, the ordinary physical forces. In short, that, for example, albumen, gelatin, &c., by the addition of certain forces, can put on the behaviour of living matter; just as copper, though otherwise the same substance, acquires certain powers when hot which it has

not when cold, or iron becomes magnetic by induction. To this theory Dr. Fletcher's view is opposed quite as much as to the more unphysical speculation of a substantial vital principle. Does the part played by the forces in the development of the secondary properties of matter through combination and aggregation lend any countenance to this theory?

Supposing that we can predicate nothing as to the essential properties of matter without force except those commonly assigned, viz., *extension*, *impenetrability*, and *figure*, still we shall have no difficulty in recognising inherent and essential differences in the properties of different kinds of matter by their reaction under the influence of the forces. It is not necessary to adopt either the Newtonian (of hard, round particles) or the Boscovichian (of points of repulsion), or any other theory of the nature of the ultimate atoms of matter; suffice it to say that they cannot be either solid, fluid, or gaseous, for these terms imply the existence of aggregation under the influence of forces. We can quite well conceive a single particle of matter which, of course, cannot be solid, or liquid, or gaseous; therefore, if these states are called properties, they must be called secondary properties, inasmuch as they can only be displayed by the intervention of, or a union with force. By some physicists they are called *acquired* properties, which admits their position; for, of course, an inherent property cannot be acquired any more than it can be lost. This development of secondary properties by union with the forces, leads up to the vast variety and complexity of the phenomena of nature. As the universe is now constituted, as far as we know there is no matter which is not under the influence of one or more forces. If we extend the second law of motion (see Appendix) to the forces in general, we perceive how the same body can be influenced by a variety of forces at the same time without interference with each other. Probably an elemental gas is the simplest form in which a mass of matter can exist in respect to force, for its particles are removed from the sphere of molecular attraction; but even it is animated

with the forces of heat and gravitation, and the terrestrial and orbital motions common to all matter in our world, besides the whole store of potential energy of chemical attraction. A solid is, in addition, under the action of the force of cohesion, and other molecular forces or velocities producing the secondary properties of solidity, hardness, tenacity, elasticity, &c. Some bodies, in addition farther, may take on the peculiar molecular motions constituting electricity and magnetism. It would seem that in this enumeration we comprise the whole of the properties of any substance, and, as we do not know anything of the properties of matter except through the forces, we are tempted to consider that it is nothing but the addition of forces which gives to matter its modifications. A simple test will, however, disprove such a notion. Suppose iron the solid spoken of; the mere increase of the molecular velocities of heat will disperse its particles into vapour, and deprive it of the majority of the above secondary properties; while to other tests it will be palpable that iron is iron still, and distinct from all other elements. In like manner we can suppose iron emptied of the forces of heat and gravitation and mechanical motion in space, and it would still be iron in all its inherent properties, and it would certainly neither have been annihilated nor become anything else. Nevertheless, as we do know and can know nothing of the inherent properties of matter except through the forces by which they are displayed, the tendency is almost irresistible to put these latter into the foreground and lose sight of the inherent properties. It is true that solidity, fluidity, hardness, softness, elasticity, temperature, crystallisation, magnetism, &c., depend on certain forces acting in certain amounts on and in matter, and these states could not possibly exist without force; yet it is the properties of matter, whether simple or compound, which are the determining power or agency which decides whether the amount of those forces furnished shall produce these states in any given condition, or whether the forces shall take effect at all, or even in what forms force itself shall exist. According to the hypothesis of æthereal velocities the forces on which

gravitation, cohesion, and chemical attraction depend, and to which matter is passive (§ 59), must be held to be diffused throughout the universe, and all kinds of matter are enveloped in them, but they take effect on none but those whose special qualities fit them for their display, whether at all or in what degree. Just as our solar system is full of radiant light, while to us the heavens at night present the blackest darkness except where the waves of light are reflected by a planet or satellite. To return to a special example. At a given temperature iron will be a hard, tenacious solid, with its molecules firmly bound together (whether in static or dynamic equilibrium) by the force of cohesion; whereas, at the same temperature, the particles of hydrogen, destitute of all the secondary properties of cohesion, will be flying from each other with inconceivable rapidity. Why is this except that the inherent properties of those substances are different, and it was they which determined how much of the force of cohesion each substance would take on, and thus acquire its secondary properties?

In respect to its secondary physical properties, we say of iron that it excels all bodies in tenacity, it is ductile, malleable, and capable of being welded at red heat; its specific gravity is 7.7; it has a grey colour and metallic lustre, and at temperatures below redness is attracted by the magnet. Now, none of these properties can be displayed without force, and they are all mere amounts of forces, or behaviour under forces, which can also be displayed by other bodies. One or more of these secondary properties may possibly be found in exactly the same amount in other bodies, and it is only the union of a sufficient number of these properties in the exact proportion which enables us to distinguish iron from other kinds of matter. Nay, say some, as we can have no knowledge at all of the properties of anything except through the forces by which it is animated, so what need have we to suppose different kinds of matter at all when it would be sufficient to endow one kind with the exact proportions of each force to give the secondary properties, which are our only means of re-

cognising different kinds of matter? Others, again, go even farther and say what need of matter at all? let us have merely centres and mixtures of forces in due proportion, and thus we shall have all the variety of the material universe. To such speculations the course of physical science seems to me wholly opposed, and it is impossible to imagine the existence of definite mixtures of abstract forces, nor, indeed, abstract force at all. As above said (§ 53), force is inseparable from matter, and consists merely of motions or affections of matter; and it is, therefore, absurd to suppose that the properties of the latter have not their share—and, in fact, the chief share—in determining the mode in which the effects of the union of matter and force shall be displayed. In truth, we have very little power over the transformations of force, and, for the most part, none at all over the proportions of the forces required for the secondary properties of matter. Under the pressure of one atmosphere we may furnish heat to ice, and melt it at 32° F.; but we cannot alter its amount of cohesive force so as to cause it to melt at any other temperature. And in respect to the conversions of one form of force into another which is the theme of such constant talk, we can do little more than furnish the equivalent amount of actual energy and take advantage of the properties of different kinds of matter which transforms it whether we will or no. Illustrations of this would fill a chapter of themselves, so I will leave the subject for the present, as it will come in again incidentally in giving examples of the equivalence and convertibility of the forces. What has been said of the secondary properties of the elements applies even more strongly to their chemical compounds. And to characterise the distinctive properties of an element you have not only to describe its physical properties, but also enumerate all the combinations it can enter into with their characteristics also. Whatever be the nature of chemical attraction there must have been something peculiar in the nature of oxygen and hydrogen, alone of all bodies in nature, which enabled them under its influence to combine and form a third substance totally distinct in secondary physical properties

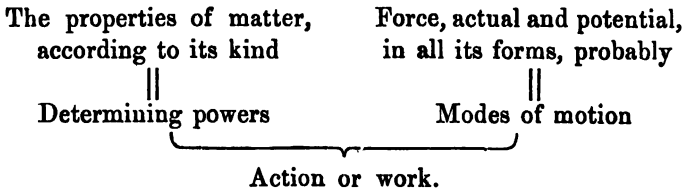
from either. And however peculiar and wonderful the properties of water may be, it is plain the potentiality of them must have been contained in the inherent properties of oxygen and hydrogen. No one would now revive the idea of the essences or principles of 'aquosity,' or 'saccharinity,' or 'acidity,' or 'alkalinity,' nor ought we to talk of chemical *forces* in any way corresponding to these ideas. It is of importance to have our minds clear upon this subject as we get nearer to physiology, so I again would urge that the word force is misapplied when used to denote the distinctive chemical qualities of substances. The contrast between properties and forces thus remains in respect to compounds just as strong as with simple bodies, if such there be. Above all, there belongs to the properties of compounds, as well as elements, the distinguishing feature that they cannot be communicated.

To give one body the characteristic properties of another, it must, if an element, be transmuted, or if a compound, converted, into the same. By the operation of the active forces we have no power of changing the properties of matter, and we have even very little over chemical combinations, except in the way of dissolving them. On the discovery of the decomposition of water and the alkalis by the voltaic battery, great hopes were excited that new powers of synthesis as well as analysis would be put into the hands of chemists, and, in fact, several combinations were found to take place under the influence of the electric spark. But these hopes have proved fallacious, and it is now admitted that, although the action of heat and the electric spark and the various agencies included under the name of catalysis, are not fully understood the forces in these cases have no direct power of causing combinations, nor does any special force at all exist in catalysis. The probability is, that in some way the particles of the elements are simply brought within the distance of molecular attraction, as happens in solution, and the combination takes place solely in virtue of their chemical affinity. Thus the active forces, and whatever it may be that is comprehended under the name of catalysis, can at the most set a

going chemical action in bodies possessing already the full amount of affinity and potential energy to complete the action. This applies to the great majority of instances, but in the synthesis of chlorine and hydrogen by light, phosgene gas, and similar compounds, a quantity of the chemical rays is extinguished proportional to the chemical effect produced. So probably in the inorganic world we have an example of potential energy of the new compound being furnished by light, as we see on such a large scale in the vegetable kingdom. Still it is the chemical properties of the elements which make use of light rather than that light compels them to enter into a union of which they are otherwise incapable. The conversion of *vis viva* into potential energy of the compound in the synthesis of inorganic bodies, will be farther noticed under the question of molecular velocities. The almost infinite variety of the material universe depends on the secondary properties of matter developed by chemical combination determined by the inherent properties of the elements. No knowledge of the powers and properties of matter we now possess enables us to place a limit beyond which new powers may not be developed by new combinations and conditions. Therefore, if we are to discover the sources of any new and peculiar powers, such as vitality, we must search for them among the properties of matter, and not in new forces. The active forces are comparatively few, and, though indestructible, are convertible and transferable from one body to another, and in the form of heat capable of dissipation as far as our world is concerned. On the other hand, the properties are peculiar, inherent, incapable of dissipation, and incommunicable. The convertibility of the forces must be understood in a sense to a certain degree restricted, for our power of converting motion or any active force into another is dependent on the properties of the matter affected. Thus the stoppage of motion by friction in homogeneous bodies produces heat, and between heterogeneous bodies, electricity. Magnetism is not directly convertible into heat, but when by its attraction motion is generated, then, by the stoppage of that, an equivalent amount of heat is generated. Iron in a state of cohesion under the

motion of intense heat will take on the vibrations giving rise to light, and thus convert heat into white or compound light, but if still further heated and converted into vapour, will give out a ray of one characteristic colour, and the same is observed with other elements. Some bodies, called opaque, are said to absorb light and convert it into heat, that is to say, their molecules take on the undulatory motion of the waves of light whose motion is thus stopped; they cannot, however, give it out again as light, but in the different kind of vibrations we call heat. Again, certain bodies, such as sulphate of quinine, called fluorescent, absorb the non-luminous highly refrangible rays of the spectrum, and give them out in a lower degree of refrangibility, but still light. In these cases, the properties of opacity and fluorescence, for example, resided already in the opaque or fluorescent body, and were merely called into action by the mode of motion acting upon it. We are, therefore, surprised when we see in Carpenter's early paper on the application of Mayer's Doctrine to Physiology, light spoken of as the *organizing force* in the growth of plants. In the case of sulphate of quinine, light is certainly not a fluorizing force in the sense of making it a fluorescent body, for that property pre-existed. And in the same way, though light furnishes the force essential in the growth of plants, yet the power of so using it pre-existed already in the living matter of the plant. The author, before the end of the paper, changes his view, and acknowledges that besides external forces acting on living bodies there must exist a *directive agency*. This is of course the whole point in the question of life, and as far as we have gone, analogy from the inorganic world does not encourage us to look for that in any *force*. The sense in which the convertibility of the forces is to be understood is further shown by the attitude of the fixed attractive and repulsive forces, the causes of which being unknown, we cannot say that any such conversion takes place. In these (see § 41, II, and § 45), energy or working power consists in a dead pull or pressure *and distance to act through*, and when the latter is exhausted the energy is gone, though the pull or pressure remains as strong as before.

The conversion of an active force, such as motion or heat, into one of these forces, such as chemical attraction or gravitation, does not take place directly (and if at all we know not how), but the active force is expended in counteracting the attractive force to such a degree, that sufficient space to act through is given to reproduce the exact amount of force expended. When the pull of gravitation or chemical attraction is allowed to act through a working distance, it is the motion thus communicated to the masses or atoms rushing together (see Joule's first paper, § 29), which when stopped becomes the vibration of heat; and this is, as we now know, equivalent to the energy expended in raising the weight, or decomposing the chemical compound. Doubtless, as before said, when the physical nature of the attractive forces is known, we shall see that something is expended when they produce motion, and also how they are correlated with and replenished from the other forms of force (see note to § 59). We thus perceive that throughout nature, though the amount of force or energy remains constant, the particular form in which it shall display its activity or be stored up as potential energy is determined by the properties of matter. At § 53 I have given reasons for dissenting from Bence Jones's view of force as the cause of energy, and will now, therefore, propose a modification of his diagram, premising that the origin of force must be regarded as equally inscrutable to the human intellect with that of matter, both being referred to creative acts of the Almighty.



§ 62. As a familiar illustration of the relations of the properties and forces of matter, we may compare the former to the bricks, and the latter to the mortar in the building of a house. Without the mortar the bricks cannot be made to take or retain the required form. But when the mortar is

once used its faculty is lost, and it cannot be used again without a fresh store of moisture and other qualities being given to it. So likewise with the forces, for in all work done some part of them is transformed into heat and dissipated. But the properties are like the bricks, which remain there in their pristine completeness, and may be taken down and put together as often as we will, without losing the faculty of "edificability." So likewise with all the secondary properties of matter developed by combination. The potentiality of them must have lain in the elements before the compound was made, and will continue in them when it is dissolved. There are many chemical compounds made every day which never existed, and by taking advantage of the play of chemical affinities, there are still many more to be discovered which do not now exist; yet the potentiality of all these must have existed in matter since its creation, unimpaired, although never called into exercise. When such a compound is decomposed, we do not need to inquire what has become of its peculiar powers any more than we need to inquire what has become of the "edificability" of the bricks when a house is taken down. Nor, if by some peculiar combination of matter it should possess *vitality* as a property, do we need to inquire what has become of that when the combination is dissolved, or what we call death takes place. It is otherwise with every form of force, and if life be in any way supposed to be due to the action of a peculiar force, we are bound to show an exactly equivalent outcome of that force after death among the actual or potential energies of the inorganic world. This argument is used with propriety by the vitalist school against those physicists and chemists who speak of life as a force or forces, although it has no weight against those who look on vitality as a property of matter in a peculiar state of combination.

CHAP. III.—ON THE NATURE OF LIFE.

§ 63. We are now prepared to comprehend the position of Dr. Fletcher in the great question of the connection between life and organization, which I may notice in this

place, though I hope to be able to set it forth more in full on some other occasion. His views are expounded in a series of chapters which, for learning, wit, close reasoning, and splendour of diction, have been seldom equalled, and, I venture to say, never surpassed in the literature of physiology. He first gives the grounds for dissenting from the opinions of the large party who hold that the proximate principles are associated by common chemical affinity, and are still liable to be affected by its laws, although considerably modified by the powers of the living body, however these may be named or conceived of. He agrees with that of Berzelius, one of the few chemists who hold such an opinion, and a large party of physiologists, that in the living body the elements obey laws not merely modified, but entirely different from those of ordinary chemical affinity. Among those who hold this view are comprised both upholders of the hypothesis of a substantial vital principle like Dr. Barclay, and those who deny its existence like Dr. Prichard. Dr. Fletcher is one of the most powerful opponents of the vital principle as a substantial entity; or of any thing, of whatever nature, added to matter above and beyond the inherent properties and forces with which inorganic matter is endowed. The true nature of force was not then understood, but it could easily be shown that his arguments are equally valid against the suppositions of a special force added to organized matter which could reverse or overrule its chemical laws. On the one hand, he is thus totally opposed to all theories professing to account for the phenomena of life by the action of ordinary chemical affinity and of the physical forces; while, on the other, he is equally opposed to the addition of any substance, material or immaterial, or any force not correlative with the known forces. How, then, does he account for the marvellous difference between the powers of the body living and what is apparently the same body dead? Simply by pushing deductive reasoning to its legitimate conclusion. We have no knowledge of the nature of anything except by its properties, and no knowledge of these but by their effects. When, therefore, we find living matter performing functions which the

chemically combined proximate principles found in it after death are totally unable to perform ; and when we find that the reagents which act on those proximate principles have no effect at all, or entirely different effects on the living matter, then the inference is simply that none of those so-called proximate principles exist in the living state of matter at all. That, in short, no albumen, fibrin, gelatin, syntouin, protagon, &c., exist in the living matter, while in their place there is a peculiar combination isomeric with the sum of these, and which is resolved into them in the act of death. The result of this organism, or peculiar combination, is a property to which we give the name of vitality, and which, when acted on by certain stimuli (the ordinary active forces among the rest), and furnished with pabulum (ordinary, chemically-combined, dead matter), performs the functions we know as vital, the most characteristic of which is that of converting heterogeneous matter into a combination generically like to itself. It is thus a self-producing combination, whether in the form of renewal of tissue, or of germs which reproduce an individual. We are thus immediately thrown back to the question of origin, viz. whence was derived the first specimen of organized matter if all we now know is derived from pre-existing similar matter? This is not quite the same as the origin of matter and force, because for those who require no substantial vital principle, and no peculiar force not to be correlated with the known physical forces, it is not a question of *creation*, but merely of *arrangement* into a new and peculiar form we call organism, *i. e.* the process of organization for the first time. Although Fletcher belongs to this party, he does not hesitate to recognise the special interference of the Almighty in the primitive act of the organization of living matter ; for the spontaneous interaction of the ordinary chemical and physical forces is totally incapable of such a process. To the alleged facts in favour of heterogenesis he replies that no doubt some unsuspected source of fallacy had been present ; such, for example, as that either germs are capable of resisting heat or destructive agents to so great a degree merely as the organic matters themselves, or they had

obtained entrance after these destructive processes were applied. These, I apprehend, are very much the opinions of the majority at the present day, in spite of the experiments of Pouchet, the Italians, and even those of Dr. C. Bastian made known within the last few months. Perhaps I may be permitted to add here for myself that if it should finally be established by experiment that in the passage downwards to simpler compounds certain colloids of high potential energy and complex composition should partially fall into organized states of low form by chance, or even if they must of necessity do so, it would not invalidate Fletcher's view of the nature of life. We know that there are many chemical combinations which require such designed manipulation of the play of chemical affinities that we should regard their existence absolutely impossible when the elements were heterogeneously mixed, and allowed to follow their strongest affinities. In fact, there are many such compounds made by the chemist, and which do not exist in nature. But, also, there are some such which are exceptionally found as natural products; and moreover there are some, such as the diamond, which cannot yet be imitated by the hand of man. That a living organism, however, should be so produced is, I cannot but think, even after all the experiments of the most recent times, to the last degree improbable, and I feel confident that some source of fallacy in the above experiments will, ere long, be discovered. If not, we must bow to the facts and take up another position which is not incompatible with the main doctrine here brought forward.

§ 64. Fletcher teaches, as above said, that in the living state none of the proximate principles exist as such, but only the same elements as these compounds contain, brought and held together by a power quite distinct from common chemical affinity; and that it is only at the instant of the cessation of the vitality of each organized tissue that "these compounds or reputed proximate principles are formed—at that instant when the power called chemical affinity succeeds another power, which may be called vital affinity, and by which it had previously been superseded, and common

chemical compounds are all that is left of that organized mass into which the elements had been associated." "Organized matter, as, on the one hand, possessed of properties which have no parallel in such as is unorganized, and on the other, destitute of those by which the latter is characterised, must be regarded as quite distinct from it: and chemical analysis accordingly must be considered as useful in showing us, not what such matter *was* composed of while it possessed vitality, but what it *is* composed of afterwards" (p. 135). On these grounds all applications of chemistry to the explanation of physiological and pathological changes are shown to be completely untenable or of most limited scope, as merely supplying material which the organism has more or less facility in transferring to its uses. Let us imagine matter under an influence as powerful as the voltaic arc in decomposing all compounds and reducing them to their elements; and at the same time one infinitely transcending human skill in the production of new syntheses, and we shall have then but a faint conception of the extreme discordance that exists between the state of living matter and dead. In the former we must suppose the chemical compounds forming pabulum reduced to their elements, which are then rearranged into new forms by the vital processes of nutrition and secretion. Fletcher scorns the notion of even those kinds of pabulum whose proximate principles are nearest to its own, being merely absorbed and deposited again little changed: on the contrary, so complete is the decomposition and recombination caused by the action of the living matter, that he thinks facts are not wanting which tend to show that even the inorganic so-called elements may possibly be decomposed and recombined in a transmuted state in the products of secretion. With such ideas, as may be supposed, he is diametrically opposed to all chemical physiology and pathology, which indeed are with him frequently the theme of animadversion and often of ridicule.

Viewed in the light of the modern doctrine of the nature of force, Fletcher's theory of living matter must on the whole be looked on as in harmony with it, and his modes of

expression in general remarkably correct. He almost always speaks of vitality as a property of organized matter, which latter is held together by an affinity called vital. In life, he says, "the organized tissues are in their chemical natures entirely *sui generis*, and held together by vital affinities—not composed of sodo-albumen, gelatine and so forth, and held together by common chemical attraction" (p. 144). Again, irritability (vitality) is a property of organized or living matter; as characteristic of this as inflammability is of phosphorus, or elasticity is of ivory." To these expressions little exception can be taken; but I venture to say, that if we keep in mind the distinction between property and force insisted on at § 60, the breadth between vital and chemical action need not be considered so wide after all. For we may admit that the *force* of chemical attraction which holds together all kinds of compounds both vital and common chemical is the same, while the property of affinity may differ to any conceivable degree. It is nothing unusual in inorganic chemistry to find the properties, including a wide range of chemical affinities—of a compound differing entirely from those of its elements. On the contrary it is rather the rule, and the more complex the compound, the more are their differences developed, so that we need not find it inconceivable that the very complex combinations of the organic world should be possessed of such a very peculiar property as vitality. It is true we have no analogy in nature of such an extreme leap in development of properties. Granted: the instance is *sui generis*. What more can we say; the world contains only two kinds of matter, the living and the dead, so where is the room for any close analogy? Now, if we admit with Fletcher that no chemical phenomena in the ordinary sense take place in the living matter, *i. e.* there are no oxidations, nor formations of acids or alkalies, nor salts, nor of albuminoid, fibrinous, fatty, gelatinous or other matters, and that these take place only in the act of passing into the dead state, how does that affect the question of force? Not at all, I apprehend, for if albuminoid and fatty matters and oxygen collectively possessing a high amount of potential energy go into the living

state and come out again as carbonic acid, water and urea collectively, with so much less potential energy, the difference will be given out as force in some form exactly the same, whatever be the intermediate states of combination through which the materials pass. It has been experimentally shown by Joule and others, that exactly the same amount of heat is extricated in the combustion of carbon, whether it is burnt at once to carbonic acid, or passes through the stage of carbonic oxide. And it is a general law of the extrication of force by chemical combination, that when a combination can take place in several different ways, the total heat evolved is independent of mode adapted. But there are some apparent exceptions which must be noticed, lest we should be led into the fallacy of the extreme vital principle school, that the living body is absolved from the ordinary laws of matter and force. It was found by Dulong, Favre, and Silbermann, that when carbon is burned in protoxide of nitrogen, it gives out *more* heat than when burned in pure oxygen. Again, a similar anomaly is seen in the case of formic acid according to M. Bertholet. This substance may be considered as a compound of carbonic oxide and water, and when burned is resolved into carbonic acid and water. Nevertheless, during combustion it gives out more heat than can be produced by the combustion of the amount of carbonic oxide it contains. A more remarkable example even is given by the carburet of sulphur, which may be formed by the direct combination of the elements. This substance also in burning gives out more heat than would result from the combination of its elements separately. In all these cases heat is given out by the decomposition of the compound, and this is added to that of the combustion of the simple substances. But it also follows that force or *vis viva* must have been consumed or rendered latent in the formation of those compounds. In what form the force exists is not exactly known, as we do not know the nature of "interior work" in most substances: probably it exists as intra-molecular atomic velocities. But however this may be, the application to our subject is obvious, for in the extreme complication of

organic compounds, some of which are of higher potential energy than the pabulum from which they were derived, it may quite well happen that a storing up of force may take place. Now in the calculations of Mayer, alluded to in § 23, no allowance is made for any such surplus, but the simple heat of combustion of the carbon is made the basis of calculation. So if at any time a more minute investigation should show for a time more force exerted by the living body than the oxidation of the elements accounted for, that must not be put down to *creation* of force by the vital powers. In Dr. Frankland's* careful experiments, this source of fallacy was avoided, as far perhaps as could be, by burning with chlorate of potash the substance of the muscle itself, and allowing for the evolution of heat caused by the decomposition of the chlorate of potash which acts in this way like the above-cited substances.

§ 65. If we can thus conceive of the state of organism as one which does not conflict with the known properties and forces of matter, we have simply to study it as a thing quite apart from the ordinary chemical reactions of matter in order to learn its true nature. The science of physiology is therefore totally distinct from that of chemistry, although both depend upon nothing more than properties and forces of matter.† The practical application immediately following is that nothing is to be judged of in relation to living matter according to its chemical nature, but solely as pabulum or stimulus, unless inert or a diluent like water. To the living matter there are no acids nor alkalies, no solvents nor constringents such as tan, no fats nor soaps, no ferments nor catalytic agents, no sugars or alcohols, no albumen, nor gelatin, nor fibrin, &c. None of all things

* Lecture on the 'Source of Muscular Power.'

† Dr. Fletcher censures in strong and convincing language the errors of those who have confounded mere life with the immortal soul, and attempted to draw deductions as to the nature of the former from the substantial, though immaterial, nature of the latter. Whatever we may fondly hope or wish we cannot really *know* anything of the future life, except through revelation; from this we learn that the immortal soul is a divine gift to man alone, so arguments based upon such knowledge must be quite inapplicable to an attribute common to man and the "beasts that perish."

to act in the least like the way they act on dead matter. Only pabulum and stimuli. As pabulum, for the living matter immediately takes them all to pieces and recomposes them in its own way; with it is true certain limitations beyond which it cannot act at all. As stimuli, for the power of such agents in calling into action the property of vitality bears no relation to their chemical properties, but is *sui generis* and related to vital properties alone. According to Fletcher, irritability or vitality as a property of organized matter, though generically one, is subject to an immense variety of specific modifications, so that "every organized solid is not only the seat of irritability in general, but has a kind of irritability peculiar to itself." Furthermore, vitality as a property of organized matter is not yet life, but only one factor of it, requiring, like all properties, another factor to call it into action. This last is supplied by the agents called stimuli, therefore, following John Brown, he considers life an action produced by the operation of stimuli upon a susceptibility, but instead of Brown's term excitability, he prefers Haller's term of irritability. This he uses as synonymous with vitality as the property of organized matter, which last he also speaks of as *living matter*, or more frequently *irritable matter*. The presence of the stimuli is essential, and their action forms an integral part of the vital process, though they are frequently overlooked from being present simultaneously in the pabulum and in the other conditions essential to life. Of the nature of the action of the stimuli, he can give no account but that it is *sui generis* depending on the properties of the substances exercising that power in relation to the faculty of irritable matter of being acted on by them. Now, in regard to the nature of the stimuli, most important changes in our views must be made, since the discovery of the true nature of force. At first sight we might be inclined to think that, as in the inorganic world, the properties of matter were called into action by the forces, something of the same kind happens here, and that the stimuli are simply the active forces.

(To be continued.)

IS APOCYNUM CANNABINUM HOMŒOPATHIC TO DROPSY?

By E. M. HALE, M.D., Chicago, U.S.

My English namesake, R. Douglas Hale, M.D., in an article in the *British Journal of Homœopathy*, April, 1870, page 362, makes mention of the use of *Apocynum cann.* in dropsy, and implies that it is *not* homœopathic to that morbid state.

The valuable and interesting paper in which this allusion occurs is entitled "The Drift of Modern Homœopathy." The whole spirit of the paper implies that the modern practice of homœopathy is drifting away from the early precepts of Hahnemann. On this side the Atlantic there are those who profess to fear the same result. If true homœopathy means only that we follow the law "*Similia Similibus Curantur*," there is no such drifting manifest to our observation. Neither does it obtain, if the dogma enunciated by some of our colleagues exist—namely, the law similia, the single remedy, and the minimum dose.

We propose to take issue with Dr. R. Douglas Hale, and shall attempt to prove that *Apoc. c.* fills all these requirements.

1. It is homœopathic to that condition known as dropsy.

One prover—Dr. Peters—observed the following symptoms from large doses :

Decided scantiness of urine.

Urine diminished to one third its usual quantity.

Very peculiar torpid action of the kidneys.

These symptoms and several more of the same character were procured from very large doses. Now, it is a rule in proving drugs that while *primary* symptoms are caused by small doses, the effect of large doses is to cause *secondary* symptoms. The *primary* effects seem in such cases to be *suppressed* by the *shock* of the massive dose. I have frequently observed that when large doses of *Apoc. c.* were taken they caused vomiting, diarrhœa, and sweat, *with*

656 *Is Apocynum cannabinum homœopathic to Dropsy ?*

scanty urine. All renal remedies if given in massive doses cause so much torpor of the kidney that the urinary secretion is suppressed.

Dr. Marcy, another prover, had *dull aching pain in the kidneys with increased secretion of straw-coloured urine, sinking at the stomach, dry mouth, sighing, short respiration, dry cough, scanty expectoration,* all symptoms in keeping with the evident excited action of the kidneys.

Other provers have observed from small doses—

Very profuse light-coloured urine.

Several gallons of urine per diem.

From these experiments we find that *Apoc. c.* is primarily homœopathic to *profuse urine with excitement* of the kidneys, and secondarily homœopathic to *scanty urine* with congestion of the kidneys.

Apocynum is then homœopathic to dropsy, as all diuretics are, but it will never cure dropsy in the higher dilutions, because dropsy is a secondary effect of the drug, and when we prescribe for secondary effects we must use the lower dilutions, and even the crude drug in some cases. If, however, we wish to use *Apocynum* in *diabetes insipidus*, we should use the high dilutions. The "minimum dose" in all cases *is the smallest dose that will have a curative effect.* It may be the 2000th or the 2^m, or it may be the 3rd or the crude drug in appreciable doses. All depends on the fact whether the symptom or condition is secondary or primary.

As I have before stated, it will be found, as a rule, that all the so-called diuretics are *primarily* homœopathic to an excitement of the kidneys which leads to inflammation, congestion, and hæmorrhage; *after* which the secondary symptoms of torpor, suppressed urine, &c. In *acute* inflammatory dropsy *Apocynum* will act curatively in dilutions from the 3rd upwards, as witness Dr. C. C. Smith's two cases, page 90, *New Remedies*, while in chronic cases marked by *torpor*, &c., the lowest dilutions had to be used.

Dr. Hale did me injustice in not quoting all my remark; namely, before the words he quotes, I said, "In all these provings, so far, it has caused no particular pain in the

urinary organs but a decided *scantiness* of urine." Then, too, on page 80, I give two rules for its administration, which Dr. H. ought to have quoted.

If Dr. Marcy's proving with the 3rd dil. will be carefully read it will be seen that it gives a perfect picture of the symptoms and conditions which lead to acute inflammatory dropsy, while in Dr. Peters' proving, with the crude drug, it caused a condition similar to chronic, or atonic, dropsy.

All this wrangling and disputation relating to the size of the dose would pass away if homœopathic physicians would accept the facts above stated, and which I have several times enunciated when treating of the actions of medicines.

The law of dose which I have tried to teach recognises that opposite pathological conditions are caused by the primary and secondary effects of medicines—that their effects may alternate—and that a strict adherence to the law of *similia* should oblige us to take cognizance of this dual action, and select the dose in accordance with such action.

If this rule was adopted, no violation of the strictest homœopathic doctrines would occur, and, better than all, our success would be far greater and more certain in the treatment of all diseases.

ON SOME OF THE MEDICAL DISEASES OF THE BLADDER.

By ROBERT T. COOPER, A.B., M.B., M.Ch., T.C.D.

(Continued from p. 432.)

THERE are many other drugs which from time to time have been put forward as remedies for this disease, few of which, however, have stood the test of experience, and the examination of them would be quite out of place in a paper like the present.

We must be careful to enjoin patients to use sugar as sparingly as possible, and, if necessary, to substitute honey in their tea or other articles of diet they have been in the

habit of taking sugar with, so as to avoid an undue formation of acid in the stomach.

It is often an indispensable part of the treatment to see that cavity the of the bladder is well washed out with warm water, and I would be inclined to suggest the addition of a few drops of honey. A small quantity only of fluid should be used, endeavouring in our efforts to imitate as much as possible the mode in which the urine trickles from the ureters into the bladder (Sir H. Thompson).

Another very obstinate form of irritability, and one of very frequent occurrence, is that which accompanies gout. I cannot enter into its symptoms further than to state that besides *Colchicum*, which has been so often recommended for it, we will find *Sabina* to possess many characteristics showing its *rapport* to this affection.

The simple acute inflammation of the mucous membrane, or cervical inflammation as it is generally, though loosely, termed, must be carefully distinguished from that form of inflammation which attacks the bladder surroundings—pericystitis—and which is accompanied by much greater pain on pressure over the hypogastric region, and less distress when in the act of urinating, and for which *Aconitum* appears to be the remedy; also, from that in which the muscular structure itself is engaged, and of which Coulson* thus speaks:—"When the muscular tissue is chiefly involved, I have observed that the power of passing urine does not exist, and the desire to void it is less frequent, as it is not experienced till a good deal of urine is accumulated in the bladder, and then comes on in violent paroxysms."

According to Bentley Todd, this form of disease is generally found to be consequent upon a metastasis of gout or rheumatism, these affections having an affinity for the fibrous structure of the muscular tissue. The behaviour of the symptoms in accordance with the seat of the irritation will not be found of such importance, nor so plainly marked, as in the simple irritabilities. Very often, indeed, nearly always, we shall find evidence of the neck of the bladder being engaged, and the inflammation when it

* 'Diseases of the Bladder and Prostate Gland,' 5th edit., p. 145. Lond., 1857.

sets in severely will be found so great as to afford evidence of the vesical mucous membrane being tumefied, the urine not passing freely, but with strangury, and often tinged with blood; there will be a sense of weight pressing upon the cervix when the patient stands erect, the unpleasantness of which obliges him to remain recumbent, in which position he finds himself easiest; corresponding to this there will be pain on pressure above the pubis, and in males a disagreeable burning at the extremity of the penis. If the prostate is engaged—and in adult males this is very often the case—there will be pain during defecation, and on introducing the finger into the rectum this gland will be found enlarged, while strangely enough the symptoms will manifest an exacerbation at night and early in the morning, a like remark applying to prostatic complication in the catarrhal inflammation. The explanation of this peculiarity is not apparent, but probably it is due to some, as yet, unexplained peculiarity in the functions of the prostate gland. If we add to these symptoms the evidence afforded by febrile disturbance, the coated tongue, the quick pulse, and if the symptoms persist, the rapid sinking of the vital powers, the pain in the pelvic region and down the thighs, the urine clouded and streaked with filaments of ropy mucus, we will have little difficulty in diagnosing this affection.

Should accompanying prostatitis go on to suppuration we shall have evidence of the formation of pus—severe rigors followed by the appearance of purulent urine, and the pains limited to the period during which the urine is passing over the hypersensitive surface. Should prostatitis prevail our remedies will be *Phosphorus*, *Belladonna*, *Pulsatilla*, *Thuja*, and, perhaps, *Cubebs*.

As we have proceeded we have animadverted upon many particulars fraught with interest connected with the subject of enuresis; there yet remain others of importance. Irritability arising from irritation transmitted from other parts of the body will not manifest such regularity in its symptoms as we often meet with when the irritation primarily originates in, and is confined to one particular part of the

inner lining of the bladder. Still we shall find ascarides and other irritants existing in the lower portions of the intestinal canal often attended with symptoms pointing to an irritation of the cervical portion of the bladder, while irritation higher up gives rise to that of the fundal portion. This is by no means, however, invariably the case, as irritation so far away as the throat has caused a "well marked irritation of the neck of the bladder" (see Graves, p. 398). Worms in the vagina I have observed to cause cervical symptoms, and although these symptoms were not well-marked, yet the case might easily be confounded with one in which the irritation located itself only in the bladder. In the case referred to there was no incontinence when asleep, as there sometimes is when much vaginal irritation exists, and there was very annoying strangury. It was this form of the affection that seemed benefited by *Causticum*, and which is referred to in my paper on "Iron," at p. 404 of the *Annals of the British Homœopathic Society*; it was not as is there stated, cured, for the patient's distress again returned, to be controlled when the entozoa were expelled under the influence of *Sulphur*.

A short time back a somewhat parallel case presented itself to my observation, in which from the irritation originating from the presence of ascarides in the small intestines, the superior bladder became sympathetically irritated, but the longer duration of the complaint as well the irregularity of its remissions were alone sufficient to excite suspicion of the irritation being transmitted from a distance. It is impossible that simple irritation of the lining membrane of the bladder can long remain confined to the upper portion, the more sensitive cervix invariably taking on diseased action.

The fourth and fifth months, and the latter end of pregnancy, as well as neighbouring hæmorrhoidal affections, if they do not occasion retention through mechanical pressure, may be accompanied by symptoms simulating either form, but so long as the irritation is transmitted—while in other words the exciting causes are remote from the bladder cavity, and not sufficient to occasion inflammation within it

—the irritation will be of the mixed variety. Not only will remote irritation often occasion irregular symptoms, but any disturbance in the vesical walls themselves, or in the vascular and nervous surroundings will do so as well, and it will be the physician's duty to diagnose from whence the irritation proceeds, and then by anticipating the cause, prevent any recurrence of the effects. If this be one controllable by pharmacodynamical force, it is evident our selection must hold a specific relationship to the part from whence the irritation originally emanated. A main help to diagnosis will be afforded by inquiry into the history of the case, as well as a careful examination of the urinary secretion—we must be at pains to satisfy ourselves as to the presence or absence of gout, dyspepsia, or any specific dyscrasia. Very frequently we shall find the original cause to be of such a nature as to bid defiance to drugs, and will imperatively demand operative interference. In children we often find vesical irritability accompanied by a purulent discharge from the vagina, which may be simply the result of a subacute inflammation of the vaginal mucous membrane, consequent upon measles, scarlatina, or some other eruptive disease, or it may be the natural result of a closure of the lips of the vagina (Fleming), irregularity in the canal of the urethra, or other abnormalities congenital or acquired. Should we find purulent deposit in the urine of children, we ought to be careful to ascertain from whence it arises; this, according to Fleming, is generally some part remote from the bladder itself.

We shall confine our subsequent considerations to vesical irritability arising from (a) nephritic and (b) urethral irritation, premising that our remarks are necessarily as curtailed as possible.

(a) Nephritic irritation is known to be so fruitful an excitant to micturition, that some authorities have considered it almost the exclusive source of vesical irritability. The only case by me traceable to this source, was that of a gentleman much engaged in business, who used to suffer much from irritability of the brain whenever he attempted any prolonged train of thought,—associated

with which was nephritic irritation affecting both kidneys. Although the cerebral and nephritic irritations did not appear to proceed *pari passu*, still they evidently were more or less connected. The nephritic symptoms were most troublesome after physical fatigue, especially walking, which latter exercise he was unable to indulge in without experiencing an agonizing pain in the region of both kidneys, which would oblige him to bend forwards, and was attended with an increased desire to urinate. These symptoms were sufficiently annoying to necessitate his keeping a carriage, a luxury he would otherwise have avoided. Now, in such a train of phenomena it is but reasonable to suppose the remedy most homœopathic, would be one, the range of whose action embraced the head and kidneys, producing symptoms in them somewhat similar to those presented by the case. There is only one drug—at least I know of none other—capable of meeting these requirements. I refer to *Zincum Metallicum*. And as *Phosphorus* also holds some relationship to the brain and kidneys, besides lending support in diminution of nerve power, the phosphate, in preference to any other preparation of *Zinc*, was prescribed. The attenuation chosen was the third decimal trituration, and though, owing to the busy, anxious life the patient leads, a complete cure was out of the question, yet he finds “it strengthens his kidneys” (his own expression), more than any drug previously taken, and this is the more satisfactory as he had constant homœopathic advice without much benefit.

(b) Urethric inflammation, whether the result of a specific virus or not is very frequently accompanied by irritation or even inflammation in the neck of the bladder, and in the latter instance will often give rise to distressing strangury. Sometimes, however, the urethral irritation will, uncombined, excite a desire to micturate; this was so in the following case, which I am disposed to regard as a neuralgic affection of the urethra.

Sarah F—, æt. 25, a general servant, was admitted a dispensary patient, 16th February, 1867, suffering from a severe headache, which easily yielded to *Aconitum*. But the

next week she complained of a heavy aching pain in the lower part of the back, with a sense of bearing down and heavy pain in the chest, as well as a continual desire to pass water with inability to perform the act. Urine comes away in drops first, and then in a continuous stream.

The way in which the urine came away led me to suspect obstruction in the canal, while the evidence of neuralgic spasm in other parts, *viz.* the heavy pain in the chest and bearing down rendered it probable that the affection was spasmodic.

In such a condition of the urethra, *Clematis* will be found among the indicated remedies. I prescribed this drug in the third decimal dilution, and the end of the month found the patient almost entirely free from pain in the chest and back, the urine being voided naturally.

Of a similar nature was the next.

Clara B—, a girl of twenty-three, was prescribed for on 31st January, 1867. She had suffered off and on for two years with acute pain (*ardor urinæ*), and forcing (*tenesmus*) when in the act of urinating, concurrently with which was an aching pain in the lower part of the back. The forcing induces a copious involuntary lachrymation, and is most violent before tea-time (6 o'clock p.m.), but is never so troubled at night.

The urine comes away first in drops as if something blocked up the passage, and after this the stream is full and continuous. As in the former case *Clematis* 3^x was given, and by the end of the first week her distressing symptoms had well nigh vanished, the back ache being less, and there was no forcing, the stream being full and continuous from the first.

These two cases were singularly alike in their symptoms, and in their satisfactory issue under the influence of *Clematis*, the appropriateness of which can be seen from the following symptom of the proving, a symptom that strikes me as pointing to a spasmodic condition of the urethral canal, much more simulating neuralgia than organic disease. However this may be, there can be no question that the greatest care ought to be exercised before we pronounce to be curable under

homœopathy organic lesions hitherto remediable by instrumental interference alone.

“ He is unable to void urine at once ; the emission of the urine was frequently interrupted before it was completed ; afterwards the remainder of the urine was involuntarily emitted in drops ; during the period of stagnation he felt at intervals a burning and tearing in the anterior part of the urethra.”

(*To be continued.*)

DUFRESNOY ON RHUS.

HAHNEMANN, in his account of *Rhus radicans* or *toxicodendron*, in the second vol. of the *R. A. M. L.*, makes frequent allusion to a work by Dufresnoy on this plant, apparently a German translation of an essay published in 1788 by this author. We have before us a later work by the same author published in Paris in the year VII of the Republic, in which the author alludes to his earlier essay, and says that in the present work he gives the results of a much greater experience of the therapeutical effects of the plant. We may mention, *en passant*, that neither Dufresnoy nor Hahnemann seems to have made any distinction between *Rhus radicans* and *Rhus toxicodendron*. The former calls it indifferently *radicans* or *toxicodendron*, and Hahnemann calls it *Wurzelsumach*, which signifies the *radicans*, and gives both *radicans* and *toxicodendron* as its Latin synonyms. If they really differ in their botanical characters and physiological properties, it is evident that we should give the preference to the *radicans* over the *toxicodendron*, as Hahnemann's German name for the plant he employed is undoubtedly the former, and Dufresnoy expressly calls his plant the *Rhus radicans*. To show further the confusion that exists amongst authors respecting this plant, we may say that whilst the *Brit. Hom. Phar.*, and Merat and De Lens say the *toxicodendron* has a serrated, and the *radicans* an entire margin to the leaflets, Hamilton and Goullon both give a representation of a plant with

entire margins to the leaflets, which they term *R. toxicodendron*, and the former gives this not very clear account of the leaflets: "*Leaflets* oval, entire, or sinuate crenate;" and again, "*Leaflets* broad, entire, or with scattered teeth;" whilst the latter has, "*Leaflets* oval, pointed, margins entire, or angularly toothed, downy." Dufresnoy again, whilst he describes the leaflets as smooth and entire of margin, gives an illustration in which the leaves are represented to be obtusely serrated. We are bound to state, however, that in the copy in our possession the representation is not an engraving, but drawn and coloured by hand, so that we cannot say if it belongs to the original work. Another discrepancy we notice in the descriptions of this plant is, that whilst Dufresnoy, quoting Miller, describes it as a dioecious plant, Hamilton figures male flowers, and lets us infer that it is polygamous, and Goullon gives us hermaphrodite flowers, but tells us that the flowers are either hermaphrodite or polygamous. But we have said enough respecting the botanical characters of the plant; let us return to Dufresnoy.

What first directed our author's attention to *Rhus* was the effect produced on a young man by the external application of the leaves. As this is a good instance of rough homœopathy, we give the case in the author's words:

"A young gardener came to the botanical garden of Valenciennes one lecture day in order to see the exotic and foreign plants I had lately received from Holland; after the lecture he asked me several questions relative to *Rhus radicans*, on which I had been just lecturing. In my lecture I had not omitted to speak of the precautions necessary, when gathering the plant, to protect oneself from its noxious effects; but a sharp pupil, who is able to crush this plant in his hands with impunity, had little difficulty in persuading the young gardener that in France *Rhus radicans* had not the noxious qualities I had attributed to it. In order to prove his assertion he took a handful of leaves, crushed them, rubbed his hands and wrists with them, as he had already done several times, without feeling the slightest inconvenience. The gardener, thinking I was making fun of him, went further than my pupil, and rubbed the plant for a longer time in his hands. It was not long before he had to repent of his imprudence. The following morning he complained of tiresome itching

on the hands and wrists. My pupil, whom he consulted, considered this itching to be a symptom of itch which he had no doubt, he said, caught on the journey he had lately made. He advised him, in order to stop the progress of the disease, to rub into his wrists and hands, that same day, half an ounce of citron ointment, and to take some blue pills the following day. This advice was followed, but on the day he took the purgative the itching increased, and the wrists as well as the hands commenced to swell, and became covered with a number of small pimples, which made him believe it was really the itch. The pupil, again consulted, congratulated himself on having made such a good guess, and advised him to rub on the same parts, which were evidently the seat of the disease, double the quantity of ointment, in order to get on more rapidly. The day following the second rubbing the hands and wrists, which had become more swollen during the night, were covered with a large number of small vesicles, which continued to enlarge for seven or eight days, and became filled with yellowish serum, indicating a bad form of erysipelas. In spite of blood letting, baths, emollient fomentations, and soothing drinks, the head swelled to such an extent that he was unable to see for twenty-four hours in consequence of the enormous swelling of the eyelids. The itching then spread all over the body, chiefly on the hairy scalp and the privates, which he tore to pieces with scratching. After ten days these symptoms went off, the wrists, which had exuded much serum, cast off their epidermis, and the patient was surprised to find that he was cured of an eruption (*dartre*) which he had had on his wrists for more than six years. This eruption had resisted frictions, corrosive sublimate in large doses, and other remedies prescribed by medical men of the highest standing; since then it has never reappeared."

This case led Dufresnoy to employ the *Rhus radicans* in cutaneous diseases (*affections dartreuses*). He gives the following cases illustrative of its therapeutic effects in skin diseases.

"CASE 1.—In August, 1779, a country woman consulted him respecting a scaly eruption (*dartre farineuse*) which had covered her nose for the last four years. I made her take an infusion of the leaves of *r. r.*; in less than two months the remedy had removed three fourths of the disease. Having no more of the remedy it was impossible for me to cure the disease completely.

"CASE 2.—Another woman from the village of Herin, consulted me in July, 1780, about several patches of scaly eruption which had been on her face for upwards of a year. I made her take an infusion of the leaves of *r. r.*, and in less than six weeks her disease was entirely removed. The patient has had no return since she was cured. She told me that though naturally inclined to melancholy, she felt merry and disposed for work as soon as she swallowed her infusion of *r. r.* Other patients who have taken it since then have told me the same thing.

"CASE 3.—Two young pupil boarders of the Dames Semériennes, of Valenciennes, had scaly eruptions on their faces. After purging them I gave them, the first day, a teaspoonful of the distilled water of *r. r.* leaves, four times a day, in a cup of eau sucrée. The second day two teaspoonfuls, and increasing the dose by a teaspoonful each day, until the dose of four teaspoonfuls four times a day was attained. In less than two months the eruption had disappeared, and never returned."

The next case shows its efficacy in symptoms caused by the suppression of eruptions by external remedies.

"CASE 4.—A young woman, aged 24, had driven in an eruption (*dartres vives*) on her hands by means of a preparation of litharge that had been given to her. Some time afterwards she complained of slight oppression that went on increasing, and also of a cough that bothered her much, especially at night. One day some blood was observed in what she spat, and she was advised to consult me. As bloodletting, pectoral remedies of all kinds, half baths, and other means had been employed in vain, I prescribed the distilled water of *r. r.*, a tablespoonful in a slight infusion of cherry-laurel leaves, four times a day. The success of this remedy surpassed my expectations. The symptoms soon disappeared, and the patient recovered her health and stoutness.

"CASE 5.—Mde. de St. R.—, aged 72, had for several years had on her toes a humid eruption which exuded an ichorous discharge, and itched and smarted strongly. The fingers also were affected with the eruption, and they were excoriated to that degree that they had to be bandaged separately. *Dulcamara*, water-cress juice, extract of fumitory, alterative decoctions, and Beloste's pills

had been given without success. The only thing that made the eruption disappear to return again in a few days was baths kept up for a long time. I prescribed in December, 1786, the distilled water of *r. r.* in the morning mixed with milk; at night with sugar and water. She took two ounces of the water with as much milk or sugar water three times a day. The employment of this remedy, together with a suitable diet, removed the eruption. She had discontinued the baths on commencing the treatment.

"CASE 6.—M. J. V—, aged 36, had for several years suffered from a miliary eruption all over the body, except on the face and hands. This eruption seemed to go away when the cold weather commenced, to re-appear in spring. He had employed, in vain, every remedy that had been prescribed for him, to get rid of a disease that poisoned his existence. The distilled water of *r. r.*, in the dose of four ounces four times a day, cured his disease in ten months. Two years after the treatment he had not observed the slightest return of the complaint.

"CASE 7.—Mde. R—, aged 32, was menstruating, when her only daughter died of smallpox. The shock of this loss suppressed her menses. Soon after this she became affected with a thick scabby eruption (*dartres crouteuses*) on the arms, thighs, and head; the scabs varied from the size of a lentil to that of a crown. This eruption had resisted for nine years all the remedies employed. In May, 1786, the patient consulted me. I prescribed the water of *r. r.*, four ounces, four times a day. Four months after leaving off this remedy, she had not observed any return of the complaint."

But cutaneous affections were not the only maladies in which Dufresnoy proved the curative virtues of *Rhus*. He likewise successfully treated with it some forms of paralysis, particularly paraplegia, but also hemiplegia. The circumstances that led him to its use are thus described by him.

"CASE 1.—In the beginning of December, 1782, a youth, about fifteen years old, hairdresser by trade, had an attack of apoplexy, or more probably, epilepsy, from which he recovered, with the right side paralysed. A physician was called in, but as after a

fortnight's treatment he was no better, he was brought to the Hotel Dieu of Valenciennes. I was at first unwilling to undertake the treatment after the failure of the doctor first employed, and recommended the baths of St. Arnaud. But the poor lad begged so hard that I would do what I could for him, that I took pity on him, and questioned him carefully as to what affections had preceded the hemiplegia. The experience I had lately had of the power of *r. r.* in cutaneous diseases suggested to me the idea that, perhaps, a repressed cutaneous disease was at the root of the paralysis; so I asked him if he had ever suffered from such affections. He at once replied affirmatively, and asserted that he had had an eruption on the forehead, which had been driven in by ointments. This, he afterwards told me, was a falsehood, which he invented for the purpose of inducing me to take him into the hospital.

"Suspecting that the supposed cutaneous disease might be the cause of the paralysis, I thought I would try the extract of *r. r.* prepared the previous summer, by reducing to the consistence of extract the residuum from the last distillation of the leaves of the plant, passed through a fine hair sieve. But before giving it to him, I took some of it myself, to ascertain if it was poisonous; I found, however, that it was perfectly innocuous, in considerable doses. I commenced on the 7th of January with two grains four times a day, increasing the dose daily, till by the 12th he was taking sixteen grains four times a day. On that day he began to move the toes slightly. I increased the dose by six grains a day, until at length he came to be taking a drachm at each dose. On the 14th he raised his leg. On the 16th he moved his fingers, and could stand on both legs when held up by the arms. The 24th he could walk with assistance. The 27th he could take off his cap with the affected hand. The 2nd February he walked with a stick. He rapidly improved, and when he left the Hotel Dieu on the 14th of March, he could do all the manual operations of his calling with as much dexterity as before his malady."

The false statement of this patient having first led Dufresnoy to try *Rhus* in paralysis, when he discovered the deceit that had been practised on him, he at the same time had the compensating gratification to find that he had a remedy in *r. r.* for some forms of paralysis.

"CASE 2.—The daughter of a butcher (age not stated) had been affected for more than two years and a half with paralysis of the inferior extremities. For six months before the paralysis appeared she had been subject to swelling of the legs and thighs, followed by convulsive movements. Paralysis of the lower limbs then ensued to such a degree that she kept her bed for more than two years and a half, only occasionally being lifted out to sit in an arm chair for a few hours. On attempting to raise her on to her legs they bent helplessly beneath her. She required attendants to dress and to raise her. Her menses had always remained regular, appetite and sleep good, and all the functions normal. She was of a very cheerful, contented disposition, had never had anything to grieve her, and was not in the least nervous or hysterical. She had been subject to a great variety of treatment by different medical men. Bloodletting from the arm and feet, frictions, mercurial inunctions, cuppings, baths, liniments of all sorts, repeated purgatives, mud baths, douches of St. Arnaud water—all in vain. On the 4th February, 1783, I prescribed two grains of extract of *r. r.* four times a day. The 5th, four grains four times a day. The 6th, six grains. Thereafter the dose was increased daily six grains each dose, until she took two drachms per dose. On the 9th she began to move her toes. On the 12th she could move her feet. On the 14th she could raise her feet from the floor and place them on a footstool. On the 17th she could stand. On the 22nd she could move for a minute with the assistance of crutches. On the 24th she was able to put on her stockings unaided. On the 26th she could walk with her crutches. On the 28th she walked about her room, leaning with one arm on one attendant, and supporting herself by the other by the backs of chairs placed at convenient distances. On the 2nd March she walked about her room with the assistance of her sister's arm and a stick. On the 10th she went to bed without assistance. On the 14th she walked in the streets with her crutches. On the 20th she walked much better. On the 16th April she walked to church leaning on the arms of two friends. On the 28th she was able to go up a flight of steps leaning on her sister's arm. On the 24th May she walked about the town easily with two sticks. After this she improved rapidly until June, 1784, when she had an attack of jaundice, complicated with tertian fever, which yielded to ordinary remedies.

"CASE 3.—The Curé of Présaux, of robust constitution, was seized with apoplexy on the 27th April, 1783, followed by paralysis of the right side. After a year's treatment by blood-lettings, tartar emetic purgatives, blisters, low diet, &c., he was no better. I commenced treating him with *Rhus* on the 21st April, 1784. He first got six grains of the extract three times a day. The dose was increased by six grains daily, until he took a drachm for a dose. On the 26th he could move the right leg. On the 4th May he could walk with the assistance of a friend's arm. On the 12th he walked much better, but he had as yet experienced no change in his paralysed arm. On the 30th he was able to move his arm backwards and forwards. He was able to raise himself on his elbow, and walked pretty well, though slowly. On the 5th July the leg was much improved, and his speech, which had been much affected, was greatly improved. On the 10th he left off the medicine.

"CASE 4.—On the 7th July, 1785, M. D—, Controller of Customs of Valenciennes, aged 72, was seized with hemiplegia of the right side. Five days afterwards he was attacked by putrid fever, which lasted twenty-one days, with delirium, great prostration, burning thirst, dry tongue, meteorism and hiccough, lasting nine days. On his recovery from this fever, his hemiplegia persisting, I resolved to give him *Rhus* when he had recovered his strength. About the end of September I gave him twenty grains of the extract four times a day. I increased the dose by twenty grains daily, until he took five drachms per dose. The paralysis involved the half of his body, and deprived him of all power of moving. His leg gave way beneath him when he attempted to stand. He could make no use of his right arm; he could not even sign his name. In less than two months the *Rhus* produced such a marked improvement that he was able to walk about the house, the custom house, and the street, without assistance—with only a stick. All that remained of his paralysis was insensibility of the cheek and ear. He could write, only his fingers had not quite so much suppleness as before his attack. He died in July of the following year in consequence of a fit of indigestion, brought on by excess at a supper given by one of his friends.

"CASE 5.—Mdle. Rose St. Q—, aged 36, had, when six years

old, confluent smallpox, followed by an obstinate disease of the eyes, which lasted several years. After that she had a stitch in the side that tormented her to her eighteenth year. She was then subject to violent colics. Her doctor in ten months bled her in the arms and feet twelve times for these colics. After the last bleeding, she was seized with hysterical convulsions that lasted twelve hours. These attacks became so violent and frequent that she wished to die to escape her sufferings. By means of regimen, cold baths, and horse exercise, these convulsive attacks were dissipated, and she recovered her appetite and flesh. In October, 1774, after a fright, she had such violent convulsions that for several days she remained without consciousness, or the power of speech. On recovering from this, she remained subject to convulsive attacks for eighteen months, which deprived her of the use of her legs, so that for nine years she was confined to bed. Every time she was moved, in order to change her linen or make her bed, she had convulsions to such an extent as to deprive her of consciousness. Consulted about her, I found that she had been subjected to every sort of treatment, and, deeming her incurable, I prescribed nothing. I did not then know the power of *Rhus*, but some years afterwards, having had experience of its effects, I was requested by her to try if it would do her any good. At this time her state was as follows. She had not left her bed for nine years, except to have it made, when she always had an attack of convulsions. For several years she had ceased to eat bread, and took nothing but weak coffee, whereby she was greatly reduced. She had long been deprived of sleep. Her stomach was so weakened that for four years she had not been able to digest solid food. The convulsions were so frequent and so violent, that it was feared they might carry her off unexpectedly. For several years she had only been able to lie on her back, and was unable to remain a single moment on either side. Without any hope of doing her good I yielded to her entreaties, and commenced on the 31st October, 1783, by giving her four grains of a weaker extract of *r. r.*, increasing the dose daily by one grain, until she took six grains per dose. On the 6th November, I increased the dose by six grains a day, until she took three drachms at a dose, and I did not exceed this quantity. On the 16th December she commenced to move the feet. On the 24th the legs. On the 30th she was able to lie on either side. On the 13th January, 1784, she walked from her bed to the fireplace,

leaning on an arm. In March, in spite of the daily convulsions, which were not so violent, she walked about her room, leaning on an attendant's arm. In April she walked in the garden. In May she went to church. At the end of May she went up and down stairs without assistance. In August she walked about the streets and promenades of the suburb of Notre Dame. On the 9th September she went to see a balloon ascent, and was greatly amused. On the 12th November, after a hearty meal of skate, of which she was very fond, she had an attack of indigestion, accompanied by convulsions, lasting four hours, and so violent it was thought she must die. On recovering from this fit she found herself again paralysed as seriously as before taking the *Rhus*. For four months she was subjected to a variety of treatment needless to particularise, without the slightest benefit. I then resolved to have again recourse to the *Rhus*, which in less than a month completely restored her, except the convulsions, which yielded to the extract of *meadow narcissus* (*N. pseudo-narcissus*)."

Besides these, Dufresnoy gives the histories of fifteen other cases of different forms of paralysis, of greater or less severity, treated by himself and others more or less successfully by *Rhus radicans*, generally after the failure of other remedies. We have not space to give these cases in full, but can only indicate briefly their leading features.

CASE 6.—An old lady, aged 73, after symptoms of stomach derangement, had paralytic symptoms consisting of drawn mouth, ptosis of left eye, left side paralysed, difficulty of swallowing and articulation. To the paralysed side cold things felt hot, and *vice versa*. After taking the extract for a fortnight these paralytic symptoms went off; all except the perverted sensation, and a certain amount of difficulty of swallowing.

CASE 7.—A lady, aged 27, after a putrid fever, had paraplegia for sixteen months, with frequent spasms of stomach, was cured after nearly two years of treatment by infusion and extract of *r. r.* The spasms of the stomach were cured by extract of *pseudo-narcissus*.

CASE 8.—A man, aged 25, paraplegia of six months' duration, cured in three months by extract of *r. r.*

CASE 9.—A man, aged 27, paraplegia of six months' standing, cured in two months by extract of *r. r.*

CASE 10.—A gentleman, aged 68, after a fit of apoplexy, paralysis of right side, cured in two months by extract of *r. r.*

CASE 11.—A man, aged 24, after a fit of apoplexy, hemiplegia of right side, cured by the extract of *r. r.* in one month.

CASE 12.—A brewer, aged 40, of intemperate habits, paraplegia of three weeks' standing, sensation and motion lost, cured in two months with infusion of *r. r.*

CASE 13.—Paraplegia in a man, cured by *r. r.*

CASE 14.—Paraplegia in a man, of twenty-two years' duration, cured by *r. r.* in six weeks.

CASE 15.—Paraplegia in a man, of eight years' duration, cured after taking nine drachms of the extract of *r. r.*

CASE 16.—A lady, aged 36, after a febrile attack, paraplegia, with convulsive movements of limbs and incontinence of urine for ten years, cured by the extract of *r. r.* in seven months.

CASE 17.—A woman, 30 years of age, had paraplegia and convulsive action of lower extremities for four years, cured in ten weeks by extract of *r. r.*

CASE 18.—A young lady, aged 29, after several attacks of hæmoptysis, followed by abdominal congestions or obstructions, had imperfect paralysis of inferior extremities for fourteen months, cured in one month by extract of *r. r.*

CASE 19.—A man, aged 68, paralysis of left hand for seventeen months, cured in ten days by infusion of *r. r.*

CASE 20.—A woman, aged 36, paralysis of left hand for eighteen months, cured in a month by infusion of *r. r.*

CASE 21.—An English prisoner, 56 years old, affected with paralysis of right leg for eleven years, after mercurial frictions, sensation but not motion of the extremity entirely lost, cured by the infusion of *r. r.*

Dufresnoy's work contains, besides the above, a number of cases of convulsive affections cured by the extract of *pseudo-narcissus*, and of vomica and phthisis tuberculosa

cured by *Agaricus piperatus* and *deliciosus*. These cases, however, are not so satisfactory as the cures by *Rhus radicans*, as the medicines were seldom or never administered singly, but almost always in combination with various other substances. This, of course, detracts greatly from their value as proving the curative power of these remedies.

AN ACCOUNT OF COUNT MATTEI'S MARVELLOUS MEDICINES.

By Dr. ACWORTH.

It is now more than twenty months ago that a German gentleman, paying me a visit, tried to make me take an interest in some extraordinary medicines discovered by Count Mattei, of Bologna. Knowing how often the virtues are proclaimed of medicines that run their course and are forgotten, I smiled incredulously at his report, and paid little further attention to the matter. Last summer, however, I received another visit from my non-professional but philanthropic German friend, and with it also a box of medicines and a book, a promise being given on my part to read the one, and then to try the other. The book, amongst other things, contained a list of above a hundred and fifty cases—and the more remarkable for this, that many of them are deemed incurable—cured by the said medicines in the Hospital which the Count has opened at Bologna and supports. Dr. Coli, who acted as Physician to it, says, he only gives this list of cases, out of some twenty thousand cured between June 1865 and October 1867, to illustrate the operation of these remedies of the Count's. And by way of Preface to this Report is appended an appeal to the Homœopathic body, of which I subjoin a translation.

“GENTLEMEN,

“As adherents to the practice of Homœopathy, I hope it will not displease you to learn that a new Homœo-

pathic *Materia Medica* has been discovered which embraces only simple and innocent plants, and yet by means of which one can cure, notwithstanding, diseases hitherto deemed incurable, for example—Cancer, Aneurism, Varicocele, Lepra, as also Elephantiasis, Staphyloma, Syphilis, Atrophy, Lupus, Coxalgia, Ischias, and other diseases which have till now been regarded as, and were in fact, incurable.

“Strange and incredible as this may seem to a sound mind, and especially to you, not the less, however, is it true, and whilst making this declaration, I protest against any contemplated speculation or pecuniary advantage having aught to do therewith. For I never sell these medicines, but for ten years past have given them away; and to a very great number of patients in Italy their operation has fully proved their value of which you may be well convinced through the following *Brochure* (the Report of Dr. Coli), who has helped me many years in my public consultations.

“In the name, then, of suffering humanity I appeal to you to aid me, in a corresponding way, in the spreading of these same remedies of mine, and personally, which I most heartily desire, to convince yourselves of their efficacy.

“As it is impossible, however, for me to undertake sending these into all lands where Homœopathy has made its way, and now has fairly established itself, I must urgently request any one who cares to have them, to take upon himself the commission of obtaining the same from me at No. 233, Via Maggiore, Bologna, and undertaking their conveyance.

These medicines are always accompanied with a notice of their use:

“I have the honour to be, Gentlemen,

“Your obedient servant,

“COUNT CÆSAR MATTEI.”

I ought to mention here that, since this was written, these medicines in the gross are no longer given away, though sold at such low prices in retail that the poor can always get them. For Count Mattei found that Chemists, who had had them in large quantities from him, were

turning them to their own profit, rather than the profit of those he would relieve—putting much more than a patent price on medicines which he had parted with to them “without money and without price,” for the benefit less of dispensers than patients.

So now, and to prevent their being tampered with, the medicines are no longer given away, I believe, but sold in globules at such low price, that the poor can easily obtain them, as I have said. Formerly, the Count gave away the Essence which might be regarded as the Mother Tincture of his medicines, and which, mixed with six parts or a little more of water, and one or a little less of spirit of wine, made the tincture used in the different cases mentioned in the Report, or to be hereafter mentioned. But neither of these is now to be had, not even, I believe, by being paid for, since, in addition to the reasons given for this, there is another quite independent of them, why these medicines now are to be only had in globules. The Count has lately come to the conclusion (and his experience may perhaps be deemed conclusive) that these are much more efficacious in the very much smaller doses he gives now, than in those which he formerly used to give, and so he gives them in globules only.

The medicines are all prepared by the Count, who refuses to make known the mode of preparation till their virtues shall be universally acknowledged, and allowed to be superior to those of any now in use. This is what has been told me, but not by himself. As he has hitherto given his medicines away, and prescribed for rich and poor without a fee, besides providing for the latter a hospital, maintained for years at his own expense (as a wealthy nobleman he is able to do this), there is no cause to cast suspicion on his motives, which seem to be of a purely benevolent and scientific kind. I have had the honour of corresponding with him, and any one more free from quackery—from any apparently low or selfish aim—from anything, in short, that does not show the thorough gentleman, judging from his letters, it would be very hard to meet with. He has evidently studied the Art of Healing, *con*

amore, and into it thrown all his heart and soul, mastering all the knowledge needful for its practice, though only practising as an Amateur. He is quite a *Fanatico per la Medicina*, and also *per l'Umanità* as well. This may, perhaps, account for his success. It is well to say thus much ere speaking of his medicines.

These are seven, besides external remedies about whose very extraordinary action I shall have occasion to speak by and bye. I shall give them in the order in which they are arranged in the little *brochure* that was given me with the medicines.

No. 1. *Per le Malatiè del Petto*.—This is of great service in all chronic Coughs, as well as Catarrhal affections. It is singularly useful in *incipient* Phthisis, and more especially is it so when the expectoration is green in colour. All bronchial ailments come within its sphere of action. I have seen cases of incipient Phthisis and of chronic Bronchitis of many years' standing, and almost passing into Asthma, greatly, very greatly, benefited by it.

Dose.—This, and the mode of administration, I shall give as they were made use of in the cases reported by Dr. Coli as cured. From ten to fifteen drops are to be mixed with from half a pint to a pint of water, which is to be drunk daily, in very frequent, that is to say, thirty or forty sips; so a sip would be taken about every quarter of an hour.

No. 2. *Anti-febrile. Febrifugo*.—This is a medicine that has been chiefly used in Intermittent Fever. Dr. Coli, who was Physician to Count Mattei's Hospital, says that he has cured above a thousand cases with it, and without their ever being followed by a relapse. It is used in Inflammatory and Typhus Fever also, though regarded as a specific for those of Intermittent type. And, as might be expected from being such specific, the liver and the spleen come within its sphere of action, and in complaints of either the one or the other it shows its power to relieve.

Dose.—Six drops are to be administered in a tumblerful of water, which is to be taken daily in ten or twelve sips, *i. e.* a sip about every hour. This is for intermittent fever, but when the fever is of an inflammatory kind, one or two

drops are to be mixed in a tumblerful of water, and a teaspoonful of this is to be taken every quarter of an hour. If the fever be of a bad kind, ten drops are to be mixed in the same way, and a teaspoonful to be taken every quarter of an hour at least. In very severe cases, as of typhus for example, one may repeat this every ten or five minutes even. The more violent the fever the smaller and more frequent the dose should be. This rule, indeed, applies to disease in general; the severity of the case and the quantity of medicine being in an inverse ratio to each other.

No. 3. *Anti-Angioitico. Per le Vascolarità.*—This has more especially to do with the circulating system; with those affections where its vessels are at fault. In all congested states of these vessels it is wonderfully of use. In Hæmorrhages of every kind it would seem to be a specific. In Epistaxis, in Hæmoptysis, in Hæmtaemesis, in Hæmorrhoids, in Metrorrhagia, in Melæna, in Ophthalmia, as well as other ailments that originate in an inflammatory condition of the vessels; in Strangury, in Scorbutus, in Varicocele it may be given with great effect. I have given it with very remarkable results in Aneurism and other affections of the Heart. In Asthma, too, which is the sequel of Bronchitis rather than of a purely nervous kind, I have seen it of great use.

Dose.—Two to four drops in a glass of water (tumbler) to be taken daily in ten or twelve sips. For external use ten drops in a glass of water. Compresses made wet with this may be applied to ulcers and to sores. In Metrorrhagia an injection might be used of twenty drops to the same quantity of water, but generally the internal use suffices.

No. 4. *Anti-canceroso.*—This, as its name would indicate, is the remedy for cancer. Dr. Coli, in his Report, gives many cases of Cancer it has cured, and some of these, cases of disease which returned after being operated on. Count Mattei counts his cures by more than scores. He holds it curative in all such cases as have any constitutional strength remaining, and in which *no vital organ is destroyed*. Scirrhus of the Pylorus he has overcome, but not,

I imagine, where the disease has gone so far as to amount to anything like destruction of its tissue. But besides its being specific in Cancer, it is useful in all those doubtful ulcerations that might seem of a cancerous kind; in Tumours and Swellings of a cold and sluggish nature; in Ascites and Ovarian dropsy; in Phthisis pulmonalis when it is clear that tubercles are thoroughly set up in the lungs; in Uterine affections when they are accompanied with hæmorrhage of the passive kind, and in all those hardened states of the womb which seem likely to pass into ulceration that might prove of a cancerous nature. Scirrhus and Cancer are the only maladies which are said to be at all difficult of cure by one who has not practical experience of the remedy.

Dose.—One drop in a tumblerful of water to be taken daily in eight or ten sips. For external use, ten to fifteen drops in a third of a tumblerful of water, into which soft rags may be dipped. If hæmorrhage arises, Anti-Angioitico is to be had recourse to, which will very soon succeed in checking it. The external use should not be commenced till by the internal use a change for the better is made in the tumour or the sore.

No. 5. *Anti-Scrofuloso.*—This is a medicine that seems to answer to those cases in which we should employ what we call Anti-Psorics. Count Mattei appears to think that nearly all Constitutional diseases—all forms of Scrofula to wit—may be traced to impurity of the circulating fluids; the blood, and lymphatic system. He is clearly a good deal of a humoral Pathologist, and to this impurity attributes those diseases which Hahnemann says originate in Psora. So the sphere of action of the Anti-Scrofuloso is a wider one than that of Sulphur even. Of course it is useful in Scrofula therefore, and as has been said, in all its forms. But besides these the Count employs it in affections, which are hardly deemed of a scrofulous kind. To go through them in alphabetical order. In Arthritis or Gout; in Atrophy, especially of children; in Cataract, in its incipient state, curing it when not fully formed; in Cholera, and as a preservative against it; in Elephantiasis, and in nearly every

form of exanthematous disease besides, not excluding the tubercular even ; in Exostosis ; in Ganglion ; in Hernia, and if incarcerated and accompanied with vomiting, conjoined with the outward application of a remedy that has to be spoken of by and bye ; in all varieties of Herpes ; in Hæmorrhoids of a general kind ; in Impetigo ; in Lepra ; in Lupus ; in Marasmus ; in Masturbatio ; in Myelitis ; in Nephralgia ; in Nephritis ; in Onanismus (as this and Masturbatio are very much alike, let me say here Ozæna instead) ; in Ophthalmia (granulosa), and Ophthalmitis ; in Polypus ; in Psoriasis ; in Scabies ; in Sciatica ; in Scorbutus ; in Spasmi (when they do not owe their origin to worms) ; in Spermatorrhœa ; in Spina-Ventosa ; in Staphyloma ; in Stranguria ; in Ulcera ; in Vomitus, &c.

This is a tolerable list of ailments, but there are many others in which it is of use, and in some of these as well as of those mentioned, its internal use is often conjoined with the outward application of itself, or a remedy I have yet to speak of.

Dose.—A drop in a tumblerful of water to be taken in eight or ten sips in the day. For Convulsions, a drop in a pint and a half of water, and a teaspoonful of this to be taken every morning. For Cholera at its very commencement, two drops in a teaspoonful of water.

No. 6. *Anti-Venereo.*—This is employed in all Venereal diseases, whether Gonorrhœal or whether Syphilitic. It is of great use against the one or the other not only in its primary form, but also against its secondary and even its tertiary symptoms. I suppose it would not overcome stricture ! But buboes, ulcers, eruptions of the skin, and strange to say even exostosis, it does not fail to overcome. My experience of this medicine is not very large, but such that I have seen it effective where I should have despaired of other medicine doing good.

Dose.—One drop in a tumblerful of water to be taken in six or eight portions in the day. In any severe inflammation, the drop mixed with the same quantity of water should be taken during the day in thirty or forty sips.

Externally ten drops mixed with a quarter of a tumblerful of water may be applied to ulcers, buboes, &c.

No. 7. *Anti-Verminoso. Vermifugo.*—This is a specific against all kinds of worms, *Ascarides*, *Tænia*, &c. &c., as well as all disorders arising therefrom. It is said to have caused the expulsion of Tape-worm when all other remedies had failed, even *Koussou* not excepted.

Dose.—A drop in a small tumblerful of water taken in equal parts during the day, that is, about every hour.

These are the Count's internal medicines. A new Homœopathic *Materia Medica* is, as he calls it, made out of these. It is obvious, however, that these are not Homœopathic in the sense in which this word is generally used. In the first place they have never, I take it, been *proved*, and so their therapeutic virtues are judged of solely *ab usu in morbis*, and not from their pathogenetic effects. They are given too, as it seems to me, not according to Homœopathic symptoms, but Allopathic indications. I do not say this to underrate their value, but to give a fair notion of them. It may be that the *Anti-Scrofuloso* is a Polychrest with a very much larger sphere of action than even our Homœopathic *Sulphur*. At all events I believe it curative of a many more diseases than *Sulphur* is alone. But its use is determined not by symptoms (though if it were proved these might largely outnumber all those which the proving of *Sulphur* gives us), but really by the theory formed of a disease. To be sure the medicines are looked on as specifics, but they are rather specific to particular complaints than a set or sets of symptoms. They would seem to be given as the Allopaths give *Quina* in every form of Intermittent Fever, rather than as the Homœopaths give not only it but their various medicines, *according* to the Intermittent's form. And yet it is not altogether so, as for instance, the *Anti-Canceroso* is given in other than merely cancerous complaints. In tubercular as well as cancerous disease it is found to be of service. The like might be said of some others of these medicines. But if these medicines are strictly Homœopathic, then, according to the Homœopathic theory, they must cover an almost infinite variety of symptoms and a combination of them

without end, seeing that they are only seven in number, and yet as Count Mattei would maintain, are not only curative of disease in every form that our *Materia Medica* is capable of curing, but diseases it has hitherto failed to cure.

But, leaving this matter to be decided as it may, there is one respect in which these medicines may be said to closely resemble ours, and that is the infinitesimal smallness of the dose that is needed to produce the most wonderful effect. The Count's experience in regard to doses seems exactly like what Hahnemann's was. But a very little while ago, at the time I first corresponded with him, he was giving them, I believe, in the doses I have mentioned as prescribed by him and Dr. Coli. Since then his larger experience has led him, justifying the hints received from friends who have been in medical correspondence with him, to give them in doses much more minute. As far as my own experience goes, I would advise any one wishing to make a trial of them, to begin with very small doses, and to feel his way to larger ones; always bearing this in mind, that the severity of the disease and the massiveness of the dose should be in an inverse ratio to each other. The more dangerous the enemy, the more *subtle* but continuous the attack must be.

It may perhaps be as well for me again to mention here that the remarks which I have ventured to make as to whether the medicines are to be regarded as strictly Homœopathic or not, are by no means meant to disparage them therefore, or to throw any doubt upon their efficacy. For my own opinion regarding them is that in their field of therapeutic action they are about as superior to Homœopathic medicines as these are to those of the Allopathic school. As to their effectiveness in dealing with disease, or at least with many forms of disease, there is all the difference between them and other remedies that in another kind of warfare there would be between the latest new Rifle and old Brown Bess. Whether a command of our Homœopathic medicines by those who have all their symptoms by heart can be rendered as effective as the use of Count Mattei's by even ordinary hands I will not undertake to say, but at present I certainly do not think it is; though a patient of

mine who telegraphed to Hering, some years before he consulted me, an exact account of his neuralgic symptoms, found the famous American's Miniè Rifle (instead of Miniè, one might call it Minimissime, for it was, if I remember, of the 2000th bore !), carry most unerringly across the Atlantic, and with a single shot succeed in putting an end, not to him, but his long and obstinate disease ! But it is not every one that knows or can know his *Materia Medica* like Hering ; and if he could, I venture to think there are plenty of diseases that he could not conquer with it, and which by the aid of Count Mattei's he could.

And then we have to consider in every mode of warfare not merely the comparative excellence of weapons, but the comparative facility of handling them. And in this respect it seems to me that the medicines which I am giving an account of possess a great advantage over those now most in use. They are so much very more easily handled than those which our Homœopathic Arsenal provides, that is to say, when those from the said Arsenal are handled *properly and well*. The industry of any one is much to be admired whose Symptomen-Codex is at his fingers' ends, but its getting thither through his brains must be often, alas ! such weary work as very many brains absolutely refuse instead of facilitating. To many an active brain it is just as hard a task as to many a bright boy his *Accidence* was, which he got at last at another end—and that not a digital one ! Now to make themselves masters in the Art of fencing and fighting with Disease, Medical men have so much to do that they may fairly wish to spare themselves unnecessary work, and especially work of a very irksome kind. And to fight disease with the new Italian weapons is far more easy, and asks for less experience, than to do so more Germanico—in *bond fide* Hahnemannian fashion.

I have mentioned only internal remedies that Count Mattei has discovered. I have now to speak of some that are external. These are all, I believe, the same in kind, though differing in their degrees of strength, and are what he calls "Vegetable Electricity." So the Electricity bottled up in plants is now bottled off for medical use ? And

the "greased lightning" we hear Americans talk of, I suppose must be of this therapeutic kind. At all events we have bottles of fluid which is not transferred from Leyden jars, but which is so energetic, and instantaneous, and at the same time so painless in its action, that it well might pass for lightning that was "greased." Heroic remedies so-called, we know, are not by any means so scathless. These are no joke, but those I speak of are, for I have seen them make pain a really laughing matter, and in a few seconds' time. And so they may excuse, perhaps, some light-heartedness on the part of him who would make their virtues known.

These remedies for external use, like those which are used internally, are colourless fluids, or would be so if they were not very slightly coloured to distinguish different degrees of strength. Four are principally in use:—

1st. There is the White—the natural colour. This is applied by means of compresses made of soft linen three or four times folded. Being the weakest it is the only one in use where a constant application is required, as when it is used in a case of rupture; the wet compress being kept well in its place by and under the pad of the truss.

2nd. The next degree of strength is the Red, which is chiefly used in Head affections.

3rd. The Green, which is somewhat stronger, and

4th. The Yellow, which possesses such strength that its application requires caution, and should not be continued above a few seconds in one and the same place. Care should be taken that, under no circumstances, it be ever applied to the Head.

The application of these remedies relieves neuralgic and other pains in the most extraordinary manner. Their marvellous, almost miraculous, power in this way I may give some examples of by and bye. But, of course, it is not to be expected that, though they may temporarily put a stop to pain, they should cure, by themselves, Constitutional Disease. With their use internal treatment must go on wherever constitutional causes are at work, and in most of these cases their use is best conjoined with the internal exhibition of the Anti-Scrofuloso.

These general rules are to be observed with regard to their application :—

Not to use them in their energetic operation in case of Hysteria or inflammatory ailments. If ever so used it should be with greatest caution.

Not to apply them to the Head, or only the White by means of compresses. If the Red be applied, it should be but for a moment. For myself, in nervous Head affections, I have preferred applying it, or when not strong enough, the Yellow, on each side of the nape of the neck.

The application may be repeated more than once in the course of the day in all affections of a Paralytic kind, and more especially that which arises from Apoplexy that bears the name of nervous. But only when the pains that are present, as in a case say, of Rheumatism, have not yielded to the prior application. Otherwise, harm may be done instead of good.

The mode of application is in this wise. You pour the Vegetable Electricity into a small bottle, but the mouth of which is large, its diameter being not much less than an inch, and fill it two-thirds full. You apply this as you would a cupping glass, over the seat of pain, or over the origin of the nerves associated with the pain. In a case of Sciatica, for instance, you might apply it where the nerve begins its course, and in the popliteal space, and also as low down as the ankle. You press the rim of the bottle to the part just as you would a cupping glass, and let the liquid rest on the skin for ten or twenty seconds, or more according to the strength of the Electricity applied, and the nature or obstinacy of the complaint you have to do with. You wait to see if the pain be relieved, and if it be, but again returns, you renew the application or have recourse to one possessed of greater strength.

The Electricity that I have used has been of the Red or Yellow kind, and that for a very sufficient reason, that I have had no other to use, excepting one of very great power which the Count sent me a little bottle of, and by the application of which he cured a case of Tetanus, he told me! This I have not yet experimented on.

The cases in which these external remedies may very well, or chiefly, be had recourse to are those which are here subjoined :

Tic Douloureux.—The application being made to the seat of pain for the time, that is, to the fifth pair of nerves, or as the pain changes its seat to one or the other side of the face. I have seen it produce instantaneous relief, but a permanent cure is only to be looked for from the internal use of the Anti-Scrofuloso or from that of the Anti-Angioi-tico, as may be, or sometimes from the alternate use of both.

Headache.—Here compresses of the White Electricity are applied to the temples and base of the skull, but instead of this I prefer the application (as well I may, since the White I say I have not) of the Red or Yellow to both sides of the neck. Of course, the cause of the said headache will ask for internal treatment and cure.

Dyspepsia.—I have seen nothing said about the use of any Electricity here, but when the affection is of a nervous kind, or depending on the want of proper innervation, it is often of great service.

Hernia.—Compresses wet with the White Electricity are worn beneath the pad of the truss, or the part about the Abdominal Ring may be touched every morning with the Red. But, whether the White or Red be employed, the internal use of the Anti-Scrofuloso must go along therewith. Cases of even incarcerated Hernia are said to have yielded to this treatment.

Sciatica and other Rheumatic ailments.—As already said, in Sciatica the application may be either made to the part where the nerve issues out of the Ischiatic notch, or to any or every where along its course. In Rheumatic ailments of a chronic kind, the painful or paralysed part is to be touched. A lady came to me suffering from Rheumatism, for which she had been under "the best advice," carried out with the very worst results, who could not raise her hand to her head. After applying the Electricity to the region of the Deltoid, where the failure seemed to be, she was perfectly able to do so. A rheumatic headache of this same lady

took immediate flight on its being applied on each side of the nape of the neck.

Strangury.—In cases of this kind the application may be made where the last lumbar Vertebra joins the Os Sacrum and in the Perineum as well. The Anti-Scrofuloso or Anti-Angioitico will require to be given internally therewith.

These are some of the chief complaints in which one may find the Electricity produce the most marvellous effect. I have seen it put a stop to the most excruciating pain as if by miracle. A connection of my own who with his wife was paying me and mine a visit not long since, all at once disappeared from amongst us. I was told that suddenly he was almost driven mad by—that “hell o’ a’ disease,”—the toothache, that would often attack him like Neuralgia. Instantly I went to seek him, and, having found him in exquisite pain, I applied the Electricity close to his cheek near the part whence the toothache seemed to come. In less than twenty seconds he was grinning all over like the rustic I have seen a sketch of, who, under the hand of the cunning dentist, has his tooth taken out without his knowledge and without—what might well be supposed was used in his case—without any laughing gas! For myself I had certainly used nothing of the kind, though some may think from its effect that what I used was allied to it, for my friend not only grinned but laughed outright, and evidently thought me a greater conjuror than the rustic thought that cunning man—the dentist.

Many are the striking cases I could give of Nervous headache and horrible Neuralgia that the magic touch of the Electricity has instantly put to flight. I will mention only two or three.

A favourite servant of my wife’s who suffers much from nervous headache, was seized with a very violent attack while I was away from home. So the Vegetable Electricity, without my leave, forthwith was applied to her temples, and instantaneously the pain was so relieved that five minutes afterwards sleep overpowered her while sitting in her chair.

A lady patient who resides at Hayward’s Heath, not very far from my country home, was distracted with neuralgic

headache that nothing seemed to relieve. But the Electricity gave immediate relief, though it did not put a stop to a recurrence of the headache which, while it might be helped thereby, depended on internal remedies for cure.

A young lady friend as well as patient of mine, who inherits a celebrated name and also very great personal charms, was long a martyr to Neuralgia. From Dysmenorrhœa likewise she suffered most severely almost always when first the catamenia came on. In fact the two then seemed closely allied. At one of these times I was sent for in great haste and found the brave girl struggling hard to stifle the agony she was suffering in her back. I had brought the Electricity with me, and her mother was told how to apply it. Instantly the pain was touched away and she, who was writhing with it just before, smilingly seized the little bottle, and has never consented to part with it since, though consenting to pay for it as liquid gold, which she could very well understand would not represent half its value. By the bye this is now not so far from the truth, financially as well as therapeutically speaking, for the bottles of Electricity that were once given away are now to be had only at a hundred francs the litre. Count Mattei has put this price on it, he says, and a wholesale one, too, on his other remedies, though in retail they are given away still, to prevent their being tampered with, counterfeited, or abused—for whilst he has distributed them gratis for these twelve years, he has found that at Leipsic 800 francs were asked for a single litre of his Red Electricity, which the vendor had had most probably for nothing. If he has been driven to this course of action by those who have taken and those who yet would take advantage of his liberality, I am sure that no thought of advantage to himself has ever been mixed up therewith. And whilst he takes care that the poor shall lose none which they might derive from his remedies, he is right to protect himself and the public from the imposition which mercenary traders would be ready to practise upon them. This, however, by the way. I could give other instances in plenty of rheumatic and nervous pains taking flight at the magic touch of the Electricity, but will only add that of my lady-thief's

brother, who, suffering from excruciating nervous headache for the greater part of a day and a night, found it vanish almost immediately on the application of his sister's little bottle being made to the nape of his neck.

Such is the relief which this remedy affords. But, of course, as far as Headache and Neuralgia depend on Constitutional Disease, they might be expected to return. Yet surely it is something to relieve pain by a painless and innocent outward application while internal treatment is meantime going on. Besides, in very many affections, and especially those of a nervous kind, it greatly assists the cure.

With the help of this Electricity in its different degrees of strength and his seven internal remedies, Count Mattei treats all cases of disease that apply to him for relief. In a flysheet, speaking of them, he says:—"He who has discovered these medicines is not a Physician, or, to speak more exactly, has no Diploma. The careful observations and experiments he has made on a very large number of patients the last eleven years have conducted him to these conclusions:

"Abnormal conditions of the blood are the cause of all diseases.

"Forms of Scrofula which owe their origin to the Lepra and Syphilis of times far back are the first and almost universal cause of alterations of the blood.

"Other maladies acquired aggravate these conditions again, and thence come Cancers and the changes that take place in the blood-vessels and circulating system.

"Here, for the want of a better being given, is the origin of nearly all diseases.

"A remedy being found for these vices in the blood, Chancres, and all lymphatic alterations, as shown by white tumours and mesenteric ailments, &c., grave changes in the blood-vessels, Varices, Aneurisms, and everything of a Scrofulous or inveterately Venereal kind, Lepra, Gout, Itch, Pella-gra, &c., incurable as they have been reputed, become now curable. Eleven years' experience has shown, and the future will still further show, that these special remedies

which Mattei has discovered are possessed of this virtue and these healing powers.”

This is somewhat after Hahnemann when treating of Constitutional Disease. But, leaving theory, let us come to facts, which are better worth having in Mattei's case as well as in Hahnemann's. Let me just mention a few of the cases that figure in Dr. Coli's report, and cured by much larger doses of medicine than Count Mattei uses now. I shall do so to show that disease is cured by the medicine rather than the dose, which may vary almost *ad infinitum* without a corresponding variation in its curative effect. I shall do so also to let my readers see that, regarding these medicines as those they now make use of, there is likely to be the same difference of opinion quasi high and low dilutions; and also that they may determine for themselves the dose which they ought to give. For after giving some of Dr. Coli's cases I shall also give some which I find reported by Professor Pascucci,* of cases treated with very much smaller doses than the former; and afterwards I shall follow up these with a few striking cases of my own, in some of which I used comparatively large and, in others, smaller doses. Mattei, like Hahnemann, as I have said before, in diminishing his doses, has been guided by experience, but every one must form his experience for himself. Mine tells me that those which he formerly prescribed are very often much too large, an instance of which I have now whilst writing this. For what I think all my brethren would call a hopeless case of Laryngeal Phthisis, I prescribed some two or three days ago the Anti-Pettorale. I prescribed it in large, but not such large doses as those laid down in Dr. Coli's Report, howbeit they were rather in accordance with former than later usage. The consequence was that yesterday there was great aggravation of the symptoms; yet, strangely enough, the wife thought she discovered at times a decided improvement in the voice. She has just this minute been with me to say that her husband is very decidedly better since the

* *Brevi Cenni sulle Specialità Mattei con sunto delle Malattie sanate nella Città di Roma.* Nell anno 1869.

farther *infinitesimalizing* which the medicine was made to undergo.

I quote now from Dr. Coli's Report a few of the more remarkable cases, and many of which are incurable by remedies now in use. I must take them without regard to order, save the order in which it is convenient to place them. The names, occupation, age, and residence, are given, but one need not occupy space with these.

Sciatica.—Many cases of long standing, and defying all remedies used before, some of them being if not incurable, at all events declared as such, cured in a very short space of time by the use of the Electricity and the Anti-Scrofuloso.

Gout.—Cases chronic and of fifteen years' duration; got the better of by the use of the like means.

Paralysis.—Cases treated in Hospitals for many months in vain, and regarded as altogether hopeless, get well by the use of the Electricity, with that of the Anti-Angioitico and the Anti-Scrofuloso. One of seven years' standing cured in the short space of a little month.

Fistula in ano.—Never healed; cured in three months with the Anti-Scrofuloso.

Dislocation of the hip.—Patients under Hospital treatment for months and declared incurable, throw away their crutches after their sometime-continued use of the White Electricity and the Anti-Scrofuloso.

Tapeworm, which the patient had had for seven years, and for which the *Kousoo* had been given without effect, does not resist the Anti-Verminoso. In one case the worm expelled by the first dose.

Elephantiasis of two years' standing overcome by the internal and external use of the Anti-Scrofuloso.

Ascites.—Treated for eight months in the Hospital of the town without any good effect; cured by Anti-Angioitico in two.

Syphilis deriving no benefit from treatment; cured by the Anti-Venereo very quickly.

Epilepsy of seven and eight years' standing; overcome by the Anti-Scrofuloso.

Neuralgia of a very obstinate kind; one case of more

than twenty years' duration ; yielding to the use of the same remedy.

Polypus of the Uterus declared incurable ; cured by one Doctor with the Anti-Canceroso, and the cure confirmed by another.

And now we come to more extraordinary cures, and which are, therefore, kept to be spoken of last, no less than those of

Cancer.—Many cases of this disease are given, and even of some that had been operated on and afterwards had returned. Cancer of the lips, nose, face, breast, womb, &c., all of longer or shorter duration, and cured in longer or shorter time by the use of the Anti-Canceroso.

Startling as the announcement of this may be, there seems little reason to question its truth, even if similar cases were not published by Professor Pascucci of cures made at Rome. In these cases much smaller doses were given than those that were used by Dr. Coli. In his the tincture spoken of comprised not less than one eighth part of the Essence which Homœopaths, I suppose, would call, and properly so, the Mother Tincture. In those of Professor Pascucci the tincture is composed of 250 drops of Essence to a litre of alcohol and water. Any one, therefore, may easily see how much less massive are the doses of the latter than those of the former were ; seeing that, while the tincture was much stronger, two to four drops of one of the medicines and from ten to fifteen of another are prescribed to be taken daily. Now, however, Count Mattei makes no difference with regard to his medicines in the dose he gives, though he may not give the same dose in every case. He has come to the conclusion that smaller doses are more curative than larger ones were, and therefore his medicines can only be had now in the form of globules, I believe, or else of tincture of the strength which I have mentioned. Six of these are reckoned but equivalent, and, indeed, are hardly equivalent, to a single globule that has been steeped and many times re-steeped in the Essence, or, as we should deem it, Mother Tincture. One or other of these—six drops or a globule—mixed in a tumblerful of water and taken in frequent sips

through the day, may be considered the daily dose. That these doses cure, whether better or worse than the larger ones first used, Professor Pascucci puts in evidence as strong as that of Dr. Coli. From this evidence now I shall briefly quote.

Anti-Canceroso.—Under this heading he gives fifteen cases, and some of these of a fearful kind, of cancerous disease, mostly of the breast, but one or two also of the womb, giving rise to copious hæmorrhage, all of which have undergone a cure. The name, occupation, age, and residence, are mentioned, and, as if there might be any gainsaying of his cases, he finishes up with that of a Duchess who had been under treatment for seven years and restored to health in four months and a half. Let me give the case in his own words :

“E a mostrare che la modificazione che si reca all' organismo col rimedio interno Anti-Canceroso è costante e durevole, allegheremo un solo fatto in una persona bennota. La Signora D. Teresa Ravaschieri Filangeri di Napoli, curata sette anni fà di una di queste terribili malattie, fu ristabilita in salute in quattro mesi e mezzo di cura. E da qual giorno ha goduto sempre ottima salute.”

Anti-Scrofuloso.—Many remarkable cases are given of cures effected by this medicine. One, of a very Reverend and illustrious Professor, who for forty years had been deaf in his right ear, and was cured by it in forty days. Another, a case of very bad Rupture, which its use with that of the White Electricity effects a cure of in five months. A third, also a case of Rupture, gets well with the Anti-Scrofuloso alone. While, lastly, decided Paralysis gives way to similar treatment.

Anti-Angioitico.—Varicose veins of many years' standing—Disease of the Liver of a very formidable kind, giving rise to serious hæmorrhage—Palpitation of the Heart from organic disease—Asthma in its very gravest form, and allied with the passing of blood from the Urethra,—these are some of the cases given of cure which this medicine has not failed to effect in longer or shorter time.

Anti-Venereo.—Primary, secondary, and tertiary Syphilis

all furnish cases that illustrate the power which this medicine curatively has over all their various symptoms. Gonorrhœa, Chancres, Buboës, Ulcers (whether of a sluggish or phagedenic kind), Condylomata, and Periosteal pains, with Caries even of the Cranial bones, and Abscess,—all yield quickly to the power it wields.

Anti-Febrile, or Febrifugo.—The power which this has over Intermittent Fever is exemplified in a variety of cases, some of which, moreover, were complicated with severe hepatic and splenic disease that for years had defied all treatment. Dr. Coli has said, I know not how truly, that its use is never followed by relapse.

Anti-Pettorale, or Per le Malattie del Petto.—Cases of what would seem very like Phthisis are reported as cured by this medicine. And, lastly, the—

Anti-Verminoso is shown to be such a vermicide, and to do its work so thoroughly in verminous affections, as to put an end not only to Ascarides, but Tapeworm, and to cure complaints that had seemed to defy every other remedy that had been employed against them.

Startling and strange as all this may appear, I may, perhaps, be asked if I myself have confidence in the cases thus reported. And, perhaps, it may seem still more startling and strange that one who has shown some scepticism regarding many so-called Homœopathic cures should not hesitate to answer—Yes! I HAVE confidence in them, and at least quite as great as in the Reports we get of other cases. And I have good reason for what I say. I believe these cases to be truly reported, for I have seen something like a confirmation of their truth in my own individual practice. The cases in which I have used these medicines fully justify me in believing that they really are what they are said to be. Some of these cases I now propose to give. I shall give them without much regard to any order, unless it be that of time.

And first and foremost let me mention one in which a dear friend was the patient.

On getting to my country home one night I found this lady friend and patient suffering most severely from the

sting of a wasp, and in her wedding-ring finger. The immediate consequences were such fearful pain and swelling that she could not get her wedding-ring off. Everything was tried to effect this, but in vain. In the morning the pain and swelling were so great, extending all the way up the arm, and the finger, in short, was so strangulated, that I feared mortification might ensue. After friendly aid had been sought in vain—or, more correctly speaking, had proved of no avail—and the patient had been put to the most excruciating torture, her maid and I managed with a goldsmith's "cutting-plyers" to sever the ring in twain. To a superstitious fancy this might have foreboded worse consequences even than followed such a severance, but these were bad enough. Whether resulting from the injury inflicted, and the constitutional irritation thence set up, or whether from some harm to particular nerves, or whatever cause or causes it might be, the arm, that had never ceased to suffer pain, grew weaker and almost paralysed with time. Often and often was I told that the use of it soon would be altogether lost. What various medical treatment was adopted to remedy this state of thing it is not necessary now to enter into, but for months and months it was tried in vain, and matters grew worse instead of better. At this time I was just beginning to grow acquainted with the use of the Anti-Scrofuloso. The patient took it for four or five days, and at the end of that time was well.

A very beautiful and fashionable lady, a mother still in her *premiere jeunesse*, was almost from her very childhood upwards a sufferer from Scrofulous Ozæna. Though not disfiguring, this was such a trial as both beauty and fashion would be sure to seek relief from. They had sought it in vain. The patient had been under various kinds of treatment, the Homœopathic amongst the rest, but without obtaining what she sought. Indeed she was about to go abroad to try what the "sunny south" would do for her (for an Indian climate had done for her once what it seemed nothing else could ever do), when she first consulted me. I gave her small doses of the Anti-Scrofuloso, for only such small doses she could bear. Sometimes even she had to suspend it on

account of the pain it would give her in the nose. But I very soon saw the good that it was doing, not only in the effect that it had on the discharge which she was constantly having from the nose, but also on that which was its cause. It was interesting to see the part it played in bringing gently away from time to time those dead little pieces of ethmoid bone which for nearly twenty years had given rise to that discharge. Gradually this ceased as bone ceased to come away, and since the patient left my care and Brighton she has not again applied to me, as she surely would have done had her cure not been complete. I may mention that this lady suffered greatly from Neuralgia, which, as well as the Ozæna, the medicine told on, though the life of fashionable dissipation which she led was anything but co-operant with the treatment of her case.

The mother of a good many young children suffered several times after her confinements from deep-seated Abscess near the Hip-joint, and always in the same place. Though it hardly seemed to be connected with the joint, she had always, even after it was healed, so much weakness and pain in walking that the bone might well be suspected of disease. Still nothing of this kind could be detected, or positively proved to exist, for the Abscess, though large, and burrowing deeply, could never be traced up to the joint, and after a time always healed. The patient, however, suffered so much in walking, and even in resting, on the aching limb, which was not in the least degree shorter than the other, that it seemed quite possible, though the joint was not affected, the upper part of the femur might be to which she referred the pain. *Sulphur*, *Calcarea*, and *Silicea* were all of them serviceable in her case, and *Calcarea* especially did her so much good as to better not only her general health, but also her locomotive power. Not so far, however, as to render easy the taking of a very short walk, or even going up and down stairs. So I put her upon the Anti-Scrofuloso. She has not taken it with regularity—or, rather, uninterruptedly—for long, but she came to me two or three days ago, saying she had walked more than four miles.

A very fine girl of some "sweet two-and-twenty" was brought to me complaining of obstinate symptoms, which her mother also complained of as well, since she had spent upon them no end of fees, she told me. The patient complained of pains all over her, but more particularly down her back, great lassitude, and weakness, and inability to take part in the amusements of her sisters, low spirits, unrefreshing sleep, periodical as well as general derangement, &c. From all I heard I feared Manustupration was the cause of all these symptoms; the more so as former doctors never would—though, perhaps, they never could—say what the complaint was. I communicated my suspicions to her mother, who had never dreamed that such a thing could be, and which, if it could be in her daughter's case, she was sensible enough to see I could have no other object in suspecting but her good. Indirectly a guard was thus placed upon the future, if the past could not be redeemed. By attention to diet and hygienic rules and the use of different Homœopathic medicines, the general health was very much improved. Still the nervous exhaustion remained *in statu quo*, or by no means was got the better of. So I put the patient on the Anti-Scrofuloso, and the change which it has wrought is such a one as would hardly be effected by any other medicine which my therapeutics have command of.

A lady, about sixty years of age, complained of dull and heavy pain across the loins, and at times, along with this, of deep dejection which was not natural to her. Excepting that the urine was scanty and high-coloured, she had scarcely any other symptom. Here, evidently, was a case of latent Gout occurring in such a constitution as the patient had—a very robust one—and such as it is apt to play its pranks in. If there could have been any doubt of this it would soon have been dissipated by the way in which what was no longer latent manifested its presence in the joints. These were seized on most furiously and fiercely by what, although I have called it Gout, I should deem was made up of Rheumatism too, and should venture to call Rheumatic Gout, all Pathologists notwithstanding. But whatever the name, the disease soon was one that threw itself with such

fury on the joints that some of them I really feared would become disorganised. The patient, who had been a great walker in her time, could no longer trust her own locomotive power. She refused an invitation to her sister-in-law in town because she would not mount a flight of stairs. With all the aid Homœopathy could give, or, at least, such Homœopathy as mine, so obstinate and tedious was the case that I feared it would turn out a hopeless one, and my patient might be a cripple. However, other remedies having greatly failed, or not done all that I could wish, the Anti-Scrofuloso was given, and from that time forward she steadily recovered till now, when I have the following lines from her received this very day :—“The medicine has certainly made me *a new woman*. Every one tells me how well I am looking, and I feel so, which is better ; but I am going on with my medicine as from time to time I feel a little stiffness still in my knees and my thumbs ; but my right thumb which was quite bent is becoming straight again.”

A young man who for three years past has been a most exemplary patient of mine, was, when I first saw him, the subject of diseases that really consisted of a trinity of ailments, any one of which it is quite enough to cope with when found existing singly and alone, instead of co-existing with the other twain in one and the same person. These three ailments that he was the victim of, were Masturbation, Lepra, and Epilepsy. The Lepra was as bad as bad well could be, and the Epilepsy, which did not depend on Masturbation (for this had not been carried to very great excess, or such excess at least as, I think, to cause it), was of such a kind as few would hope to cure. With proper attention to regimen and diet, Homœopathy, however, did a great deal for him, though I hardly think he owes as much to that as to later treatment by the Anti-Scrofuloso ; for now he is so well of all three ailments, which conjointly no other medicine so affected, that any one who might consider him not well would take for granted his cure.

A Clergyman who for more than thirty years has suffered much from Spermatorrhœa, and all the miseries incident thereto, tells me in a letter overflowing with his thanks,

that nothing that he has ever taken (and what he has not taken it would be very hard to say), has ever afforded him such relief from all his suffering as that which he is taking now. That not only are the emissions much controlled, but the organs of digestion getting in such order as they have not been in for a long, long time—that cheerfulness has taken the place of deep dejection, and that now he is living in quite a new world. The medicine taken was the Anti-Scrofuloso.

A lady, whose daughter was martyred by Asthma, which was terribly hereditary on her father's side, as his girl not only found, but many of her cousins, and for which every kind of treatment had been tried, consulted me by letter about her, a week or two after arrangements had been made for her spending a winter at Mentone. Before leaving England she was very much the better for the Anti-Scrofuloso she was taking, and I knew that the improvement which was going on would be attributed to change of air. Though she suffered wofully on her way from leaving off, I take it, her medicine the while, as soon as she got to Mentone she resumed it, and therewith resumed her freedom from attacks, or at least such attacks as were wont to lay her low, and during the latter part of her stay might be said to be perfectly well. Of course, all this was Mentone's work, albeit her cousin who was subject to Asthma, though nothing half so bad as hers, and who was with her all the time, did not show the like improvement. But, strangely enough, the very day she left Mentone, her symptoms all came back as intensely as before, and so it was no wonder that, on her return, her mother should write to me despairingly again. Believing this to be the last expiring effort of a disease just about to be overcome, and which, like the Devil when exorcised, would tear and rend the body that it leaves (one often sees the like in intermittent fever, the final fit being not unfrequently the worst), I told the mother to persevere with the medicine, in which she had the greatest faith, and if necessary to write to me again. She has not written, and I know it is because she has not found it necessary.

I could give another cruel case of Asthma which this medicine and the Anti-Angioitico have cured. Perhaps, I ought to say have greatly helped to cure, for they finished the work Homœopathy begun, but seemed unable to complete.

Want of space forbids my dwelling on all that the Anti-Scrofuloso has done, and is doing still, for me. Perhaps I may do this at some future time. Meanwhile, for the present I will only add to what I have already said of its achievements, that I believe it has borne me more than half way on the road to the cure of what I had never hoped to cure. I believe that I am curing a case of Rupture in a gentleman sixty years of age; while in another of more than seventy, I am overcoming an affection of the Kidney, which has shown the power of the Anti-Scrofuloso as superior to that of every other medicine in bringing away hundreds of Calculi in globules, and altering those pathological conditions on which their formation was dependent. I could illustrate the virtues of this medicine in a great variety of interesting cases, but must leave myself room to speak of some in which I have found Count Mattei's other medicines as much deserving notice for their curative effects.

A gentleman, sixty years old or more, who was slightly hemiplegic from Apoplectic seizures, consulted me on account of the ulcerated state which his legs were in from Varicose Veins. They were sadly inflamed and swollen when I saw them, and the ulcers, which were very large, were also very painful. His general health was put in better order by proper diet and Homœopathic medicines, but the ulcerated condition of the legs was much the same, save its passing from the acute into the chronic. I gave him the Anti-Angioitico, and very speedily the ulcers were healed up, and the varicose veins giving rise to them were so far cured when last I saw him, that he has not again applied to me. In this case the head and the slight hemiplegia were also benefited by the medicine.

In another case of Varicose Veins, occurring in a lady more than seventy years of age, and giving rise, if not to

ulceration of the legs, to the heat and pain and swelling which precede it, I gave the Anti-Angioitico, and with the like effect. Its external use also relieved the Intertrigo which this old lady suffered from severely in the folds that were formed by her pendulous breasts.

The brother of the young lady whose case I mentioned as showing the relief which the Electricity afforded, was on the point of being operated on for Fissure of the Anus, which he suffered from along with very painful Piles, when, in her distress, his mother came to me to ask if I would see him beforehand, and tell her if by some milder form of treatment it was not possible to cure him. I could not do this, but advised her to take a second surgical opinion on the case, which should not in one sense be second to the first, and as the result of this consultation, the patient was handed over to Brighton air and me to see what we could do for him between us. He had led a most luxurious and fashionable life, and at the same time a very sedentary one. The action of the bowels, which was but very seldom, gave rise to the most excruciating pain, though independently of this, the agony he otherwise endured was such as I have rarely seen. By attention to diet, and the use of *Nux* and *Sulphur* the constipation was at last overcome, in spite of the obstinacy with which it held its ground, and the whole of the alimentary canal, and not the lower part alone, was placed in healthier conditions. But the fissure showed no signs of getting well, so I put him on the Anti-Angioitico, and from that time forth it began to heal, though more than once, when nearly healed, the action of the bowels would break down the new adhesions, and so undo what it had done. However, the use of the medicine was continued, and not very long from its being first used, the patient was well of such a complaint as I hardly think would ever have yielded, and I feel very sure not so readily have yielded to any other medicine.

Cases of ordinary piles I do not think it worth while to give, but let me mention some of another kind of ailment to illustrate the remarkable action of the Anti-Angioitico on the circulating system.

A lady, about fifty years of age, of a very plethoric habit of body, and whose suffering seemed of a hereditary kind, consulted me on account of symptoms that were evidently those of Heart disease. She had previously complained of other symptoms, that seemed to me could be referable only to a varicose condition of veins deeply seated. But at the time I speak of she was suffering further from such a sense of oppression at the heart, that on turning from side to side in bed she told me she felt as if that she must die. So the Stethoscope was used, and Dilatation was found to be the condition of the Heart. I gave her the Anti-Angioitico forthwith, and marvellous was the effect which it produced. That of the *Cactus*, which in some such cases I have also found to be very great, was nothing ever to be compared to this. Not only could she soon turn in bed, but walk up steep hills without difficulty, a thing which had been impossible before. She seemed to think there was some magic in the medicine, and though obliged to leave Brighton for a while, said she should not take leave of her remedy, and not very long of me. At some future time I hope to ascertain, a point I am now unable to determine, how far the medicine may have affected the organic condition of the heart itself.

A very hypochondriacal lady, made a good deal so by the loss of daughters to whose children now she acts a mother's part, came to me after her last London season, with such strange beating of the right Carotid Artery, that Aneurism of it might well have been suspected, as I believe at first it was by the medical gentleman whom she, if necessary, consults when in town. This, moreover, was attended with such shocks through the head, and pains in this part of it now, and then in that, as would tend to confirm such suspicion. But though her symptoms might give rise to such suspicion, I knew the patient I had to do with, and her highly irritable nervous system, which so often had plagued both herself and me, at once raised a doubt that I was disposed to give her the benefit of. And whatever the case might prove to be, whether one of mere local arterial excitement or obscure disease of a more formidable kind, I knew that I

should do her no harm to give her at the same time the benefit as well of the Anti-Angioitico. Three days after taking it I found her so much better that I could hardly believe the change. I know not what medicines she was taking before she came to me, but they seemed to have been of little service. She continued what I gave her for about a fortnight, and yesterday when she came to me again I could find no perceptible difference between the right and left side of the neck, though she still complained of slight shooting pains now in this direction and then in that, and in either temple or half of her head, which her nervous fancy managed to keep up.

Though Aneurism was not made out in this case, nor ever supposed by me to exist, the foregone impossibility of curing it should be no argument against its being such, since Count Mattei says its curability is a thing which he has proved. I am not yet able to say the same, but the power which the Anti-Angioitico has in effecting alterations in the circulating system seems to me a presumption of the truth of what he says, and this power I can bear witness to.

A young lady whose father died some years ago, and whose uncle is at present suffering from rheumatic affection of the heart, was placed under my care some short time since on account of general derangement of her health, and occasional Epistaxis. The Epistaxis is mostly preceded by or attended with frontal headache. I gave her the Anti-Scrofuloso to take, and as she resides at a distance from me I let her have also a little mixture of the Anti-Angioitico, which she was to take when necessary. She writes to tell me that she is better, and that twice when the bleeding from the nose came on, a dose of her medicine immediately stopped it.

A gentleman, some sixty years of age, was brought to me by his much younger wife, who was very uneasy about him. He had been accustomed to all kind of sports, such as riding, hunting, shooting, and the like, and which he had been apt to carry to excess, for under excitement he could do anything, he said. It was under such excitement, I suppose, which is not natural to the life that he had led, that

he or his wife came to seek my advice, for by far the most prominent symptom about him was quick and violent action of the heart. This was such as to make me fear there must be some organic disease about it. I examined him well, but could make out nothing of the kind. To be sure it was attended with utter exhaustion of all his bodily powers. But what was this exhaustion owing to? Some might suppose to his young wife, but it clearly was not so. To what then could it be? For except under excitement it was such that he scarcely could walk at all. But it was not this alone that prevented him from walking, but pain that caught him in the thigh before he proceeded many steps, and entirely stopped progression. But what was this pain owing to again? I could not make it out in the least any more than the rest of his complaint, though he thought it was caused by a fall from a horse a good many years ago. All that I could make out was this, that here was a case of great functional disorder, but no organic disease. What it depended on I could not say, unless his fearful habit of smoking, the cumulative effects of which I have seen exhibited very much in this way; though when I told him this, he jokingly would have it that he was getting an old man, and that he was prepared, if his wife was not, for the breaking up of his system. However, an embargo was laid on his tobacco, and his wife was charged not to let him smoke more than two *very small* pipes of the mildest kind, or two or three cigarettes daily. His case was rather one for moderation in its use than sudden abstinence from it. And knowing well its action on the circulating system, I gave him the Anti-Angioitico to take.

I saw him a few days after this; the action of the heart was thoroughly controlled, and the pulse though weak as "temperately kept time and made as healthful music" as my own. The pain in the thigh was entirely gone. This was not an accident, for he had had it a long while, and this it was that he had most complained of as disabling him from taking the exercise he would. It was only the weakness now that did so, and when I last saw him this was growing into strength by the use of the Anti-Scrofaloso.

These cases of mine that I have given have only illustrated the action of *two* of Count Mattei's medicines. I have not yet spoken of the Anti-Canceroso. Perhaps it may be as well to mention here that I am not aware that the Anti-Canceroso is known to any medical man in England beside myself save Dr. Bell. I believe that he has patients under him who are making, or have made, use of it; for a lady whom he had operated on, but in whom, alas! the disease had returned, applied to me during his absence for it; and I know the same German gentleman introduced him to a knowledge of it who made me acquainted with not only this, but the rest of Count Mattei's medicines. I know not if he has tried it in many cases, but if so, perhaps he will be so good as to report upon it and them.

A few remarks yet remain to be made before I bring this paper to a close. No sufficient directions are given by Count Mattei with regard to the use of his medicines. Such as they are, they are of a general kind. They hardly go into particulars at all, so that every one seeking instruction on the subject must form and bring his own experience into use rather than enjoy the large usufruct of his. His has not found expression in any written work that does justice to his particular views—that gives us the benefit of his acquaintance with disease and the appropriate remedy that he would bring to bear upon every form and phase of it. His *Theory and Practice of Medicine* might make him the Grant of a Medical Republic, so very much is his *doing* in excess of all that he has to *say*. For his Theory is condensed in the observations I have quoted, and his Practice, which has had large battlefields to do with, is summed up in the following "Avis," which I will give in English.

"The more violent the malady is, the more necessary is it to diminish the doses which have been indicated as the ordinary ones. For example, a Convulsion ought to be treated with a drop of the especial tincture indicated as appropriate to the ailment in a first tumblerful of water, of which four or six drops are poured into a second, and of this second the patient is to take some three or four teaspoonfuls daily.

“ When there is a complication of diseases the gravest is to be treated first.

“ One may treat different maladies together by giving the remedy appropriate to each at different times of the day.

“ Many maladies having the same name are not on that account the same. For instance, Pericarditis is a Dropsy, and so is Ascites also a Dropsy, but the one has to do with Blood-vessels, the other with the Liver. One must treat them, therefore, with different medicines, since different are the causes they arise from. It is useless here, according to the custom of Homœopathic Physicians, for the most part, (the last four words are an addition to Mattei’s), to make a nomenclature of diseases and the remedies they are to be combated with. Maladies owe their origin to four principal alterations of the blood. Any one who undertakes a cure should know the cause of the ailment to be cured, and oppose to that cause the special remedy that is destined to overcome it.

“ Sores are to be dressed with the same remedy as inwardly is used, but in greater strength. From four to twenty drops of the tincture in half a tumblerful of water may be regarded as the maximum strength. The minimum must be left to the direction of him who treats the case.

“ Exostoses, Polypi, Ganglia, and all the products of a humour that is being combated inwardly, should also be treated from without in the manner recommended for sores.

“ When an ailment does not yield to its special medicine the Anti-Canceroso should be used.

“ For Hysterical and Angioitic cases the Electrical Remedies should never be employed.

“ The Great Sympathetic is the nerve, which at the touch of the Electricity manifests the most wonderful effects.

“ Intoxication, for instance, and exhaustion vanish as soon as the Great Sympathetic has the Electricity brought to bear upon it, provided these do not occur in a hysterical or angioitic patient.”

To the above I offer no criticism, unless it be to say that when Count Mattei would ascertain the cause of a disease, and oppose to it the appropriate remedy, he seems

to me, as I have said before, to treat it according to Allopathic indications rather than Homœopathic symptoms. For the rest, in his case, as in Hahnemann's, there will be those who care for his theory far less than they do for his practice.

So much then for his Practice of Medicine, or rather let me say of Medicines, Nothing is here said which I am sure he could say about the discrimination of particular diseases, and the remedies which each of them requires.

I ought to add that in Count Mattei's cases, whatever may be the case in my own, no particular regard is paid to diet. The only things which he objects to as interfering somewhat with the action of his medicines, are strong acids, strong coffee, and strong tea.

I ought, too, to add that these medicines may be obtained at No. 2, Via della Tinta, at Rome, and No. 232, Via Maggiore, Bologna.

If it had not been at the earnest request of one who honours me by calling me his friend, I should not, as has been said before, have made myself acquainted with these medicines. I had known too well how new remedies are vaunted, and run for a time the round of fashion, and like other fashions of this world pass away, to be easily prevailed upon to give a trial to those which were pressed upon my notice. But having promised to give this trial, I could not recede therefrom. And then having made it very cautiously at first, and become more and more and more convinced that these medicines were what they professed to be, I could not help promising Count Mattei, whom I look on as a great benefactor of mankind, that as soon as my own personal experience, founded on a sufficient variety of cases, justified me in proclaiming their value to my Homœopathic brethren here in England, I would not fail to make them known as far as lay in my power.*

* [Our readers are perfectly aware that we do not identify ourselves with the opinions of contributors to the Journal, but they may well be surprised at seeing an article like the above in our columns. Respect for our colleague, who has in former years favoured us with many brilliant articles, is not our sole reason for admitting it. The secret remedies of Count Cesare Mattei have been so much talked about that we thought our readers might like to have an account of them from a devoted believer of the high intellectual culture of Dr. Acworth.

More than a year ago we had read an account of them in a pamphlet by Dr. Charles F. Zimpel, but as a personal acquaintance with the author had not given us a high estimate of his intellectual powers, we did not think it worth while to introduce the wonder-medicines of Count Mattei to our readers. The case was altered when Dr. Acworth tendered an account of these remedies. Our readers have now an opportunity of forming a judgment respecting them after reading the opinions of an intelligent and enthusiastic believer. We think that, in spite of Dr. Acworth's advocacy, our readers will unanimously agree with us that a grosser form of charlatany was never attempted to be palmed off on a credulous public by any follower of the illustrious Dr. Dulcamara. Of all the wonderful effects recorded of Count Mattei's remedies we find nothing so marvellous as that they should have converted Dr. Acworth from an intelligent practitioner and exponent of the rational system of therapeutics we owe to Hahnemann, into the advocate of an empirical treatment of diseases by seven secret nostrums and four strengths of bottled "vegetable electricity" based on a pathology worthy of Morison of pill notoriety. Julius Cæsar recorded his rapid and complete victory by "Veni, vidi, vici," but Count Cæsar may say of his conquest of Dr. Acworth "vici" without further phrase. If Count Mattei's pretensions are true then the *raison d'être* of doctors ceases. Any fool can practise that kind of nostrum-giving as well as the wisest physician—perhaps better. So we had better agree to burn our diplomas and our books, declare the medical sciences to be delusions and the study of therapeutics a snare. With Mattei's *Anti-Scrofuloso*, *Anti-Canceroso* and the rest for internal, and his "vegetable electricity" (save the mark!) for external remedies, all diseases, including those hitherto deemed incurable, are easily removed, suffering will be abolished, and death itself dethroned. Our first thought, like that of Burns' under similar circumstances, was what is to become of the grave-diggers?

Wae's me for Johnny Ged's-Hole now,
 Quo' I, if that thae news be true!
 His braw calf-ward' whare gowans grew,
 Sae white and bo'ny,
 Nae doubt they'll rive it wi' the plew;
 They'll ruin Johnny!

We are sure the mere account of Count Mattei's method of treatment, though given by such a zealous advocate as Dr. Acworth, is enough to ensure its condemnation by all. We have hitherto been able to boast that homœopathy was secure from quackery, but we fear we can say this no longer, as we now find the use of secret remedies, said to be homœopathic, advocated by homœopathic practitioners, one of whom, at least, we have been accustomed to consider a man of good intellect and sound judgment. We feel indignant that Count Mattei and his mouthpiece, Dr. Coli, should presume to call their nostrums "a new homœopathic materia medica," and we ridicule the idea of Count Mattei waiting till their virtues shall be universally acknowledged before he makes known their mode of preparation, but it makes us sad to see Dr. Acworth recommending his homœopathic colleagues to make a trial of these secret medicines. We trust no one in our body will respond to this invitation, and that Drs. Bell and Acworth, as they at present stand alone in the use of secret remedies, so may they continue: or, rather, we hope that the universal condemnation the above article must elicit will lead Dr. Acworth to reconsider his views, and not to desert the cause he has hitherto adorned

ON THE TRUE PLACE OF REPERTORIES IN
HOMŒOPATHIC PRACTICE.

By Dr. HENRY R. MADDEN.

(Read before the British Homœopathic Society.)

MR. PRESIDENT AND GENTLEMEN,—The subject of my paper this evening is one which will require delicate handling, lest I should offend the *amour propre* of my hearers. In a certain sense, repertories may be likened to crutches, and men are not too ready to acknowledge their need of such helps to their safe progress.

If required to define a repertory I should call it an arranged catalogue of the symptoms of the *Materia Medica*, and its most obvious use is to assist our memories in recalling the symptoms of any particular drug. But this very definition has rendered some men shy of using them, lest they should by so doing convict themselves of defective knowledge of our *Materia Medica*. So much has been said and written about the necessity of acquiring an intimate acquaintance with the results of drug provings, that the more timid amongst us are afraid to defend the use of repertories, lest it should be supposed that they are not sufficiently versed in symptomatology. Others again positively object to the use of repertories as mechanical and unscientific. While a third party deny the necessity of any such minute analysis of drug-action as that accomplished by their agency.

In considering, therefore, their true place in homœopathic practice, we must view the question in several distinct aspects. We must inquire, for example, as to how far minute symptomatology is needed in carrying out the homœopathic method of treating disease. We must ascertain whether the terms "mechanical and unscientific" are really applicable to the use of repertories; and we

for such gross empiricism. Dr. Acworth, in his newborn enthusiasm, promises to return to the subject, but we feel sure our readers will agree that they have already had more than enough of it. "Non tali auxilio," &c.—EDS.]

must answer the question whether any memory could be sufficiently powerful to retain the endless details of drug provings, so as to render them unnecessary.

To the last of these I need not hesitate in giving an immediate reply. The number of symptoms contained in the *Materia Medica Pura* alone is far too great for recollection, and if to these we add the results of more recent provings, it is manifestly impossible that any one, however gifted, could retain them all so as to render them available in practice. If, therefore, it can be proved that a knowledge of minute symptomatology is requisite, it will be at the same time proved that the use of repertories is unavoidable. I shall shape my inquiry accordingly, and shall first attempt to ascertain how far minute symptomatology is needful in carrying out homœopathic practice. There are two aspects of this question which equally demand our attention, viz., 1st, Do minute differences in symptoms possess any real value? and 2nd, Is minute correspondence between the pathogenetic and curative effects of a remedy an invariable rule? I will now proceed to consider these points.

1st. Do minute differences in symptoms possess any real value? If you took up any allopathic work on pathology, unless it had been written within the last very few years, you would be disposed to answer this question with an unhesitating negative. All descriptions of disease dealt with broad generalities and left all minor differences out of the question; or rather, if they were referred to at all, it was for the very purpose of stamping them as non-essential. Great stress was usually laid upon what were termed pathognomonic symptoms, and these ruled both the diagnosis and the treatment. Quite recently, however, much more minute attention has been paid to symptoms, both subjective and objective; and although such distinctions have not as yet influenced the treatment pursued, they have often formed the basis of a more refined diagnosis. This has been especially the case in pulmonary diseases and in morbid states of the nervous system. In the former case, modifications of the sounds of respiration so minute as to be

detectable only by the most practised ear, are held of sufficient importance to determine the presence or absence of tubercular degeneration. While in the latter diseases, all the detectable modifications of sensation and voluntary motion have been pressed into the service of minute diagnosis by Dr. Brown-Séguard, and other investigators of cerebro-spinal pathology.

Not only, however, have these minute differences of allied symptoms been utilised for purposes of diagnosis, but many so-called trifling symptoms are now being taken into account, which until very recently were altogether passed over. For example, Dr. Maudsley, in his admirable Gulstonian Lectures of this year, when treating of mental diseases, urges the necessity of a minute inquiry into the character of the dreams of patients threatened with various forms of insanity. One cannot help observing here how often Hahnemann's records of dream symptoms have been held up to ridicule by our would-be-wise detractors, and yet these very men praise loudly Dr. Maudsley's lectures, which, among many other good things, demonstrate the importance of inquiring carefully into these apparent trivialities. Dr. Maudsley is himself so deeply impressed with the necessity of attending to minute points of difference, that he directs his hearers' attention especially to the fact that "close to us, yet inaccessible to our senses, there lies a domain of nature—that of the infinitely little—the operations in which are as much beyond our present ken as are those that take place in the remotest regions of space, to which the eye with all its aids cannot yet reach, and of which the mind cannot conceive." If, however, minute differences among allied symptoms and so-called trivial symptoms are capable of yielding important evidence in the diagnosis of disease, it follows as a corollary to our law of cure that they must be equally important in the diagnosis of the remedy. If the character of one's dreams are consequent upon the condition of one's brain, the dream-symptoms of a remedy must depend upon its power of disturbing the cerebral functions, and hence will form an important item in determining the choice of a remedy in

cases where these functions are modified by disease. If a scarcely detectable difference in the sounds produced by respiration indicate anatomical differences in the lining membrane of the air-cells, we surely cannot be wrong in noting differences so marked as the character of the cough and the expectoration, together with the conditions and concomitants by which they may be distinguished from each other. If the relative keenness of the sense of touch between two similar parts, or the power of appreciating small differences of temperature, are important guides to Brown-Séguard in localising a disease of the cerebro-spinal axis, we may surely be excused for insisting on the importance of a symptom occurring on the right or the left side of the body, or of a pain shooting from above downwards, or from below upwards. No one will deny that any symptom which can differentiate an anatomical seat, must be of importance in deciding upon the proper homœopathic remedy.

The conclusion that I would draw from this line of my argument is, that since the more carefully our most advanced physiologists investigate the nature of disease, the more stress they seem to lay upon minute differences and upon apparently trivial symptoms, it may be taken for granted that we should be acting unwisely were we to reject these minute and apparently trivial symptoms in our examination of drug provings. It has often been asserted that, as science advances, grand characteristics will become manifest, and all lesser matters will be thrown aside as non-essential. As yet, however, the very opposite appears to be the rule in every branch of scientific inquiry. No doubt great generalisations are often enough propounded, and some of these bear the test of time, but all real progress in precise knowledge is associated with an attention to minuteness of detail which increases every year, and adds daily to the difficulties that beset the path of the scientific inquirer.

2nd. Let me now turn to the other aspect of the question, and see how far homœopathic practice demands this minutely accurate correspondence between the effects of the disease and its remedy. In making this inquiry it will be very

difficult to avoid the vexed question of the dose, but I shall try to keep as clear of it as possible, the more especially as I understand we are soon to have a paper on the subject. This difficulty arises from the frequent assertion that a more minute correspondence between remedy and disease is necessary when using "infinitesimal" doses, than is required when merely "fractional" quantities are employed. (I may here thank our colleague Dr. Dixon for this convenient mode of distinguishing the high and low dilutions, viz. by the terms "*infinitesimal*" and "*fractional*," the former referring to quantities too minute to be detected by chemical tests, and the latter to small fractions of a grain which are still appreciable by ordinary tests.) Of course, if the above assertion were strictly true, the question before us and that of the dose would stand or fall together, but I cannot see my way to admitting this; and hence I shall argue the point as much as possible on its own merits, and inquire into the degree of similarity which is necessary for the practical carrying out of treatment based upon the law of similars. In a paper which I read before this Society "On the (so-called) Unity of Disease" about two years ago, I directed your attention to three expositions of our law of cure, viz.—1, *the crude simile*; 2, *the similis*; 3, *the similitimum*. And more recently Dr. Drysdale, in his admirable series of articles on "Specifics" published in the *Brit. Journ. of Hom.*, vol. xxv, xxvi, and xxvii, refers to the same subject. If we take these expositions as the basis of our inquiry, we shall find that the similitimum alone answers to the full requirements of our law. No doubt many cases may be cured by the first or lowest grade of similitude, as, for example, when local inflammations are treated by topical irritants; while, as regards the second degree of similis, where elective affinity for the organ diseased is required in the selected drug, the results are so satisfactory that some of our colleagues would have us believe it to be the *ultimatum* of our art, and would change the name of our system and call it *organopathy*.

If, however, we seek for the most perfect and direct method of cure, and if, moreover, we adopt Dr. Drysdale's

definition of a true specific, to wit, "a medicine which cures with the absorption of its whole physiological into its therapeutic action," we must select the remedy which stands in the relation of the similitum to the disease, or, in other words, the remedy must "correspond specifically both as to seat and character of action." (I will take this opportunity of acknowledging my great obligations to Dr. Drysdale for the many and valuable suggestions I have received from his writings. We have been many years working in the same direction, and I have again and again observed that, when he goes over the same ground that I have travelled, he clears up many obscurities and arrives at a sharpness of definition which materially advances the subject in hand. In this instance, for example, Dr. Drysdale's distinction between similius and similitum is decidedly preferable to mine. We do not contradict each other, but his definition possesses a clearer line of demarcation, and hence becomes the more practical. I have, therefore, no hesitation in adopting it. Stated briefly, the *similius* comprises similarity of seat of action; the *similitum* corresponds both as to seat and character of action.)

Dr. Drysdale has clearly shown, in his paper already referred to, that while homœopathic remedies may perchance be selected according to the first two degrees of similarity, a true specific cannot be selected unerringly except by the third and greatest degree of resemblance. If, therefore, it can be shown that to select a *similitum* minute symptomatology is necessary, our question must be answered in the affirmative. Let us now, therefore, inquire into the methods by which we can detect "similarity of seat and character of action" between a drug and a disease. With respect to many active poisons, we possess a tolerably correct knowledge of their pathological effects whence we can decide both as to the seat of their action and the nature of the morbid changes they produce. Thus we know that *Arsenic* inflames the stomach and causes ulceration of its lining membrane; *Nitrate of Uranium* does the same, the ulcers appearing chiefly near the pylorus; *Kali bichromicum* inflames and ulcerates the duodenum; *Podophyllum* inflames

the small intestines; *Mercurius corrosivus* inflames and ulcerates the colon; while *Sabina* inflames the rectum. If, therefore, the case to be treated is one whose pathology is well known, if it is a disease of a well-marked character, and but little liable to modifications, then such knowledge as the above may prove sufficient for determining our choice of a medicine.

In a disease such as simple uncomplicated catarrh, whether affecting the eye, the nose, the throat, the larynx, or the bronchi, we shall generally be able to decide at once upon the proper remedy by means of symptoms so simple and so marked, that any one who has an ordinary knowledge of our *Materia Medica* will have no difficulty in calling them to mind. It is far otherwise, however, when these same diseases are modified in their manifestations and in their course by the pre-existing morbid state of the patient. How often do we find that these simple catarrhs defy all our attempts to cure them, so long as we choose our remedies in reference to the catarrhal symptoms alone. I have purposely selected this very common disease for the following reasons:—1st, because its pathology is well understood; 2nd, because there is no lack of medicines capable of producing a catarrhal inflammation of various degrees of intensity in all the different segments of the mucous membrane; 3rd, because the course of the disease is so well known that it is not difficult to distinguish cases of cure from cases of spontaneous recovery; 4th, because, with a well-selected medicine, a cure is so easily effected; and, 5th, because, notwithstanding all these advantages, we so often fail in effecting our object.

Now it stands to reason that, if a medicine well known to produce nasal catarrh is given to a patient suffering under nasal catarrh and does not cure it, one of two conclusions must be arrived at, either the law of similars is at fault or the selection founded on the catarrhal symptoms is not sufficiently discriminating to lead unfailingly to a right selection. That the latter, and not the former, is the true cause of failure is abundantly proved by clinical experience. Nothing is more common, for example, than to find several

members of one family equally liable to nasal catarrh, running the same course, and yet habitually requiring different remedies; for instance, I know five members of one family who require five distinct medicines for this purpose. One can always stop a cold by *Camphor*, which does little good to the others, a second finds an infallible remedy in *Aconite*, a third in *Mercurius*, a fourth in *Euphrasia*, and a fifth in *Cepa*. And I have again and again varied the remedies among these persons, but have never found the same good results as when each takes the one which experience has shown to be the best. It will, of course, be said that the action of these five remedies is so diverse that the symptoms leading to the selection of the one or the other ought to be very evident, but, in point of fact, it is not so. With the exception of the *Aconite* case the symptoms are remarkably similar, the course of the disease is similar, and the patients are what would be termed healthy persons; so that I am forced to the conclusion that the requirement of different remedies in these cases must be owing to differences in constitution, so minute that nothing short of a very careful analysis of all the symptoms would enable one to discriminate between them. Be this as it may, however, one thing is clear, that the degree of similarity needful to the selection of the true remedy in these cases must be closer than that expressed by the pathological term of catarrhal inflammation.

Within the last twelve months I have had two cases of chronic diarrhœa, which may be used to illustrate the necessity of a most minute comparison of symptoms in order to the selection of the right remedy.

CASE 1.—A lady, æt. 80, was attacked with what appeared to be at first ordinary autumnal diarrhœa, but which refused to yield to the usual remedies, and after a time assumed the following characters:—Dark brown, thin, and very foetid stools eight or ten times daily, especially in the early morning and between 4 and 6 p.m. The stools often contained more or less mucus, occasionally pus, and frequently small lentil-shaped clots of blood. The patient was very weak, and could not sit up except in bed, because hanging

down the feet always brought on urging to stool, with involuntary evacuation, if it was not at once responded to. Her appetite was excellent. Tongue generally clean, and no fur. During five months I carefully treated this case, sometimes following general indications, and at other times searching for minute symptomatic resemblances; but, although I often palliated her condition, she never had a consistent stool. Some of her troubles yielded completely. For example, *Aloes* 30 cured the urging to evacuate when hanging down the legs; *Phosph.* 30 at once removed the pus from the stools, and it has never recurred since; *Graphites* 30 reduced the intense fœtor of the stools; *Mercurius* in varying attenuations removed hepatic complications; and *Carbo veg.* 30 relieved many sufferings from flatulence. But, notwithstanding all my efforts, the disease continued, and I made up my mind that the patient's great age was the real cause of my want of success; while one of our colleagues, whom I met in consultation, expressed his belief that she had cancer of the rectum, the accuracy of which diagnosis, however, the old lady declined to allow us to determine. About this time, having found that no repertory which I had by me had enabled me to discover a perfect *similimum* to my case, I determined to write to Dr. H. Nankivell, who is preparing the chapter on "Stools" for the Cypher Repertory, and I requested him to let me know what medicine corresponded most nearly to my case. He at once wrote to suggest *Rhus radicans*, which I accordingly prescribed in the 30th attenuation, and the stools began to improve within two or three days, and in about a fortnight were reduced to two soft but formed motions daily; and she continued well for some weeks, when a relapse occurred, which is at this present time yielding to the same remedy. For the sake of the low dilutionists I may mention that most of the remedies were given in both high and low attenuations before laying them aside, sometimes even in mother tinctures, but with the exception of *Merc. corr.* 3^x which palliated some of her symptoms, the only benefit she received throughout was from symptomatically selected thirtieths. I may also mention that I carefully avoided

telling her that I was giving her something fresh and very likely to do good when I prescribed the *Rhus radicans*, as I was desirous of avoiding any obscuring of the result through the influence of excited hope and expectation.

CASE 2.—A lady, under my care at the same time, whose general health was bad, had a very annoying complication consisting of sudden attacks of diarrhœa coming on during dinner. She would sit down to her meal feeling perfectly well, but would be suddenly seized with colic in the transverse colon, followed speedily by an urgent desire for stool, which gushed out suddenly, and consisted of dark brown frothy fœces. From the first I treated this case symptomatically because of its peculiar character, and at one time removed it for a considerable period by *Raphanus* 1, but it returned and did not yield a second time to this remedy; and as two or three other medicines which I had given had also disappointed me, I referred this case likewise to Dr. H. Nankivell at the time when I wrote about No. 1. He suggested *Veratrum* and *Coloc.* I gave *Veratrum* 30 early in January, and up to the present time there has been no return. In this instance the usual repertories would have led me to *Veratrum*; but I had abstained from giving it, from the strong association existing in my mind of the diarrhœa of *Veratrum*, with prostration and cold sweat, which symptoms were entirely wanting in my patient. The result, however, convinces me that this association need not exist to constitute *Verat.* a remedy for sudden gushing diarrhœa.

How are we to explain these and such-like cases? I believe they may be interpreted as follows:—When a disease attacks a previously healthy person and runs an uncomplicated course, it will generally be characterised by symptoms which are easily recognised in our provings; whereas, if the patient was previously unhealthy, or if the disease has lasted long enough to have originated secondary and other consecutive morbid states, the entire complex condition of the patient will owe its individuality to some special peculiarity which may often manifest itself by some minute and apparently very trivial symptom.

Or, to express the same in another way, recent and simple diseases are characterised by the symptoms peculiar to the disease; while chronic and compound diseases are characterised by symptoms peculiar to the patient.

All persons who have examined carefully into the nature of chronic diseases have observed so many common features among them that they have been strongly disposed to trace them to one or two fontal sources. While, on the other hand, all persons who have endeavoured to class complex diseases in groups have found the greatest difficulty in defining the limits of each group, in consequence of cases continually overlapping the arbitrary lines, and constituting most unscientific mixtures of several groups in one person.

When, therefore, we endeavour to select the true *similimum* for such a case, what are we to do? It will not suffice to be guided by the known pathology of the case, since that science has not yet learned to interpret with sufficient minuteness the shades of differences which are met with clinically. Neither will the result be satisfactory if we subdivide the pathological unit into groups, and choose our remedies accordingly, since we shall then only get a step nearer the goal, but still may miss it. Both these methods deal only with the disease, whereas I have already hinted that we must deal with the patient. Now, what is the state of the patient? Of what does his disease consist? In the cases to which I am now referring the patient presents us with a compound consisting of the effects of the disease, modified by his own peculiar morbid tendencies. Most persons, if not all, possess such tendencies, either inherited or acquired, and hence comparatively few diseases get the chance of running a uniform course in a large number of persons. Even such as owe their origin to a specific virus are often compelled, as it were, to yield to the constitutional bias of the individual attacked, and assume a character very different to that laid down for it in the most approved text-books.

I need hardly say that if the constitutional peculiarities of a patient are thus capable of modifying the course and result of a pathological process, they will doubtless to the same

extent influence the action of medicines; and if it does this, we must of necessity regulate our choice accordingly. In other words, we must select a remedy which has proved itself capable of setting up the same complex group in one or more of the provers.

If time permitted, I should like much to direct your attention more fully to two points connected with the complex nature of disease and its treatment, viz. to point out the essential importance of ascertaining the exact constitutional tendencies of the patient in cases of paroxysmal disease, such as epilepsy, asthma, gout, periodic headaches, &c., where true curative treatment often depends much more upon the management during the interval than the treatment of the attacks themselves; and also to show how we may often analyse a disease into what Dr. Drysdale terms "elementary morbid states," and, by directing our treatment against these, may break up, as it were, the vicious combination, and cure the disease piecemeal. Both these subjects, however, are touched upon in the series of papers on "Specifics," to which I have so often referred; and what Dr. Drysdale there says will suffice to set any one thinking who really takes an interest in the science of our system. I will therefore return to the more special object of my paper.

The practical conclusion from all that I have advanced concerning the necessity of such minute correspondence between the symptoms of the disease and the remedy is, that a practitioner must have some means, over and above any ordinary memory, so that he may be able to discover such minute correspondence, or in other words he must use a repertory.

A great deal has been said and written against what have been called the fanciful and puerile symptoms which abound in our provings, and yet much may be said in their favour. It should always be remembered that no symptom is utilised until it occurs in some patient, and the very fact that some peculiar fanciful combination of feelings should occur in two persons totally unknown to one another has some significance. If a prover records a purely imaginary

symptom of an extraordinary character, the probability of a patient complaining of the same extraordinary symptom must be to the last degree improbable. While on the other hand, if the prover is a very susceptible person, and if the fact of his watching all his sensations leads to his experiencing some very peculiar sensations ; the very fact of these same sensations occurring in a patient would denote a similarity of nervous impressiveness, which would of itself go far towards determining the choice of the remedy.

Again, it ill becomes us to ridicule small and apparently trivial symptoms, or seeming associations of disconnected symptoms while so little is known of the science of semiotics. We have yet to learn the meaning and interconnection of a vast number of symptoms of acknowledged value, and in the face of so large an amount of ignorance, how can we presume to dogmatise?

I was much struck lately by a case of this kind. A patient under my care, suffering from hypochondriacal depression, and seminal irritability, complained much of a sweet taste in the front part and tip of his tongue. The symptom rather amused me, and I therefore looked for it in the Cypher Repertory, where I found it recorded as occurring in the provings of the following medicines only, viz. *Aurum*, *Bar. carb.*, *Iodine*, *Merc.*, *Plat.*, and *Zinc*, every one of which remedies are also well known to produce depression of spirits and various forms of irritable weakness of the genitals. Is it scientific to call this an accidental coincidence? Would it not be wiser to note the fact for further observation, and meantime can we not see a reason for a possible association of these symptoms in the following way? I presume we may take for granted that the morbid conditions known as hysteria and hypochondriasis are the same as far as the nervous system is concerned ; and if so, we have the following train of reasoning to connect the above symptoms. Dr. Hovell, in his recent articles on "The True Nature of Hysteria," published in the *B. and F. M. C. Rev.*, traces this disease to disturbances of the cerebro-spinal axis, and especially to the olivary bodies, which Dr. Lockhart Clarke asserts to be intimately connected with all the sensory

ganglia of the medulla, and to be centres for receiving impressions from the special senses, and of co-ordinating the expressions of emotion and passion. In which case it is no longer difficult to conceive that a disturbance of the olivary body might influence, at one and the same time, the emotions, causing depression, and the gustatory nerve causing imaginary tastes experienced in the anterior part of the tongue, over which part alone its branches are distributed.

I trust I have said enough to establish the point that in some cases at least minute resemblances are useful in guiding us to the selection of the proper remedy, and if so, we must conclude that repertories are sometimes essential to successful practice, since it is impossible that any memory could grasp and retain such a multitude of minutæ. Taking then this point as proved, let me in as few words as possible define the true position of repertories in our practice. Those who admit the necessity for minute symptomatology are divided into two classes, viz. those who assert that such minuteness is always necessary, and even deny the name of homœopathy to any other style of practice, and those who consider it exceptionally necessary. Now, I do not hesitate to place myself among the latter class, and for the following reason.

. If minute symptomatology were always necessary, we should find two things, viz. 1st, an entire absence of brilliant speedy cures where it is neglected, and 2nd, a much more uniform success where it is carefully carried out. Practically, neither of these occurs. There are many brilliant and rapid cures produced by remedies, which, while they are distinctly homœopathic to the chief pathological process, do not correspond to the minute shades of differences noted in different cases. For example, the blighting of boils by *Silica* is quite independent of the accessory symptoms which may be found in each case. On the other hand, it repeatedly happens that the remedy selected most carefully according to minute symptomatology, removes the peculiar symptoms to which it so exactly corresponds, but leaves the patient in all other points entirely unchanged.

Of course I need hardly remind you that the advocates of the most rigid comparison of symptoms are obliged to content themselves with a perfect similarity in certain respects only, in fact, it is on this that the system of "Key-notes" and characteristics is founded; and I believe the reason why these carefully selected remedies do not cure, is in consequence of the complex nature of disease, the correspondence proving to be that with a branch, not with the root, and hence an elementary morbid state is blotted out, while the main disease continues.

As a consequence of these facts, it seems to me that the following rules might be laid down for the use of repertories, viz.—

1st. In cases of simple acute disease, where the symptoms characteristic of the pathological process are in no way modified by the peculiarities of the individual, repertories are unnecessary, as every practitioner should have a sufficient knowledge of the *Materia Medica* to enable him to decide upon the proper medicine in such cases.

For example, in a well-marked case of acute rheumatism, it will be seldom, if ever, necessary to consult a repertory, since the symptoms which characterise that disease are so clear and defined, that if there is nothing to obscure the diagnosis, there should be no difficulty in selecting the remedy, and it seems to me that to select a remedy for such a case, according to minute differential indications, would be to risk missing the mark in place of effecting a rapid cure.

2. In cases where a well-known disease does not run its usual course, or where its most characteristic symptoms are disguised or modified by unusual phenomena, I believe it will be much the safer plan to examine the case in its totality, and to ascertain all the minutest correspondences, by means of a repertory, than to follow the easier, but more slovenly plan of trying one remedy after another in the vain hope of arriving at the true specific.

For example, in this same disease, acute rheumatism, it is not uncommon to meet with cases materially modified by some peculiarity of the patient, and in such the careful

use of a good repertory is often crowned with signal success.

3. In cases where an important pathological process is going on and the integrity of the organ is in danger. It would be unwise to put aside a remedy well known to be homœopathic to the said process, because it did not correspond with some of the concomitants. For example, in acute glaucoma, formerly called arthritic ophthalmia, where unless the disease is checked the eyesight may be sacrificed, I should feel much more confidence in prescribing remedies known to act in a similar manner on the eyeball, than to select according to the exact nature, position, and condition of the ciliary neurosis, which always accompanies this disease.

4. In most chronic cases, especially such as consist of symptoms connected with many various organs, I believe it is safer and better to compare the case symptomatically by the aid of a repertory, than to speculate first upon which of the many lesions must be viewed as fundamental and then to treat such lesion by the remedy pathologically indicated.

It must never be forgotten that the repertory ought never to be the final court of appeal. We ought only to expect from it indications whereby we may ascertain what remedies merit a more especial examination, and unless our knowledge of the medicine pointed to is sufficiently precise, that we can perceive at once its applicability to the case in hand, we should refer to the *Materia Medica*, before making our final choice.

In conclusion, therefore, I would sum up my indications for applying minute symptomatology, or in other words for using repertories, in the following words :

1st. Repertories are unnecessary, and may be misleading if applied to simple well-marked cases where the nosological characteristics of the disease are marked, and the ordinary course of the disease undisturbed.

2nd. Repertories will be useful and may be invaluable in all cases where symptoms peculiar to the individual stamp their character on the malady itself or on its course.

3rd, and lastly, repertories will always be useful in obscure and complicated cases where no accurate pathological picture can be drawn of the patient's entire condition.

I feel that I have only broken ground on this most intricate field of investigation, but I trust I have said enough to encourage those who despise repertories to use them more frequently, and to warn those who depend upon them too exclusively of the danger they are in of missing their mark by the very excess of their endeavours to pierce the bull's eye.

Discussion on Dr. Madden's Paper.

MR. HUGH CAMERON.—As the successful practice of homœopathy demands a more intimate and ready knowledge of the *Materia Medica* than any memory, however good, can retain, repertories, to which we can refer in cases of doubt and difficulty, are essentially necessary for us. But these books should, like other dictionaries, be used merely as works of reference to refresh our memories, or correct mistakes. In this sense they are indispensable. I am convinced, however, that when, as is often the case, the homœopathic practitioner trusts to them as his guides and oracles, rejecting the teaching of pathology and etiology, and the lessons of common sense and observation of disease, they are most detrimental to the success of our system, and to its reception among the enlightened members of the profession. I have no hesitation in saying, from a long experience, that the slavish reliance upon these catalogues of symptoms, to the exclusion of all scientific reasoning on the indications of disease, which finds so many advocates amongst us, has been one of the most repulsive obstacles to a fair examination of our doctrine and practice on the part of our brethren of the other school. They are disgusted with a system which, throwing aside and ignoring the splendid achievements of medical science from remote antiquity, and reducing its practice to a mere catalogue of symptoms, selected at random on the caprice of the patient who recounts them, or of the doctor who registers them, puts the most ignorant pretender almost on a par with the most learned and experienced physician. I have seen in other countries some of our most eminent names slaves to this humiliating practice, and had early in life reason to regard it with aversion. I believe that he is the most successful homœopathic practitioner who can seize upon and group in their proper and natural order of importance, the principal and most prominent features of the disease, and can, from his knowledge of the *Materia Medica*, select those

medicines which, in their *general* properties and *most salient* symptoms, present the most close counterpart of these prominent features of the disease, without troubling himself with any hair-splitting distinctions, and with what are often but symptoms of symptoms, without any practical value whatever.

Dr. YELDHAM entirely concurred in Dr. Madden's views of the question under discussion. Repertories were doubtless sometimes useful in helping to the selection of a remedy. But he strongly deprecated the practice of attempting to treat cases entirely by their guidance. Nothing could be more subversive of true science than such a practice. It reduced the medical man to the position of a mere registrar of symptoms, which could be "worked out" in the pages of a repertory by young girls as readily as they worked the telegraph wires. The evil would, after all, to a great extent cure itself, for that the process of symptom-hunting was impracticable on a large scale was proved by the fact that it took a gentleman who, from his well-known devotion to repertories, might be called an expert in the art, close upon an hour to answer Dr. Drysdale's twelve simple test questions in the May number of the Review. These questions referred only to the bowels. How long would it take to work out the numerous symptoms of a complex case? He considered that repertories were generally much too complex—a simple regional arrangement of the symptoms from the *Materia Medica*, was all that was required—a careful study of the action of each medicine in its entirety on the system as was remarked by Mr. Cameron was the only safe basis of treatment.

Dr. DUDGEON said that, for the treatment of many well-known diseases, we seldom require to use a repertory. A study of the pathogenetic effects of medicines had shown the remedies useful in these diseases, and we prescribed them confidently. There were three kinds of repertories, one kind was an index of the *Materia Medica*, a second was a combined index of the *Materia Medica* and of the results of clinical experience. Both these were useful. But there was a third kind that seemed to have been evolved from the inner consciousness of the author that did not seem to him of any use. In the last category he would place Bönninghausen's *Sides of the Body*, which he had carefully examined, and was unable to find any agreement between it and the *Materia Medica*, or between it and the records of treatment. The great advantage of repertories was, that they saved time in the search for the appropriate medicines.

Mr. ENGALL said, in the pathogenesis of *Veratrum album* was the symptom, "She fancies herself pregnant." In one case, that of an old lady, he found this idea prevalent, which was removed by that medicine. The case was, however, incurable, and therefore no good resulted to the disease itself from the removal of this symptom. That so far confirmed the remark of Dr. Madden upon this head; it was dealing with the branch, not with the root. He

was glad to observe the change which had taken place: thirty years ago it was stated that if you gave a medicine, the symptoms of which covered the disease, cure would result. This we know is not always correct; he was glad to find that a surer basis was being established in pathology.

Dr. DRURY thought Dr. Madden had put the case very fairly. It was of importance that the value of repertories should be rightly estimated, and their proper use encouraged. Thus beginners should use them as the true guide to their *Materia Medica*. The attempt to learn homœopathy without the repertory was a grievous error. For many years he had been accustomed to carry Bryant's repertory in his pocket, which he used as a sort of index to *Jahr*. Having got his leading symptoms, he then ran his eye over the medicines to see how far they corresponded in their general features to the case he had in hand. As knowledge of the *Materia Medica* increased, the need of referring to the repertory would become less, but still cases would occur where we ought very thankfully and carefully to avail ourselves of their invaluable help. Thus when a new symptom presented itself, or where a choice lay between two or three medicines, the repertory would often decide the point at once for us; or, in obscure cases, a careful examination of all the symptoms would gradually restrict our choice of a medicine, so that at last we might feel that we had arrived at a selection, if not with mathematical precision, at least with an approximation to it, and we would have the satisfaction of knowing that no want of care on our part could be complained of. He had seen a case examined by the aid of repertories for about two hours, and the time was not wasted, for the brilliant result obtained in an anxious and difficult case fully compensated for the time given. There was, however, a danger, and he feared a growing one, from the use of repertories; he alluded to the practice of choosing a medicine from some solitary and strange symptom. One symptom might be our guide if there was a general correspondence in the others, but where one alone was depended on because it was peculiar, a fatal error might at times result by depending on it without reference to the others. Mr. Engall had alluded to a symptom found under *Veratrum*—fancying herself pregnant; as this was by no means uncommon amongst women, the symptom would be useless unless it was one indicating a disordered mental state, so that in the case of a man labouring under the delusion and fancying himself pregnant, for such a thing had happened, this medicine might be of use. Some years ago one volume of a repertory containing head symptoms was published; this valuable volume was prepared by Dr. Dudgeon, and it was greatly to be regretted that a succession of volumes had not come out, completing the work in the same masterly and careful manner in which it had been begun. From what Dr. Madden said of the repertory now coming out, it was evident that there was much that was good in it, but it was

greatly to be regretted that its working required such a complicated system.

Dr. HALE looked upon repertories as necessary evils, but nevertheless necessary especially to beginners. They were, however, only guides to the *Materia Medica*, and every now and then are great helps in selecting the proper medicine. When the conditions under which symptoms occur, or when concomitant symptoms are useful guides in selecting a remedy, or when some peculiar or unusual symptoms are present, repertories save time in finding the medicine. The more we advance in the knowledge of the correlation of the pathological conditions of organs and the pathogenetic effects of drugs, the less will repertories be needed. Dr. Hale would wish to warn beginners against that mechanical method which an abuse of repertories leads to. There is, however, quite as objectionable a mode of practice, and a mode that is even now becoming too prevalent, namely, prescribing a medicine merely from its having some supposed relation to an organ, without that careful study of the symptoms which homœopathy demands. In the treatment of disease, we should study all the symptoms of a case subjective and objective, making use of all the other aids to diagnosis which modern science enables us to utilise. In the mean time let us hope before long some repertory on a scientific basis may be forthcoming.

Dr. MADDEN, in replying, said he was glad to find such a uniformity among those present as to the proper use of repertories. He thought the distinction he had made as to the kind of cases was important, viz., that where the symptoms of an individual case were all those *characteristic of the disease*, repertories ought not to be necessary. Where, however, the symptoms of a case were peculiar and *characteristic of the patient*, a repertory would often prove valuable. In reply to what Dr. Hale said of the manifest absurdity of some symptoms, and of the instance he quoted from *Calcarea*, viz., "Cough is always excited by playing the piano," *Chr. Kr.* iii. Sy. 1031, he had had two cases which presented this symptom, and were cured by this remedy. Moreover, there was no difficulty in explaining the rationale of the symptom, as the patient remarked that when playing every note she struck seemed to vibrate in her larynx and excited the cough. Another case again having the same symptom traced it to the lateral movement of the arms, as she could induce the cough by the same movements without striking the notes. This is interesting, as it might have easily happened, seeing the exciting cause was so entirely different in two cases, that one might have yielded to *Calcarea* and not the other. So that, after all, this very refined symptom is not refined enough for attaining to the truest similimum.

AN ACCOUNT OF FIFTY CASES OF DIPHTHERIA.

By Dr. RICHARD HUGHES.

(Read before the British Homœopathic Society.)

I HAVE spoken roughly of having "Fifty Cases of Diphtheria" of which to give an account this evening. The exact number is forty-seven. They are all the cases of the disease which have come under my treatment since I began to practise homœopathically. I could have greatly swelled the list had I included therein every instance in which I have treated a patient for a membranous sore throat. But to such cases I have given no place in my series, even under the heading of "Simple Diphtheria," unless they were identified with the genuine specific disease by one or more of these characteristics. Either they were accompanied with swelling of the external glands, or by the peculiar fever I shall subsequently describe; or they were succeeded by paralysis of the velum palati or other parts; or they originated from contagion from cases thus characterised, or exposure to the same influences. Thus, Case 16 was simple enough, though obstinate; but the child was ill with it in the same house and room with his sister, who died of the disease in its most malignant form.

I will now give a brief sketch of the forty-seven cases in their chronological order.

My earliest experiences of the disease, in the year 1861, were sufficiently disastrous. The first case I saw (Case 1) was of the croupal form, in a little boy of five. I was called up to him at seven one morning, his symptoms of illness for a day or two having been too slight to lead the parents to seek medical aid. He was already livid with laryngeal obstruction, and the throat was full of false membrane. *Iodine* inhalation was assiduously practised, and *Belladonna* 1, and *Biniodide of Mercury* 1, given in rapid alternation; but by 2 p.m. he was dead. Then I was treating a girl of

ten for long-standing obscure, but serious symptoms supervening upon a fright. Simultaneously there appeared in this case (Case 2) diminution, which went on to suppression, of the urine, and an acrid nasal discharge. *Arsenicum* (in the form of the *Liquor arsenicalis*) was the medicine prescribed, but it effected nothing. The throat became covered with a dark and foetid deposit, and she died of blood-poisoning within five days of the appearance of the discharge from the nose. Thirdly, a cousin of the same age, and living in the same house with her, began to manifest the dreaded symptoms a day or two before her companion's death (Case 3). In this case I had the advantage of Dr. Madden's co-operation throughout. We gave *Kali bichromicum* 1 as medicine, and free nutrients and stimulants; also we applied to the throat, first *Liquor sodæ chlorinatae* and then *Muriatic acid* twice daily. But we did no good, and the poor girl followed her cousin to the grave after six days' illness.

These painful experiences led me to consider very thoroughly the nature and treatment of the disease, and the first case I met with in 1862 (Case 4) rewarded me with better success. The patient was a child of five. The symptoms were well marked, including the coryza and great swelling of the glands. The medicines given were *Muriatic acid* 1^x alternately with *Biniodide of mercury* 3^x; nutrients were freely administered, but no stimulants, nor was any local application used to the throat. The child was very ill for a time, but made a good recovery. The next case I saw was a very similar one (Case 5), and the same treatment led to the same good results. Then I had two simple cases (Cases 6 and 7), which soon got well under *Belladonna* and the *Biniodide*, but in the latter of the two paralysis of the velum palati followed, disappearing under *Ferrum*. I ended this year with better hope for my future treatment of the disease.

The hope was well sustained for the first eleven months of 1863. I began the year with two tolerably severe cases. Both were unduly protracted by the unwillingness of the children to take food. *Belladonna* and the *Biniodide* were the medicines, and the general treatment as in the patients

of the previous year. One of the two (Case 8) had as sequelæ paralysis of the velum and squinting; the former yielded to *Ignatia* ϕ , the latter to *Belladonna* 3^r. The other child (Case 9) alarmed us one morning by what were, to all appearances, croupal symptoms, but they vanished in a few hours under repeated doses of *Kali bichromicum* 1. Then followed five simple cases. The first (Case 10) recovered easily under *Belladonna* 1 and *Mercurius* 3^r, but a little boy staying in the same house with him went home and had the disease very severely. The remaining four were girls of from 8 to 12, two pairs of sisters, at a school. One of them (Case 11) behaved in a curious way under the medicines. *Belladonna* 1 was begun on December 5th, and on the 7th the deposit had disappeared. But on the 8th, while still continuing to take the *Belladonna*, it returned. *Iodide of mercury* 1 was substituted, and the 10th again found it gone. For some reason which I have not noted I now gave *Kali bichromicum* 3^r, and on the 12th the irrepressible false membrane had reoccupied its former situation. This time I gave the *Biniodide* as before, and continued it for some days, during which the throat became clear, and finally remained so. The other girls (Cases 12, 13, and 14) had *Biniodide of mercury* or *Belladonna* according as the symptoms were inflammatory or not, and recovered readily. One case only (Case 15) occurred to mar the satisfaction of this year. But the child had been ill for months; was prostrated from the first, and refused all nourishment. Even medicine she would not be induced to swallow after a day or two, and I could but sprinkle some of the trituration (1st) of *Iodide of mercury* within her lips. The fœtor was great. She died in a week.

The year 1866, however, gave me new evidence of the malignant power of this terrible disease. Of the eleven cases treated in it three were simple (Cases 16, 17, and 18),—they had *Belladonna* and *Iodide of mercury*; and three were severe. Of the latter, one yielded very readily to *Belladonna* 1 (Case 19). Another (Case 20), though the deposit was very fetid, soon improved under *Belladonna* 1 and *Bromine* 3^r; the latter medicine was given on account of a suspicious

hoarseness which supervened, and which it entirely removed. General paralytic symptoms appeared as a sequela, but yielded to *Ignatia* ϕ . The third case (in a young woman) was severe and protracted (Case 21), but got well under *Belladonna* and the *Biniodide*. So far so good; but the remaining five all died. One (Case 22) was sister to the children numbered as 8, 16, 20, in this series; so that four in one family had it at three different times. Her symptoms were those of blood-poisoning. Dr. Hilbers kindly assisted me with his advice in this case, and—*Iodide of mercury* and *Muriatic acid* having proved useless—we gave *Arsenicum* 3 \times and *Bromine* 1, but without result. Then came two cases of the croupal form, again in children of the same family. The illness of the one (Case 23) began on the evening of March 29th. I saw him on the morning of the 30th, and gave him *Kali bichromicum* 3 \times , gtt. v omni horâ. Next morning, finding him worse instead of better, I gave *Iodine* after the same manner, and ordered its inhalation also; but he died asphyxiated at 2 p.m. About a fortnight after, his sister, æt. 7 (Case 24), had simple sub-acute tonsillitis, which subsided. But then she became hoarse, and on May 1st the fatal deposit was seen in the throat, continuous with that which had evidently preceded it in the larynx. Dr. Kidd came down to see this case with me. We moved her from the house in which both children had contracted the disease, and gave her *Iodine* 1 \times alternately with *Bromine* 1, internally and by inhalation. Dr. Kidd was with us again on the 5th, to find, alas! no improvement. I do not think that either of us can readily forget that night. We watched the advancing suffocation, doing all in our power to avert it. We neglected nothing that homœopathy or allopathy could furnish, and, as a last resource, we opened the windpipe. I think it released her from her sufferings a few hours earlier than would otherwise have been.

The year ended with the death of two children under two years of age from the disease. One I only saw the day before its death (Case 25). The other, an infant at the breast (Case 26), had apparently contracted the disease from its mother, who told me she had had "a bad throat."

Neither was ill more than three days. They were dispensary patients.

1865 brought no abatement of the dread with which I had now learnt to regard the severer forms of diphtheria. My first case (Case 27) was a beautiful girl of twelve, the hope of a noble family. The deposit crept on very insidiously, with a good deal of angina, and no sign of malignity, for eight days, unaffected by *Belladonna* or the *Iodides of Mercury*. It then took a fresh start, as it were, lower down in the pharynx. At this point I had the advantage of the co-operation of Dr. Walcot, of Blackpool, who came to stay at the house. We gave *China* and *Nitric acid* for twenty-four hours; but on the morning of the tenth day the dreaded croupal symptoms had appeared. *Bromine* 1 internally and by inhalation was assiduously given; but I only arrived on the eleventh morning to find her dying in the agonies of strangling. Then came the three cases which I reported in the *Monthly Homœopathic Review* (April, 1866), as illustrating the action of *Phytolacca*. The first (Case 28) was a young woman of nineteen. She had been ill four days before I saw her, under allopathic treatment; her brother was lying dead in the house of the same disease, and she had nursed him. *Phytolacca* effected a decided temporary improvement, but the symptoms returned, and she died within three days of my seeing her. Then came a case (Case 29) with slighter local symptoms, but accompanied (as I had never seen them before) with much general fever, and aching of back and limbs. *Belladonna* 1 relieved the system, but the deposit increased. *Phytolacca* ϕ was substituted, with immediate effect, and in two days all disease was gone. Somewhat encouraged, I gave the new medicine a fair trial in my next case (Case 30), a child of eight years. But five days' steady use of the 1st dec. dilution effected no improvement, and vomiting had become a troublesome symptom. *Kreasote* 2 and *Muriatic acid* 1 were now given in alternation; but next morning the tongue, with the deposit itself, was black, and she died at noon. Intermediate to these three cases was another (Case 31), in which the symptoms were threatening

at first, there being three large patches on the tonsils, foetid breath, and swollen glands, but she improved under *Belladonna* 1. A hoarse cough which supervened was untouched by *Kali bichromicum* 6, but yielded rapidly to *Spongia* 3^r. In this instance, as in Cases 29 and 20, the improvement was coincident with removal from the house where the disease had been contracted; but in Cases 30 and 24 the same measure was adopted without benefit.—Five simple cases, and one of the croupous form, closed the year. Of the simple ones, one had much general illness (Case 32), two, swelling of the external glands (Cases 33 and 34), the fourth, subsequent paralysis of the velum (Case 35), and the fifth (Case 36), a long-continued hoarse cough, which resisted several medicines, but at last gave way under *Bromine* 3^r. All had *Belladonna* 1 throughout. The croupal case (Case 37) had had swelling of the external glands for five days before I saw him. He had then but one patch of deposit. *Belladonna* 1 was given every two hours; but next morning I found his voice gone and his lips livid, and he was dead before night. The patient was a little boy of three.

Since 1865 diphtheria has been less general in Brighton; and I have only had a case now and then. In 1866 there were two simple cases in one family (Cases 38 and 39), which we afterwards traced to the communication of the cistern with a drain. *Belladonna* was all they needed. A third case (Case 40) revived my interest in *Phytolacca*. The febrile symptoms were as in Case 29, but severer. The throat was little inflamed, but a patch of false membrane was there. I had given *Aconite*, with *Phytolacca* gargle, but the malady was gaining strength. I now ordered the gargle to be taken by tablespoonfuls internally. An almost immediate change took place; the febrile symptoms vanished, and convalescence was rapid.

I accordingly gave *Phytolacca* a fair trial in the first case of 1867 (Case 41). *Belladonna* for two days had done no good; but on commencing *Phytolacca* ϕ , two drops every two hours, and changing his residence, the pulse fell, and the deposit cleared from the throat. But then nasal

discharge set in and increased. The *Permanganate of Potash* was now given as medicine, on the strength of the lately-published proving. It may have done some good, but an unfortunate complication marred all our efforts. Paralysis of the velum occurred, and allowed fluids to return through the nose. The tender mucous membrane, thus irritated, broke out in hæmorrhage, and the poor little fellow sank exhausted. The only other case of this year (Case 42) closely resembled Case 40. High febrile symptoms existed which had not yielded to *Aconite*. An inspection of the throat discovered a greyish-white patch on the tonsil. *Phytolacca* 1^r was given with immediate effect.

The sole case of 1868 (Case 43) was of similar character. It was treated at a distance, by letter and telegraph. *Belladonna* (which had proved specific in the family for diphtheritic sore throat) was being given, but was evidently failing to arrest the disease. I sent *Phytolacca* ϕ , which soon made a change for the better, and effected a cure.

In 1869 I had two cases. One (Case 44) was of diphtheritic symptoms occurring in scarlatina. The phenomena were very similar to those of Dr. MacLimont's case reported in vol. xxi of the *Brit. Journ. of Hom.*, p. 109: and my internal treatment was almost the same, viz. the deposit on the tongue every hour or two of a grain of the 3rd dec. trituration of *Biniotide of Mercury*. The fœtor of the breath disappeared within twenty-four hours: and all diphtheritic symptoms soon cleared away. The other case of this year (Case 45) was a young child of a colleague. The deposit was at no time extensive, but it became very fœtid towards the end, and nasal discharge was early and profuse. The prominent symptom, however, was prostration; the heart was obviously enfeebled by the poison, and free stimulation became necessary. There was great difficulty in getting the poor child to take anything. For medicine we gave a full trial to Dr. Neidhard's *Chloride of Lime*; but I observed no result from its action. Later, *Digitalis* was administered. Death ensued, as if from cardiac paralysis, within a week from the commencement of the illness.

In the present year also two cases have come under my care:—both in boys at school. The first (Case 46) seemed nothing more than an unusually obstinate membranous sore throat. No medicine seemed to touch it. It yielded to *Belladonna* at first, but recurred in spite of it: and then *Apis*, *Biniodide of Mercury*, *Phytolacca*, and *Baryta* were given with little or no effect. No diphtheritic symptoms were present: but a week or two afterwards he had more or less paralysis, first of the velum, then of the muscles of accommodation of vision, then of all the limbs,—the latter accompanied with anæsthesia. *Gelseminum*, *Curare*, and *Arsenicum* were given in succession; and he is now quite well. In the second case also (Case 47) the angina, which involved one tonsil only, was subdued by *Belladonna* at the first; but returned on the opposite side, where the tonsil swelled so considerably as to threaten quinsy. He took *Baryta carbonica* 6, and the gland diminished in volume: but, as it did so, I detected a white deposit emerging from behind, and, with it, a well-known odour assailed my nostrils. I found I had diphtheria to deal with: and at once commenced the administration of *Apis*, a remedy to which my attention had recently been directed from several quarters. I gave a drop of the 3rd dec. dilution every two hours. This was on the Friday morning. Up to Saturday evening the symptoms had increased,—the glands enlarging, the deposit spreading, and the fœtor so great that I could detect it a yard or more from the closed door of the patient's room. This was in spite of the use of Condry's fluid, both about the room and as a gargle and wash for the mouth. The medicine was given every hour, and wine administered. The symptoms were stationary on Sunday; had begun to decrease on Monday; by Wednesday the throat was nearly clear; on Friday he went out walking; and on the second Sunday I took my leave, and sent him home to his friends. I never saw so severe a case make so rapid a recovery: and I was much impressed with the action of the medicine.

I have now told my story: and have but to draw its conclusions. These are such as I have expressed in the

section on Diphtheria of my *Manual of Therapeutics*: that is briefly:—

1st. That the mercurial preparations have not commended themselves to me, except where diphtheria complicates scarlatina, nor do I think them truly related to the diphtheritic process.

2nd. That *Belladonna* is so frequently the specific remedy, even in severe cases, that the treatment may almost always be commenced with it; but that unless decided improvement has resulted within forty-eight hours of commencing its use, or if the symptoms, yielding at first, should recur, it should be discontinued.

3rd. That *Phytolacca* is incompetent to cope with the malignant form of the disease, but is specific where high fever, with aching in head, back, and limbs, is present.

4th. That our only remedy where blood-poisoning is prominent is *Muriatic acid*, and this by no means a potent one. That our most hopeful outlook here is in the direction of such anti-septics as *Permanganate of Potash* and *Chloride of Lime*.

5th. That the croupal form of Diphtheria has yet to find its effectual remedy. That if the ordinary laryngeal medicines be given—as *Iodine*, *Bromine*, *Kali bichromicum*—they should be alternated with others suitable to the general malady.

6th. That local applications are useful only to prevent secondary infection of the system from the throat deposit.

The only addition I would make from my scanty recent experience relates to *Apis*. “One swallow does not make a summer;” and I would not make too much of the one case in which I have used it. But there is something about the working of an homœopathic remedy, when it is acting specifically, which is unmistakable: and I think I saw with *Apis* what I have only seen hitherto with *Belladonna* and *Phytolacca* in diphtheria. It comes to us highly recommended from Holland, France, and Germany.* It commends itself to the principle of similarity when we

* See pp. 613 and 775 of the present volume.

think how it is an animal poison (as the probable origin of Diphtheria makes it likely that its virus also is), and remember its striking elective affinity for the throat. I have good hope that in those higher grades of throat affection which *Belladonna* and *Phytolacca* do not reach, we shall find it a remedy to be depended upon. It may also check the progress of blood-poisoning; but I fear it cannot follow up the deposit when it invades the larynx.

I now leave these remarks in your hands, trusting that they may elicit from my colleagues many experiences which must be far more extensive and instructive than mine.

Discussion on Dr. R. Hughes' paper.

Dr. NEWTON.—Diphtheria is a disease of which I have seen much at home and abroad, at sea and on land, in the metropolis and in rural districts, and I know none more treacherous or terrible. Though I claim for homœopathy a success far greater than that achieved by allopathy, yet at times the carefully selected and diligently applied homœopathic remedies fail to aid us just when we want them, and either a fatal result or dangerous sequelæ ensue. As I have embodied my experience of diphtheria in a paper published in the July number of the *Monthly Homœopathic Review* for this year, I will merely sketch an outline of my treatment. 1. *Merc. iod.*, which I use in the 3rd decimal trituration, is useful where there is a limited feebly organized deposit, with hepatic and alimentary derangement. 2: *Kali bichr.* (also used in 3rd trituration) is indicated where there is an extensive, fully-developed membrane with laryngeal and tracheal complications. Its internal use I supplement with it in form of a gargle, gr. v of 1st to ʒviiij of water. 3. *Ars. iod.* 3rd, if symptoms of putrescence. From *Chloride of Lime*, however, I have obtained best results, but unfortunately have mislaid my cases. I gave it internally in five drop-doses every two or three hours and painted it on the membranes. It is best applied by means of the spray. A nice gargle is composed of *Bromine* ʒ gtt. ij, *Glycerine* ʒij and *Aquæ* ʒij. If sopor come on the urine should be examined, and if uræmia is present *Am. carb.* or *Colchicum* in rapidly given doses may avert a fatal result; if with the sopor there are no indications of uræmia, *Atropia sulph.* or *Bell.* is required. If sudden prostration set in (a very likely occurrence), I should give *Am. carb.* 1st, or *Sal volatile*; and, indeed, all patients with diphtheria should have one or the other in the room, so that it may be immediately available. Iced stimulants (and more especially champagne) remove the severe vomiting. If sudden

deadly fainting feeling come on, I give *Cantharis* 3, two drops as required, or a low dilution of *China*. If the lungs are seriously affected, all other remedies should be discontinued, and *Ant. tart.* 2^r given every half hour, either alone or in alternation with *Phosph.* 3 or 6, or *Arsenicum* 3^r. When the symptoms point to mechanical obstructions in the larynx or trachea threatening suffocation, gr. v of *Pulv. ipec.* may be given every five minutes till vomiting as a *dernier ressort*. If this fail, tracheotomy will substitute a painless mode of dying for a painful one—asthenia for asphyxia. In all cases of diphtheria I would insist, if possible, on change of residence, also on nutrient enemata, perfect quietude in the recumbent position and disinfection of the air by allowing crystals of *Iodine* to evaporate in the room. *Phytolacca* is, in my opinion, perfectly worthless in cases of true stinking diphtheria. Patients like it as a gargle, it cleans the tongue and improves the appetite in mild cases, but in severe ones ought never to be depended upon. As sequelæ we have—1. Anæmia, best met with *Saccharine Carbonate of Iron* 1. 2. Amaurotic symptoms which are cured by *Gelsemium* ʒ. 3. Paralysis soon yields to *Nux vom.* ʒ or 3^r or ʒ in fractional doses; perhaps galvanism may sometimes be required. 4. Albuminuria requires and is soon cured by *Merc. corros.* 5. Cardiac complications are usually those of dilatation, and succumb to *Digitalis*. 6. Dryness of the throat is often very persistent; I cured one case with *Alumin.* ʒ. 7. Diarrhœa, if only bilious, is controlled by *Merc. iod.*, but if putrid diarrhœa or dysenteric symptoms follow, *Arsenicum* or *Arsen. iod.* will be required. I cannot but express, in conclusion, my great obligation to Dr. Hughes for his most excellent paper.

Dr. DRURY had listened with interest to the paper Dr. Hughes had read, and which had one feature differing from most papers with which the society was favoured, for which Dr. Hughes was most justly entitled to the thanks of the society. He alluded to the fair statement of deaths and recoveries. Far more was to be learned from such a paper than from one which gives only a list of brilliantly successful cases, leaving it to the imagination to fill up the reverse of the picture. But in Dr. Hughes' paper all was faithfully recorded. Some years had passed since we heard of a complaint called the Boulogne sore throat, which proved to be of the same nature as that described by Bretonneau some years earlier. It was not long before we began to see cases of this disease. Some unmistakable, others having what ought to be called a diphtheric tendency. The first case he saw was peculiar, there was a cheesy-looking deposit over the tongue and throat; though this was not what might be called true diphtheria, he believed it was of an allied character; the patient recovered. Another child in the house died of a sort of secondary fever; scarlet fever having appeared in the house a little puny child appeared on the verge of death, but was apparently saved by removal to Hampstead from Brompton, though it was very doubtful if he would live to

reach Hampstead. As several years had passed since then he could not fill up the details of these cases. As the disease spread rapidly distinct cases of diphtheria appeared, and cases of various degrees of severity showed themselves in different families. Thus he had seen a child who had only felt slight sore throat, in a house where there was diphtheria, attacked with distorted vision and inability to read, which yielded to *Hyoscyamus*. He had observed two forms of deposit in the throat, one where the deposit appeared to be beneath the mucous membrane, the other where it looked more as if it was laid on it. Whether others had noticed this he could not say, but when diphtheria was prevalent he was most afraid of these cases where the deposit appeared, if under the mucous membrane. The foetor of the breath, though a very common symptom, was not always perceptible, and the participation of glandular involvement varied in amount. Laryngeal complication he had not often met with. A little patient of his in the hospital that came in in an advanced stage of the disease, obtained great mitigation of its sufferings by tracheotomy, which was very judiciously performed by Dr. Mair. In a case which he saw in consultation he proposed tracheotomy, but the relatives objected unless he could promise that it would save the child's life; this he, of course, could not do, so the disease was allowed to take its course, death ensuing in two or three hours. These were the only cases that he had seen in which he considered tracheotomy desirable, death ensuing in other cases from causes that could not have been influenced by the operation. As regarded treatment, he had no experience of *Apis* or *Phytolacca*, which had been recommended by some and condemned by others. He once used a local application, but from the distress it caused and its utter uselessness, he had never repeated it. Having had to stop some hours in the room with this child, the breath being intolerably offensive, he had caught the disease, and was treated by Dr. D. Wilson chiefly with *Hepar* 200. The fourth day of taking it, he was salivated profusely for some hours. Since then he had used *Hepar* in lower dilutions with very great success. He had seen a large number of recoveries under its use; he had also seen some deaths, but in these cases he had not had the opportunity of giving *Hepar* till late in the disease. When he saw the patient, when there was only swelling of the tonsils and threatening deposit, he gave *Baryta*, but as soon as ever the deposit began to increase he gave *Hepar* every hour, he had seen the deposit disappear, reform and again disappear under its use. Until he saw some remedy that offered a better prospect of success, he should very thankfully persevere with *Hepar*, of which he had a satisfactory experience.

Dr. KIDD felt much indebted to Dr. Hughes for his admirable paper, so truly an example to all to give the full experience of all cases, unsuccessful as well as successful. In diphtheria it is important to apply our remedies to the surface and structures

through which the disease has entered, and through which the blood-poisoning occurs. The ratio of danger to life can often be estimated by the amount of glandular engorgement and inflammation at the back of the pharynx. In all bad cases of diphtheria it is important to give the remedies, such as *Chlorate of Potash*, in trituration on the tongue. *Sugar of Milk* in trituration is often distasteful, and in such cases he generally ordered triturations made with white loaf sugar. In severe cases he had obtained very little help from the *Biniodide of Mercury*; he had found *Iodine* the most useful medicine of all, and in the really bad cases it is our sheet-anchor. He used it in three ways, viz., by inhalation from hot water, 10 or 15 drops of the mother tincture in a small jug of water at about 150 degrees (not boiling), inhaled for three or four minutes, and repeated every half hour to every hour. Also *Iodine* occasionally as a gargle, 20 drops of the mother tincture, mixed with 4 ounces of water. And thirdly, *Iodine* 1st decimal, 5 drops on a little white or moist sugar swallowed every hour. Next to *Iodine* he had found most benefit from *Muriatic acid* 1st dec. 5 drops in a dessert-spoonful of water every hour or two. The use of nutritive injections was an extraordinary help. The child with diphtheria obstinately refuses to take nourishment by the mouth, and to force it exhausts the strength, therefore we have to fall back, giving it by the rectum; to do this a three-ounce india-rubber injection bag with a soft gum-elastic tube four or five inches long should be used, and each injection should be composed of about a tea-spoonful of Pepsine wine, two ounces of the strongest beef tea, or of the liquid essence of beef prepared by Gillon, of Leith, a tea-spoonful of brandy, or of port wine, and the yolk of an egg. This should be repeated regularly every two hours night and day, and if used skilfully it causes no pain, and can be done almost without the child's knowledge; the little patient lying on the side and its attention being engaged by the mother, the doctor can show the nurse how to use the injection almost unknown to the child; but from first to last it should be kept up every two hours, at least ten or twelve times in the twenty-four hours. In this disease also let us cast aside all ideas of inflammation; steam does nothing but mischief, cool fresh air does nothing but good. It is best to treat diphtheria with the windows open, whereas croup (the inflammatory disease) requires warmth, moisture, and the windows shut. The best disinfectant for diphtheria he had found to be pure crude *Iodine*, about an ounce of it kept upon a saucer in the room; this is far better than either *Chlorine* or *Carbolic acid*, and becomes, in fact, a mode of insensible inhalation for the patient. Whilst he had found *Iodine* the most useful medicine, *Bromine* had signally failed in his hands, though tried most carefully in every way. *Chlorate of Potash* might prove very useful in trituration, given on the tongue and constantly repeated.

Dr. BAYES thought that, perhaps, scarcely sufficient allowance

had been made by those who had criticised Dr. Hughes's most interesting paper, for the great difference of severity in different epidemics of diphtheria, and for the great differences existing in individual cases. While some epidemics of diphtheria are mild, others are of unusual severity; while one whole series of cases is slight and mild, and all recover, another series may all belong to the most malignant type, and a large majority of these may be almost necessarily fatal from the commencement. His own experience has resulted hitherto in the loss only of two cases, and in both these cases the larynx and trachea were attacked by the disease from the first. Hot-water pads had proved of great comfort and service in the cases with which he had met. We must always remember in this disease that it is one in which the tendency to disorganisation of nervous centres with paralysis was very great, and in some cases the impression on these centres strikes down the patient suddenly and renders it a hopeless case from the beginning. Hence disinfection seemed to him (Dr. Bayes) to be altogether secondary to the sustaining of the vital powers of the patient by food, stimulants, and fresh air. The value he sets on *Phytolacca* ϕ is chiefly that it gives tone to the great sympathetic system, and enables patients to take food who otherwise would be unable to do so. The localities in which diphtheria has proved most fatal have been those characterised by an excess of ozone—Boulogne, Brighton, the sea-coast of Norfolk and Lincolnshire, are examples. No doubt where endemic influences of an unhealthy character prevail the disease is most fatal, because the epidemic meets with patients already lowered by the evil; endemic influences and the epidemic grafted on the endemic grows with fearful rapidity. In all these cases his experience leads him to give abundant, free, and fresh air to the patient, rather than to load the air with vapours supposed to be disinfectant. By all means disinfect the air around the room, so that the disease may not spread, but keep the air which the patient respire as pure and as fresh as possible.

Mr. ENGALL said that the first case he saw was soon after the first invasion of the disease; he prescribed *Biniodide of Mercury* $\frac{1}{10}$, his attention having been directed to it by some remarks made in the *British Journal of Homœopathy* by the late Dr. Russell, showing its very prompt action on the blood,—one point of the greatest importance in treating these cases. The homœopathicity of the drug he also considered well shown by the action of *Iodine* and *Mercury* upon the healthy. Having a consultation the same morning with Dr. Dudgeon, the latter very kindly paid the second visit with him and confirmed the diagnosis, but advised a higher trit. of the medicine to be used, and the 2nd was employed; the diphtheric deposit in the fauces passed away, but the trachea became affected, and the poor child's life terminated in croup. The second case occurred shortly afterwards; it was in a

little girl of very weakly habit, whose parents had been treating her for some days for sore throat; in this instance *Hepar sulph.* and *Arsen.* were tried, but in a few days the child fell a victim to the disease. Under these circumstances he determined to recur to the use of *Biniodide of Mercury*, and has continued to use it ever since with one exception. This was in the case of a child of three years of age. As she got worse Dr. Dudgeon was consulted, who advised *Bryonia* because Dr. Curie (the younger) had been making experiments on the action of *Bryonia* upon rabbits, and found that it produced an exudation or false membrane in the air-passages. This was tried, but the case ended fatally. On making an incision into the trachea after death a false tube was withdrawn. From this time his rule was to use the *Biniodide of Mercury*, and in his hands it had been almost uniformly successful. He supposed that in his general practice he had met with the average number of such cases; he, therefore, thought that his success was due to the medicine employed, and hence he could not join in the condemnation which some of the former speakers had given to this medicine. Perhaps it was that they had not used it in the right strength; he was of opinion that it was useless to give it in any higher trituration than the 1st; his practice was to give as much as would lie on the end of a teaspoon—(Dr. MADDEN, "Which end?")—the small end—every two or three hours. He thought, also, that the cases which were called "diphtheritic" differed, and that to this might be attributed the difference of opinion in regard to this remedy. The cases in which he used it were those where there was a deposit like chamois-leather on the parts, which by some was supposed to be a vegetative fungus; Dr. Harley, however, had shown that this was not so, but that a fungus formed upon the false membrane, for he had seen one grow upon it after its removal from the fauces. Mr. Engall considered the presence of this membrane of great importance as an index of the progress of the case. Under the *Biniod. of Merc.* it ceased spreading and gradually melted away, or lost its attachment and was expelled, leaving no ulcerated surface but a reddened one at the part where it had been attached. He therefore thought it wrong to remove the deposit by the use of caustics.

Dr. DRYSDALE thought the Society were fortunate in having such an excellent paper read before them. He agreed generally with the purport of it and what had been said by preceding speakers, and could only add that from an early period of the appearance of the disease among us he had entirely lost faith in *Mercury* in true diphtheria. He thought that *Sanguinaria* should be kept in view where the nostrils were affected. He was surprised that more stress had not been laid on *Cantharides*, which, in his opinion, has been one of the chief remedies ever since the similarity of its sphere of action was pointed out by Dr. Black. One of the most satisfactory cases he ever had of true malignant

diphtheria recovered under *Cantharides*, with occasional doses of *Phosphorus*. *Apis* and *Crotalus* also promise much, though he has not yet had the opportunity of testing them fully. He agreed with Dr. Drury that *Hepar* should not have been left out from the important remedies.

Mr. A. C. CLIFTON said he had only seen two cases of diphtheria far advanced before called to them, and both died; but from what he had seen of the action of *Elaps corallina* on the throat and air-passages he should give that medicine a fair trial in any case. That he also agreed with Dr. Kidd in recommending hot, dry air instead of moist, but had no faith in *Iodine*.

ON THE RULE OF DOSE.

By Dr. YELDHAM.

(Read before the British Homœopathic Society.)

SOME few years since I attended a lady suffering from simple, uncomplicated, but most acute gastralgia. The case resisted all my efforts to relieve it. Amongst a variety of medicines I gave what I considered a fair trial to *Bismuth*—this, like all the others, failed; she could take no food without the agonizing pain in the stomach. Fairly baffled, I advised a consultation, and my then colleague, Dr. Russell, was called in. He suggested the use of *Kali bichromicum*, which afforded temporary relief; but the pains returning with even intensified violence, and my patient despairing of homœopathy, she sought the advice of the late Dr. Jeaffreson, who prescribed fifteen grain doses of the *Nitrate of Bismuth*. In three days the pains ceased entirely, and have never recurred. A result so striking naturally made a great impression on my mind. Here was a case, concerning the nature of which there was no difference of opinion between allopath and homœopath, and concerning the remedy for which we equally agreed—we both prescribed *Bismuth*. Why then did he succeed where I failed? There was but one answer,—he gave fifteen grains of the medicine, whilst I gave only half a grain. Was it, then, I asked myself, a necessary and unavoidable condition of my being a homœopath that I

must be placed at this disadvantage, and that simply in the matter of dose? It was hard, if true, but I could not believe it to be true. I could not persuade myself that the homœopathic law, so simple, so beautiful, so true in all other respects, would prove false here. Failing to discover a satisfactory solution of the difficulty in the current theories and explanations of the homœopathic dose, I determined to consult the homœopathic law itself, and endeavour to elicit from it, what its actual requirements were on this subject.

The following is the train of thought which the inquiry suggested, and the conclusion to which it led.

The well-known poetic phrase, that "order is Heaven's first law," expresses a physical as well as a moral truth. No one accustomed to observe and reflect can fail to have noticed the admirable harmony which pervades the operations of all natural laws. Even when seemingly most opposed to each other, these laws, in their effects, prove themselves to be but the nice adjustment of different powers, tending to one harmonious end. And not only so, not only do order and harmony reign supreme amongst the great commonwealth of laws by which the universe is regulated, but amongst the several members of each law, of which, when resolved into its ultimate elements, it is found to consist, the same harmony will be observed: each member, like the actors in a play, falling into its proper place, performing its allotted part, and contributing its quota of effect to the ultimate whole; and further still, each law, when comprehended in all its breadth and bearing, will be found to contain within itself, all the rules necessary to its application in the science of which it forms the basis. In no instance is this more conspicuous than in the homœopathic law, as it was comprehended and evolved by Hahnemann, from whose brain, Minerva like, it seems to have sprung, perfect and complete in all its parts. A hasty examination of this law will suffice to show how completely it embraces all the essentials of a system of medicine.

Given the law of like cures like, and what follows? Why, that you must have two pictures or likenesses—the

one to be compared with the other. The first must be the likeness of the disease. This the patient supplies. The other the likeness of the remedy. How can you obtain that? Only by proving the medicine on the healthy body. Attempt to obtain it by any other mode and you inevitably fail. A sick person is in a condition that can display only the therapeutic powers of a medicine, or if, under such circumstances, any of its physiological properties are manifested, they are so intermingled with the symptoms of disease, as to convey none but the most uncertain meaning. It amounts, then, in short, to the teaching *ab usu in morbis*, and nothing more. We are thus, in this matter, not free agents to do this or that as seems best to our whim or fancy. We are compelled by the inexorable logic of the law to a prescribed course, which to forsake is to fail utterly. Again, in our prescriptions it is not a matter of choice whether or not we will order one or several medicines to be given at the same time. The law here steps in, and says, imperatively, "give only one at a time;" give more than one, either in proving them on the healthy, or in prescribing for the sick, and it is no longer homœopathy. In either case you effectually destroy the likeness you require to compare with the likeness of the disease. Here, then, as in the previous instance, in no other way can you obtain your object than that which Hahnemann, in his masterly interpretation of the law, has so clearly laid down.

Come we now to the dose—what does the law demand on this head? The question must be viewed in two aspects:—First, in reference to the provings of medicines; secondly, in reference to the curative dose. What of the first? This simply, that we begin with a small safe dose, and, having regard to the sex and constitution of the prover, and the nature of the medicine to be proved, we gradually and cautiously increase the quantity, until its physiological action is developed, *and there rest*. Anything short of this would be useless; much beyond it would be injurious, or even destructive. But, says the prover, although this may be the limit of the dose in one direction, it is no limit in the other. We claim for the infinitesimal dose that it is

capable of developing all the action of a medicine, and we affirm that no medicine can be said to have been properly proved that has not been submitted to this test. This, at all events, is the inference which I draw from some provings not long since reported in one of our Journals. There the prover says that when he took some half drachm of the mother tincture of *Aconite*, no effects followed, but when he took one drop of the 1000th dilution of that medicine, he sustained the most alarming symptoms. Now, it is commonly understood that the infinitesimal dose is a door of escape from the aggravating effects of the large physiological dose. But, if the 1000th dilution of a medicine excites such terrific action as the prover I allude to describes, what dose will he give when called upon to prescribe the same medicine for a corresponding disease? We must, I fear, look for deliverance from this dilemma to the same quarter in which it originated. In the mean time, it may, I think, safely be taken for granted, that the measure of the pathogenetic dose is that which I have stated, viz. enough of the crude drug to excite physiological action, and *no more*. Any other standard is opposed to the logical meaning of the homœopathic law. And by parity of reasoning I arrive at a parallel conclusion in reference to the curative dose, viz. that, having regard to the age and constitution of the patient, and the nature of the remedy, we are called upon to give *little enough* to avoid medicinal aggravation, and *no less*. That at least is the simple yet comprehensive rule deducible from the law "Like cures like." A smaller dose than this the law does not demand; a larger dose would be injurious or destructive. Give a vomiting patient a large dose of *Tartar emetic*, and you increase his vomiting tenfold; give a drowsy man a large dose of *Opium*, and you may send him into an eternal sleep. But in either case give a comparatively small dose—small, that is, in comparison with the proving dose—and in all probability you cure the patient.

That, then, is the rule which I deduce from the homœopathic law—the non-physiological—non-aggravating dose.

I am aware that this has always been held as an esta-

blished principle in homœopathy, as the natural limit to the dose in the direction of the gross material, but its application has stopped there. It has never been regarded in the light that I propose, viz., as the one single and comprehensive rule by which to measure the dose, as well in the upward as in the downward direction; equally towards the infinitely small as towards the grossly large.

We have so long been accustomed to look upon an escape from the present unsettled state of this question as hopeless; so many promises of solutions of the difficulty have been made, only to disappoint when the explanation has come; so much talent and ingenuity has been from time to time expended on the subject, that I shall not be surprised if a proposition so simple and unpretentious as that which I have just advanced, should fall tame and dull on the ear. The reason is not far to seek. All previous efforts in this direction, as far as I have noticed, have taken the form of theories intended to reconcile infinitely small doses with the homœopathic law, or to explain their action, and not, as in the present instance, a search simply after the rule of dose, irrespective altogether of its *modus operandi*. The difference is immense, and involves consequences more important than may at first sight appear.

It is no part of my business on this occasion to discuss the practical value of infinitesimal doses. There are many of my colleagues who employ these doses conscientiously, and from conviction of their efficacy. It would be presumptuous in me to impugn either the soundness of their judgment or the success of their practice. But at the same time I am bound to say that, according to the most liberal interpretation of the law, I can find in it no provision for the infinitesimal dose. The purely non-physiological dose necessarily excludes the infinitely small dose.

Excusing myself from dwelling further on this point, I will at once pass on to notice another consequence that will naturally flow from the adoption of the standard I propose, viz., the removal of that spirit of indifferentism which, at present, rests like a nightmare on our system of medicine, bewildering our ideas, paralysing our efforts, and sowing

dissensions amongst those who should be one in practice as well as in principle.

The assertion is constantly repeated that, so long as you select the right remedy, it matters little if at all what dose you give, whether it be the 3rd, the 30th, or the 3000th dilution. A rule so indefinite as this, if rule it may be called, is not only humiliating to medicine as a science, but is at the same time inconsistent with the universally admitted fact, that in every operation of nature or art, a degree of force or power is called into play, not in an indefinite degree, but in a degree exactly apportioned to the effect to be produced. It is so in chemistry, in mechanics, in all the branches of natural philosophy—in the moral as well as in the physical world; and unless it can be proved that medicine is an exception to the rule, that there is here no connection between quantity and power, I must decline to believe that it can ever be a matter of indifference what doses we give. I must still maintain, that for every case of disease there is a dose, not only approximately but absolutely, and above all others, right and true. Thus viewed the dose, instead of being, as it is at present, a thing of indifference and beyond the pale of law, will rise to its proper position in our art, and will enlist the interest and intelligence of the physician to adapt it to the varying circumstances of disease. In this work he will have to appreciate certain well-known conditions, such as the age and constitution of the patient, the nature of the remedy, and the nature of the disease. The child will require a proportionately smaller dose than the adult, the delicate and sensitive a smaller dose than the robust and phlegmatic, the active susceptibility of childhood less than the torpidity of old age. And as regards the remedy, the dose will necessarily vary according to the more or less active properties of medicinal substances. Nature delights in variety—she scarcely makes two things alike, even of the same kind—much less those that differ widely, as medicines do, in their characters and properties. The dose question as at present accepted ignores this palpable fact, and teaches that, however differently nature may have constituted her agents, homœo-

pathy, by dilution, invests them all at equal stages with equal powers. This at all events is a fair deduction from the dogma of the great Hahnemann himself, that the 30th was the best of all dilutions for all diseases.

I now proceed to inquire what support this rule of dose derives from actual experience in the treatment of diseases. With a view to getting a clear answer to this question, I will divide diseases into the two great classes of those which do, and those which do not, manifest a strong tendency to spontaneous recovery. The line of demarcation is of course rough, but that the distinction exists in nature is undeniable. In the former class may be included most of the acute inflammatory diseases, the exanthemata, some fevers, and a host of transient and often obscure ailments, which admit of no classification. As an example of the phlegmons we may instance pneumonia. This grave disease, in the good old times of the lancet and its allies, was regarded as one of the most deadly of its class, one which it would have been a crime to leave to nature. It has now been put beyond a question, by Dr. Bennett, of Edinburgh and others, that when placed under favorable circumstances, the patient afflicted with this disease, if of average strength, will get well without any medicine whatever, almost if not quite as quickly as when submitted to the most skilful allopathic treatment. Without therefore stopping to discuss the question of the controlling power of homœopathy in such cases, it is at once apparent that any evidence that can be drawn from such disorders, as to the curative action of any particular dose, must of necessity be much less conclusive than that afforded by diseases which, when left to themselves, manifest but little tendency, or none at all, to spontaneous recovery. It is from this latter class, therefore, that I propose to select a few practical illustrations of my subject.

At the same time I may remark that the diseases to which I have been referring do by no means militate *against* my position. It has never been shown to my satisfaction that the more tangible dose involved in my proposition is less efficacious than any other in controlling inflammatory

diseases; on the contrary, it is a general practice, even with those who most strongly advocate infinitesimal doses, to resort to extra low dilutions in treating acute disorders. I am, therefore, fairly entitled to such support as this incidental testimony affords.

We will first speak of ague and its treatment with *Quinine*. I purposely avoid direct reference to other medicines with which we all occasionally treat ague, and confine my remarks to this one on account of its generally admitted power over the complaint in question.

Those who have seen much of ague, as I have, from a residence of some years in one of the most marshy districts in the kingdom, must know how tenacious is its hold when once it has fixed upon its victim. Unchecked by treatment, and sometimes even in spite of it, it will run on for weeks; or months, or longer periods still. Here, then, is a disease which exhibits the smallest amount of tendency to self-cure. If cured at all, it must be cured by medicines.

That ague is more readily cured by palpable than by infinitesimal doses of *Quinine*, we may all, I think, admit; without doing violence to our homœopathic principles, either in respect of dose or doctrine. Taking it for granted that we all agree on this point, I will proceed to read a case, which, although already in print, is too instructive and applies too closely to my present subject to be passed over. The patient was under my own care in the hospital, and the treatment was conducted with a direct reference to the question of dose.

James R—, aged 30, a labourer, admitted November 12th, 1863. A stout muscular man; about three weeks since got wet and caught cold. He had a cough for a week, and then had a shivering fit. This recurred every second night, until four days ago, since when he has had the shivering every night. In October was working in the Wolds of Yorkshire, where ague prevails. On admission states that for the last four days the shivering comes on about 3 or 4 o'clock each morning, and has lasted an hour, and has been followed by the hot stage, which lasts about half an hour, and is succeeded by a gentle perspiration.

He is always thirsty, but more so during the hot stage. Pulse at 11 a.m. 90; skin cool; tongue coated white; urine high coloured and thick; bowels regular; has slight cough at night. Take *Arsenicum* 200, a drop every four hours.

November 19th (a week after admission).—Shiverings have recurred much the same as usual, perhaps a little slighter last night; less heat and sweating; exceedingly thirsty in the night; pulse 112, weak; anæmic-looking, and feels exceedingly prostrated; tongue broad, red, and glazed. *Arsenicum* 3rd decimal, a drop every four hours.

21st.—Had shivering yesterday; last night copious sweating between 12 and 1 o'clock, but no shivering then; thirst slight.

23rd.—At noon, on the 21st, had a shivering fit, which lasted an hour and a half; fever followed, but no sweat. Has had no shivering since, but feels giddy, and has a mist before his eyes at times. Continue same medicine.

25th.—For the last two nights the shivering has been as before, has come on at the usual time, and has been succeeded by fever and sweating. *Chinum sulphuricum* ϕ , five drops every four hours.

30th.—Continues much the same. *Chin. sulph.*, gr. $\frac{1}{4}$, every two hours.

December 2nd.—Shiverings the last two days have come on at six in the morning. *Chin. sulph.*, gr. $\frac{1}{4}$ every two hours.

4th.—Yesterday shivering came on at noon; feels better to-day. Continue same medicine.

7th.—No shivering the last two days.

9th.—Has had no shivering; improves rapidly. Repeat same medicine every four hours.

12th.—No shivering; well, except a little weakness in the loins.

14th.—No recurrence of the shivering. Feels quite well, and is discharged.

A more thoroughly crucial test of the question than this case affords it would be difficult to conceive. The patient was a robust man in the prime of life, enjoying good health until exposed to the marsh miasm. The disease developed itself in a genuine form. The remedies were clearly indi-

cated. He took *Arsenicum* 200, the standard high dilution, from the 12th to the 19th of the month; then the 3rd decimal, the standard low dilution, for a like period of seven days.

The patient had now become so weak and exhausted under repeated seizures, that it was thought better to resort at once to a palpable dose of a more clearly indicated remedy, than to test the lower dilutions still of *Arsenicum*, or even the higher dilutions of *Quinine*. Accordingly, he got the sixth of a grain, or thereabouts, of *Quinine* every four hours. The attacks still recurring, this dose was increased to the fourth of a grain, and this to half a grain, before the true curative dose was reached; but this once reached, the cure was rapid and permanent.

Nearly at the same time with this case there was another case in the hospital, in the person of Sarah Rainè, aged 52. She had been affected with intermittent headache of a very aggravated character three months before admission. The treatment was pursued for some weeks in the hospital with various medicines—*Arsenicum* amongst them—with no decided results. *Chinum sulph.*, in doses of the fifth of a grain, was then administered every two hours. She commenced this on the 23rd of the month, and was discharged on the 29th quite well, having had no return of the attack after commencing the *Quinine*. In this case the curative dose was attained at the fifth of a grain, as it might possibly have been at a higher point still, had it been tried. These two cases are good examples of the proper dose being found at different points in the posological scale, but still at points verging upon, though stopping short of, the physiological dose. Let us now view this point from an opposite direction.

Mrs. G—'s child, aged fifteen months, came under my care on the 29th of April, this year. The family of which she was a member, had been residing all the winter at Sheerness, and had but lately removed to Wansted. Two of the children had suffered from ague. They were under the care of an allopathic practitioner, who gave each child half-grain doses of *Quinine*. The elder child, a girl of ten years, soon got well. The younger, a child of fifteen months,

vomited so violently after each dose that the *Quinine* was relinquished as unsuited to the case. At this juncture she came under my care. She was fearfully reduced in flesh and strength; she looked deadly white, could take no food, was very thirsty and costive. The ague fit recurred every other morning at 8 a.m. She went very cold, then hot, but there was scarcely any sweat. Remembering the history of the *Quinine*, and looking at the general character of the case, I gave half-drop doses of the first centesimal dilution of *Arsenicum* every four hours.

Ten days later the attack had been less marked, but she still continued to vomit everything she took. To omit the *Arsenicum*, and have *Antim. tart.*, 6th dilution, every four hours. Seven days later still she had not vomited, but the attacks recurred, only so much milder than before as the child was more utterly exhausted. Her prostration and exsanguined look were fearful. I now prescribed three-drop doses of the 1st centesimal solution of *Quina* every three hours. The effect was magical; there was no recurrence of the attack, the vomiting ceased, and at the end of ten days only, it was difficult to recognise her as the same child.

In this case, in the first instance, aggravation was doubtless produced by over doses of the medicine, the proper curative dose being, as the result incontestably proved, the 30th part instead of the half of a grain.

Quitting ague, we will turn to eczema, as another disease which, though manifesting no tendency to self cure, is yet strikingly amenable to the right remedy in the right dose. I speak here, not of those ephemeral cases of eczema which are caused by local stimuli, and which require little or no treatment, such as eczema solare, and the like, but of eczema in its chronic and more aggravated form, and in which form it is known to be one of the most untractable of diseases. Now, on all hands, both allopathic and homœopathic, it is admitted that *Arsenic* is one of the most effective remedies for this complaint. What dose of *Arsenic* then will most speedily and permanently cure eczema? The reply to this question is very interesting and instructive in reference to our present inquiry. Resting on my own

experience, I do not hesitate to say that infinitesimal doses of *Arsenic*, as compared with doses more nearly allied to the physiological dose, are powerless to cure chronic eczema—cure it, that is to say, in a manner that shall entitle it to be ranked as a cure; cure it in such a vast majority of cases as shall warrant us in saying unhesitatingly of it, or of any other medicine in any particular disease, that it is the right remedy. Medicines that will not do this scarcely deserve the name of remedies. But that is the way in which homœopathic remedies, properly handled, will assuredly cure all curable diseases. Justice is not half done to Hahnemann's splendid discovery. We are hesitating and uncertain, and often ineffective, where we ought to be bold and sure. If homœopathy does not give us this advantage, wherein consists its superiority over other systems? I, for one, am not content with the mere negative good of not doing harm.

To return to our question, What dose of *Arsenic* will best cure eczema, and, let us add, its cognate diseases, psoriasis and lepra? I reply from the 20th to the 50th and the 100th part of a grain, according to the age of the patient—a largish dose, yet not sufficient to excite the physiological action of the medicine; and it is curious to observe, in some cases, what a difference the addition or subtraction of the smallest fraction of a grain will make in the efficacy of the dose, all the difference, indeed, between success and failure. For example, I have treated cases of eczema and psoriasis, in which the 50th part of a grain of *Arsenic* has had no effect, or but very slight, but in which an increase in the dose of the 300th part of a grain has effected a rapid cure. A case strikingly illustrative of this fact was some years ago under my care. It was that of a lady, of about 30, who for many years had been troubled with psoriasis over the whole body. This had been kept under for a space of fifteen years by eight-drop doses of *Liquor arsenicalis* two or three times a day, under the advice of one of our most celebrated dermatologists. I was requested to visit her on account of an enlargement of the abdomen. On instituting a careful examination I detected distinct fluctuation; she had, in

fact, got ascites. On inquiring closely into the possible cause of this condition, I was told of the skin disease and the *Arsenic*. This explained the whole matter. The medicine had been taken too long, and in too large doses. It was producing its pathogenetic effect.

Directing the *Arsenic* to be discontinued, the dropsy soon subsided, but the eruption returned in all its force. At that time I was in the country taking my holiday, and my patient sought the aid of a colleague. He, in view of the large quantities of *Arsenic* she had taken, prescribed a variety of other medicines, and, ultimately, *Arsenic* itself in the higher dilutions. None of these made the slightest impression on the disease, and in this condition she again came under my care. One thing was certain, she had taken *Arsenic* too copiously. Was it equally certain that smaller doses would not answer all the purpose, and yet be harmless? I ordered her to take four drops of the old preparation twice a day, instead of eight, and with this the disease gradually receded, and was kept in comfortable abeyance for the remainder of her life. This case requires no comment; it tells the same tale as those I have related, and says, in language as plain as human speech, that the right dose is that which follows close upon, but never overtakes, the pathogenetic dose.

I may here recall your attention to the obstinate disease I alluded to at the commencement of this paper, viz., gastralgia and the case I there relate. That case, I need scarcely tell you, was not lost upon me. I had relieved cases of gastralgia with the first decimal of *Bismuth*, and I expected to do so in this. How grievously I was disappointed we have already seen. I have never prescribed a dilution of *Bismuth* since, but with doses of five grains of the matrix I have met with almost un-failing success in that form of gastralgia to which females in particular are liable.

Yet one more example and I have done. I refer to syphilis. Nothing need be said to prove the intractability of the large class of diseases which this term includes. I feel entitled to speak with some authority on this subject,

and I do not hesitate to say, broadly of course, that the medicines, including *Mercury*, commonly credited with curative virtues in syphilis, are nearly, if not quite, powerless in infinitesimal doses; and that the right and proper dose (I speak now specially of *Mercury*) is the twentieth part of a grain of the first centesimal dilution. This is now so generally admitted that it would be waste of words, and of your time and patience, to advance evidence in support of it. But if that were necessary I could detail hosts of cases which had been fruitlessly treated with high dilutions of *Mercury*, but were afterwards cured without let or hindrance by five-grain doses, three times a day, of *Mercurius solubilis*, in the first and second centesimal dilutions, a palpable dose withal, yet a dose which, if required, might be taken by an adult for almost an indefinite period, without producing the slightest inconvenience.

In one of the numbers of the *Annals* I relate two hospital cases which were treated with the first centesimal of this medicine, and I add this remark: "Baker, one of the patients, took five-grain doses of the medicine three times a day for two months, without a shadow of diseased aggravation or sensible medicinal action; and Allen, the other patient, took three-grain doses of the third decimal for a month, with none but the happiest results." But if, in these cases, the first decimal, instead of the first and third centesimals had been given, the patients would in all probability have been purged or salivated, or possibly both.

We have thus passed in rapid review four classes of diseases (and the list might easily be lengthened) of that inveterate yet distinct and well-marked character, that leave no room to question the part played by medicines in the treatment of them; and to my mind, and I should imagine to the mind of every unprejudiced listener, they convey these two lessons:—first, that the true homœopathic dose lies between the infinitesimal on the one hand, and the physiological on the other, and nearer to the latter than the former; and secondly, that there is not in homœopathy, any more than in the older systems of medicine, any such thing as a fixed dose applicable to all cases; but that in each

case the circumstances of the patient, the remedy, and the disease must be taken into account, and the dose varied and adjusted accordingly.

I have thus placed before you—how imperfectly no one knows better than I do—the reasons which induce me to believe that there is such a thing as a rule of dose, and that that rule is as thoroughly part and parcel of the homœopathic law as is the rule for selecting the remedy, the rule for proving medicines, and the rule that imposes the giving of only one remedy at a time. To expect anything else or less than this would be to place the homœopathic law on a lower level than those other natural laws whose distinguishing characters are simplicity, harmony, and effectiveness.

There are many other points connected with this subject on which I could dilate, did time permit and the occasion require it. But I have preferred to place the question before you in as simple a form as I could, rather than to overlay and obscure it with a number of collateral and, possibly, not always relevant arguments. I have been more anxious, in short, to suggest a theme for the thoughts of others than to attempt myself to follow it out in all its various ramifications; and in so doing I have endeavoured to divest my mind as much as possible of prejudice and predilection, and to confine myself strictly within the limits of legitimate experience and fair argument. I speak as unto wise men: judge ye what I say.

Discussion on Dr. Yeldham's paper.

Dr. BAYES thought that Dr. Yeldham had done good service in bringing forward this case; it is very satisfactory at all times to see a disease cured by a *single dose* of medicine. Possibly there may have been some peculiar idiosyncrasy which rendered so material a dose as fifteen grains the curative dose in this special case. With regard to the rule of the dose which Dr. Yeldham wishes to lay down he (Dr. Bayes) thinks it is impossible to dogmatise. We must not only carefully individualise in the choice of a remedy, but we must also individualise as regards the dose. No one dose will cure the same disease in all cases. Some

individuals are highly sensitive to the actions of special medicines. There is no one standard pathogenetic or physiological dose, and hence there can be no standard curative dose. He (Dr. Bayes) has seen pathogenetic action from the 30th of *Sulphur* in the case of a lady suffering from asthma. Pathogenetic action has also resulted from the 12th of *Mercurius*, while other patients can take large and continued massive doses of the same medicines with impunity. Nay, in some cases large doses can be taken with impunity, while high dilutions induce undoubted physiological action. He (Dr. Bayes) once had a patient who never experienced any results from medium doses, while both the 30th, and the 1st, and the 1st decimal dilutions acted well. With respect to ague his (Dr. Bayes's) experience differed from Dr. Yeldham's. Perhaps this might have something to do with the difference of locality in which these observations were made. He had certainly seen frequent failures in cases treated allopathically with large doses of *Quinine*. *Quinine* will only cure a certain class of ague cases. He had seen an excellent cure of ague by *Cedron* after very large doses of *Quinine* had signally failed. It was a peculiar case, where four distinct paroxysms occurred in the twenty-four hours, and punctually as to time. The brother of the patient had died under allopathic care of the same disease. This case yielded very rapidly to *Cedron*; the first dose broke the regularity of the paroxysms. In another case *Phosphoric acid* cured a case where the perspirations and intense thirst were the most prominent of the paroxysmal symptoms. This case was cured without change of air. As to syphilis also he (Dr. Bayes) had seen excellent cures with the 3rd and 6th dilutions of *Mercurius* or *Nitric acid*, according to the nature of the chancre. The greatest point of interest in Dr. Yeldham's paper appeared to Dr. Bayes to be that the cure was effected with one single dose, and he thought it would be well if we were to attempt to treat our cases with fewer doses of medicine than it has now become the habit to give.

Dr. WYLD regretted that he could not believe that any fixed law either for the dose or for the medicine had as yet been discovered. In common with all medical men he had continually found that a given medicine might have been given with apparent success in a given disease a certain number of times, and yet failed in subsequent cases of a like kind or in similar subsequent attacks of the same case. It was this *uncertainty* which constituted the great difficulty of the practice of medicine. Were medicine a fixed science, then it could be learned like any other science by non-professionals. It was the *experience* required by medical men which rendered professional leaders necessary. Dr. Wyld could not agree with Dr. Yeldham that *non-infinitesimals* were necessary in the treatment of eczema, as he had frequently cured the thick-set scalp eczema of infants with *Calcar. 6* in two months. He had at present under his care an infant in whom he

had cured acid regurgitations at once with *Ars.* 3, but the cure was immediately followed by the gradual development of eczema over the entire body, and this he had failed to cure with *Ars.* 3, *Calcar.* 6, *Sulphur* 6, *Rhus* 3, &c. A celebrated skin doctor had also failed to do any good in this case. Dr. Wyld would take Dr. Yeldham's advice and try *Ars.* 1^x. This child was otherwise perfectly healthy, and always most healthy when the eczema was fully out. The change of type of disease had been alluded to, and although Dr. Bennett and Mr. Syme denied that any such change existed, Dr. Wyld still believed that a certain change must have taken place in those classes which formerly devoted themselves to the pleasures of the field and the table, but now consumed the midnight oil over books. There must have been in these last a brain and nervous excitement produced at the expense of the muscular and sanguinary systems. With regard to the dose Dr. Wyld had certainly found that *non-infinitesimal* doses of *Quinine* and of *Morphia* were necessary to produce *tonic* and hypnotic effects. Although scientifically the size of the dose could not be dogmatised upon, still, as the large dose was the chief mischief-maker in old physic, and the infinitesimal dose was the great barrier to the general acceptance of homœopathy, Dr. Wyld as a matter of expediency would suggest, as a law for the allopathic dose, *the smallest dose compatible with efficiency*; and as the rule of dose for the homœopathist, *the largest dose compatible with safety and efficiency*. Were these rules adopted we might hope for that peaceful conference among all medical sects which might happily result in a truer science of medicine than has hitherto existed.

Dr. MADDEN thanked Dr. Yeldham for his interesting paper, but feared it left the subject of the dose just where it was. No one doubted that in a certain proportion of cases an increase of dose was followed by immediate improvement; but on the other hand all who had tested the higher attenuations found equally that the substitution of a high dilution had the same markedly beneficial effect. For his own part he wished it were otherwise. He should greatly prefer using the lower attenuation only, as there was such a satisfaction in having a tangible evidence of the presence of the drug prescribed. But unfortunately there is no denying the fact, that the high potencies are oftentimes as useful, that their employment must not be neglected. Dr. Yeldham's method of explaining the homœopathic law is by no means new, having been again and again referred to during the last thirty years; but even if novel it cannot contravene the results of experience, and hence we must per force admit that so long as both kinds of dose do good no explanation of their action can be satisfactory which embraces one only. He believed that at present the only way of doing the best for our patients was to use all attenuations from the highest to the lowest, according to the dictates of experience.

Dr. DRYSDALE was much gratified by hearing the paper, which was of an eminently practical character, and which made an important contribution towards the practical determination of the dose. He had long held with many others that no truly homœopathic medicine can be said to have failed to cure till it had been tried in a dose up to the limit of physiological action. But it was now stated for the first time that, as a general rule, the dose is to be found quite near the limit of physiological action. If so, this would simplify homœopathic practice amazingly, and from his own experience he would be inclined to assent to the correctness of the rule to a great extent. He would even go farther, and say that if it had been generally followed, homœopathy would be in a far better position than it is, for he had for long thought that extreme diminution of the dose had been the bane of our method. So he hoped that the general body of practitioners would seriously put Dr. Yeldham's rule to the test. He thought it would be found practically useful in a very considerable number of cases; but it did not meet the whole difficulty of the subject, for there were a large number of cases, even where the physiological dose was known and pretty narrowly fixed, in which the curative dose extended far up the infinitesimal scale, such as *Ipecacuan.* in vomiting, and *Merc. corr.* in dysentery. There was, besides, a large class of pathogenetic actions, viz. the contingent class in which the dose for producing the physiological action was not known or fixed in any sense. To these the rule would not apply.

Dr. DUDGEON said Dr. Yeldham's views respecting a rule for the dose agreed very much with what he himself had long held, for, in a work published in 1854, he had said that the best dose would be the largest quantity we could prescribe short of that capable of exciting the physiological action of the drug.

Dr. DEURY, V.P., in the chair, admitted the fairness with which Dr. Yeldham stated his case, and would go further and say that from his standpoint he was justified in his views, but if that standpoint was wrong, satisfactory as the results might be to his own mind, there was a higher degree of excellence to which the author of the paper had failed to attain. Dr. Yeldham was looking for specific remedies, a class of medicines that were few in number, and that owed their power to their homœopathicity, but had he searched for the homœopathic remedy, as indicated by the symptoms present in each case, he would have obtained very different results, saving time to himself and his patient by hitting the right remedy at once. Thus, *Bismuth* appeared to exercise a specific action in gastralgia, as those who had the advantage of allopathic experience were aware, but there were many homœopathic remedies usually much better indicated than *Bismuth* which often hit the disease at once, and to these remedies, and not *Bismuth*, a homœopath would naturally look. *Bismuth* happened to be an excellent specific for uncomplicated gastralgia,

but in a complicated case the superiority of the homœopathic remedies would be at once seen. Other specifics that were less certain in their action often failed to meet the expectations of the prescriber and led to their abandonment, because the key to their use had not been found. From the cases recorded by Dr. Yeldham it was evident that he was working out for himself a member of specific remedies, that would at times help him very much, but at others would leave him in a difficulty. The history of cases of this kind were of use, and were very interesting as regarded the dose of purely specific medicines, but were of no value for regulating the dose for homœopathic medicines. At such a late hour it was impossible to go into the various matters that had been touched on by Dr. Yeldham and others.

Dr. YELDHAM, in reply, said when he set himself to write his paper, hurriedly and at the last moment, at the request of the secretary, to fill an unexpected gap in the proceedings of their annual assembly, he did not flatter himself with the expectation of being able to settle the much vexed dose question. He was not, therefore, at all disappointed at obtaining so few adherents to his views. He did not, however, fear that his labour was thrown away. He had cast his grain upon the waters, and he did not doubt but that it would fructify, even in the minds of some of those who now most stoutly opposed him. He had been accused of propounding a *fixed dose*, whereas he had simply proposed a *fixed rule* for selecting a dose, varying according to certain specified and well-known conditions of the patient, the disease and the remedy; but these variations would, he maintained, be found to range over a comparatively limited space, and need not reach the infinitesimal. Dr. Drysdale, while assenting to the rule, had pointed out some of the difficulties of working it. Difficulties doubtless existed, as they existed in all other practical sciences. Providence gave us the laws, not the rules for their application. It was man's part, by study and observation, to discover the latter. He had in his paper simply foreshadowed the process by which the scheme might, by combined and extensive co-operation, be worked out. No one man, however long his life or enlarged his capacities, was alone equal to such a task. But the signs of the times all pointed in the direction he had indicated. It was precisely in that line of march that their allopathic opponents were advancing to meet them, not in hostile but in friendly array. The human mind, especially in scientific matters, would never be satisfied with the mystical and the incomprehensible, It must rest on something tangible and demonstrable. The rule of dose he had suggested avoided the former and secured the latter of these. As to the *newness of his views*, which one speaker had denied to them, his object was to be useful rather than novel. He believed, however, that the *application* of his views was novel, if the views themselves were not, and that was all he had claimed.

CASES OF ACUTE RHEUMATISM TREATED AT
THE LONDON HOMŒOPATHIC HOSPITAL.

By Dr. J. HAMILTON MACKECHNIE.

It is evident on all hands that the progress of modern allopathy is marked by its greater efforts to do "cure-work;" and in no direction have these efforts been rewarded by more striking success than in the management of acute rheumatism and its resulting derangements.

The contrast between the results obtained in the hospitals of the old school at the present time, and formerly, in this affection, is very striking; yet I believe that, marked as it is, and great as is the superiority of its chemical treatment over the random systemless treatment of twenty or thirty years ago, that we homœopathists have means in our hands which will give results superior to those which crown the endeavours of the most ardent disciples of Fuller, even when we employ these means solely, as we do in the management of cases of acute rheumatism in our hospital.

For my own part I am inclined to think that there is no reason why we should not use a moderate chemical treatment, together with the specific remedies indicated by the special form which the affection takes.

Nevertheless, as our hospital is for the investigation and establishment of the homœopathic doctrine, we are bound to resort to no other means there than those which it affords; at least, till those have been tried and found wanting, which I hope to show was not the case in the following instances:

CASE 1.—Mary W—, æt. 17, single, housemaid, was admitted on the 21st of October, 1869, suffering from acute rheumatism.

Had begun two months ago, after a severe wetting, to suffer from wandering pains in various joints.

A fortnight ago took a fresh cold, on which the pains increased so as to compel her to keep her bed. They were at this time principally in the ancles and loins; now they

are worst in the wrists, knees, and shoulders, which are hot and tender. She describes the pains as shooting and tearing, and says they are worse at night.

The pulse is 100, regular and forcible. The tongue is coated white, moist, and fissured. Appetite very bad. Bowels confined. Catamenia regular. The heart's action is forcible, felt strongly at the præcordium. On auscultation there is a blowing murmur over the apex, occurring with the first sound, and a slight roughness with the second, over the aorta. The skin acts freely at times, the perspiration having an acid odour. *Aconite* 1 was given, a drop every four hours. Low diet.

On the 24th the patient was reported to have been rather better, but now was not so well again. Pulse was 112, full and bounding; has passed a bad night, with wandering delirium. The face is flushed, and she is complaining much of headache, with heat in the head and throbbing pain. The joints are more swollen and painful. *Belladonna* 1 was given alternately with the *Aconite*. The affected joints were put up in cotton-wool, and the patient put between blankets. Under this treatment the condition began to amend, especially the symptoms of irritation.

On the 30th we find the delirium had entirely subsided, and she sleeps tolerably well. The pulse 100; tongue clean, but rather dry. The hands and wrists are still swollen, and are very painful to the least touch or movement; perspirations continue, and are sour smelling.

Bryonia 3^r every four hours.

Nov. 1st.—The symptoms were improving, but she had an attack of painless diarrhœa of dark-coloured stools, at times passed involuntarily, and occurring two or three times in the twenty-four hours. It was not, however, thought necessary to alter the treatment, and this symptom subsided without other interference than the administration of some uncooked arrowroot in water.

The rheumatic symptoms steadily diminished under this treatment, and with gradual improvement of the diet, and on the 17th she was reported as quite free from pains, and able to be up all day. Appetite and digestion good; and

on the 22nd she went out quite well, with no cardiac derangement apparent.

The head symptoms in this case were unusually severe for a case of acute rheumatism with no greater amount of complication than those of which we had physical signs, but they yielded admirably to the *Belladonna*.

CASE 2.—Maria J—, æt. 20, a nurse in the hospital, was admitted October 20th, 1869, to a bed in the wards after some days' illness with rheumatism.

The house-surgeon prescribed *Aconite* 1^x to be taken every four hours.

On the 18th, at 3 p.m., when I saw her I found her in a highly feverish state, the pulse 124, temperature 104.2. Pains wandering from joint to joint, but permanently affecting the hips, which are very painful and tender, and cause her great pain on the least movement.

I prescribed *Bryonia* 1, a drop every four hours, and that the patient should be put between blankets. Low diet.

On the 19th, the febrile symptoms having increased towards night, the house-surgeon gave *Acon.* to be taken alternately with the *Bryonia*, under which the symptoms seemed to improve, and on the 20th she is reported much better. The pulse 100; pains much less, and wandering from joint to joint, the right knee being at present most affected. The catamenia (occurring at present) are very irregular and scanty; they appear sometimes before, sometimes after the proper time.

On the 22nd she was put upon *Bryonia* 3 alone, and made good progress, the pains gradually diminishing; and on November 3rd she was dismissed to her duty quite well, with no bruit left, but remaining as she was before being attacked, very anæmic in appearance.

Another case illustrative of the value of *Aconite* in cases of cardiac inflammation is recorded as follows:

CASE 3.—Edward B—, æt. 19, a tall good-looking youth, with dark hair and eyes, whose employment was set down as that of an artists' model, was admitted April 16th,

1867. In giving an idea of his past history, he said that he had lived a steady, regular life. Had acute rheumatism when six or seven years' old, which has left its effects manifest on the heart; has had attacks of palpitation ever since. Has been in Savannah, where he resided for two years, and had acclimatisation fever; afterwards he took ague, and not recovering satisfactorily, he returned to England; improved in health on the voyage, but being still weak, and having some traces of the malady remaining, he was admitted to St. Bartholomew's Hospital on his arrival in London, where he recovered his strength.

Is subject to occasional slight attacks of epilepsy, which give sufficient warning of their approach to permit of his lying down. He loses his consciousness, foams at the mouth, bites his tongue, &c.

The present attack came on about Christmas. He has been treated at home by an allopathic practitioner in his neighbourhood.

His condition on admission is as follows: he has pains in the limbs passing from part to part, and affecting the muscles principally. His principal pain, however, is at the heart and in the walls of the chest. The latter are exceedingly tender, even to the pressure of the hand, and on this account it is very difficult to make examination of the thoracic organs, more especially to estimate the extent of cardiac dulness. By using a solid stethoscope, however, and with some care in covering the chest, I made out that the hearts' action was very frequent and continuous, there was a murmur heard with the systole, extending over the upper part of the sternum to the neck. There is dyspnoea, more, as it seems to me, from the pain which the movements of the muscular coats of the chest occasion than from the disturbance of balance between respiration and circulation.

The pulse at wrist was 110, and there was a slight thrill to be felt in it; the appetite was not wanting, but he had pain at the sternum after food, the tongue was dryish, brownish, and slightly furred; skin acting, especially at night, when he has perspirations.

He was ordered large, hot, linseed poultices over the left side of the chest. Second diet and *Aconite* 3, a drop every four hours for medicine.

Under this treatment he speedily improved, and on the 17th (next day) he is reported as having a much less anxious expression of countenance; urine pale, clear, and of slightly acid reaction. The pulse much quieter; murmur heard more distinctly, and its place in the rhythm more distinctly assigned; the difficulty of breathing nearly gone; sleeps very badly.

To continue the *Aconite*. Has gone on improving, but on the 24th he was suffering from a severe attack of fluent catarrh, with sore nose and mouth, but the cardiac pain was gone, and the tenderness of the walls was very much diminished. The cardiac dullness was extensive, the medicine however was not altered, and on the 26th we find the catarrh reported as better; mouth better; tongue charged; appetite bad; bowels regular; the urine pale and copious; the murmur is now scarcely to be heard, and only to the left of sternum; shock rather strong and quick; no dyspnoea; the wall of chest still somewhat tender; no headache, but the head feels heavy, and he is restless day and night, and cannot sleep for more than an hour at a time.

He then had *Arnica* prescribed, and he was dismissed on the 2nd of May well of his rheumatic affection.

CASE 4.—James N—, æt. 11, schoolboy, was admitted on December 27th, 1869, suffering from acute rheumatism, with pains in all the limbs. Dr. Hale, in my absence, prescribed for him *Aconite* 12, a drop every four hours. (No notes were taken of the case at this time.) When I saw him on the 29th I found him suffering great pain in all the limbs, which prevents his turning round or moving himself in bed, except in the slightest degree. Great thirst; no desire for food; pulse 120, with a thrill perceptible at the wrist as well as at the heart; tongue clean and rather dry.

On auscultation a loud blowing murmur was audible, especially towards the apex, and a friction sound, most towards the left side.

The countenance was anæmic, and the body generally rather emaciated. To continue the *Aconite* in the same dose and frequency.

I ordered a large hot poultice over the affected organ, to be kept up, and renewed from time to time; the diet, barley water.

On the 31st he was considerably improved, inasmuch as the pulse was 110 only; the friction sound lessened; thirst lessened; tongue clean and moist; the pains in the limbs greatly lessened.

On the 3rd January the improvement had gone on to such an extent that he had no pains in the limbs, but the joints felt a little stiff in movement. The valve-sounds were gone; the friction almost disappeared. The medicine was continued in the same dose, and he was ordered some farinaceous pudding and the second diet. With this treatment he continued to improve steadily; the stiffness disappeared as the pains had done; he was put on first diet in a few days; and he was dismissed on the 12th of January well, with no trace of mischief perceptible on listening to the heart.

This may be regarded as a model case, for, although at this boy's age nature does her best to help us to get rid of disease, especially when it menaces a vital organ, it is hardly ever one will find it removed with so little trace of its existence remaining as in this instance. I must confess that when I first saw the patient and recognised the serious nature of the case, although approving of the medicine selected, I was strongly tempted to alter the dilution and give the *Aconite* in a lower potency; yet deference to our able colleague determined me to continue, keeping a watchful eye upon the case in order to give either a lower dilution of the same, or of some other medicine (probably *Bryonia*) if I found the symptoms getting worse.

CASE 5.—Anne F—, widow, charwoman, æt. 60, admitted January 22nd, 1867.

Has always been healthy, till three or four weeks ago she began to suffer from a feeling of coldness, with shuddering

running through her, followed by heat and fever, with pain and beating of the heart. This was succeeded by pain in the hips and knees, and afterwards in both shoulders, then the left hand was greatly swollen, with loss of other sensation in it than that of pain. A week ago the swelling of the joints subsided, and the pain on admission is principally that in the knees, back, and occiput. In addition to this she has been suffering for a fortnight from severe cough, with copious expectoration.

Present condition.—Respirations easy, 20 per minute; expectoration frothy, mucous, copious; heart sounds normal; pulse 70, small, with occasional intermission; urine clear and pale, but deposits some muddy sediment on cooling. The pains affect principally the knees, back, and occiput, and are of a sore, pricking character. They are worse in the morning about 5 o'clock. The exacerbations are accompanied by feverishness and thirst. Prescription—*Bryonia* 1, a drop every four hours. Second diet.

24th.—Pain in the limbs and in the occiput easier; pulse of the same character as before; respiration 20 per minute; cough better; expectoration of white frothy mucus; appetite improved. To continue the medicine.

26th.—The right leg much improved, scarcely any pain left, the left leg still stiff and painful. Cough rather worse, which she attributes to the fact of the ward door having been left open last night by one of the patients. Continue same medicine.

Feb. 6th and 7th.—Has continued to improve steadily; has no pains in the joints, except in the right shoulder; cough and expectoration steadily diminished. Bowels constipated some days, during which she has been on full diet.

On the 20th.—Still has wandering pains, affecting her most at night. Cough nearly gone; feels much stronger. *Rhus tox.* 3 gtt. j, ter die. Was dismissed on the 23rd quite well.

CASE 6.—Joseph H—, æt. 57, excavator, admitted May 8th, 1868. A powerfully built man; has been ill three weeks with present attack. He has not been able to

work for twelve months, though on what account is not stated in the report of the case.

He has been twice an inmate of the Hospital for acute rheumatism, his first attack occurring at the time when he was engaged to go to the Crimea with the army.

He complains now of pains in the muscles of the left thigh and arm, and in the knee, which is little or not at all swollen. Pulse is of natural frequency, though rather feeble; temperature not recorded. The tongue is furred; the appetite good; the bowels regular. The urine had not been preserved when I made my first visit. *Bryonia* 1, gtt. j, ter die. Second diet; the patient to be kept in bed.

On the 11th I found him decidedly better; the tongue had cleaned, the appetite was good, and the bowels were acting. The urine I found to be strongly alkaline and of ammoniacal odour, although recently passed.

In spite of this I continued the *Bryonia*, and on the 13th found the patient decidedly better. The urine had been examined by the house surgeon, who reported it still alkaline, with a deposit of phosphates, and clouds thrown down on the application of heat. Continue the medicine, first diet, and half-a-pint of ale per diem.

16th.—The pains he originally complained of are all better, but there is a severe pain in the inside of the thigh at night, with tenderness to pressure down the crural nerve. Appetite not so good; tongue more furred; bowels acting; urine much the same. I prescribed *Pulsatilla* 3, a drop three times a day. Under this medicine he continued to improve.

On the 19th I found he had had an attack of numbness and coldness in the thigh, followed by increase of pain in the thigh. The urine was still ammoniacal, mucous, and there was frequent desire to micturate, indicating a catarrhal condition of the bladder. He had been a good deal troubled with flatulence. I did not think it necessary to alter the medicine, and he continued to improve up to the end of the month; but on the 1st of June the pain was increased and affected the whole thigh, but especially the anterior portion.

He had *Colocynth* 3^x, a drop three times a day, which seemed to suit him well, and he continued to improve, steadily losing his pain by degrees, and also the urinary trouble; but on the 15th he had a relapse which was attributed to a cold he had taken, and the house surgeon ordered him *Aconite* 3 every four hours, with benefit for the febrile symptoms.

On the 22nd the pains in the hips were nearly gone, and he was put back to the *Colocynth* to try and remove them completely with such success that he went out quite well on the 2nd of July.

REVIEWS.

Therapeutic Guide ; the most important results of more than Forty Years' Practice, with personal observations regarding the truly-reliable and practically-verified curative indications in actual cases of disease. By Dr. G. H. G. JAHR, Chevalier, &c. Translated, with Notes and New Remedies, by CHARLES J. HEMPEL, M.D. Philadelphia, Boericke. London, Turner & Co.

WITH this characteristically long title the veteran and indefatigable Jahr gives us another volume upon homœopathics. Besides the explanation of its purport contained in the title itself, the author's preface still further sets forth its distinctive aim. It is intended, he says, as a "Guide to Beginners, where I only indicate the most important and decisive points for the selection of a remedy, and where I do not offer anything but what my own individual experience, during a practice of forty years, has enabled me to verify as *absolutely decisive* in choosing the proper remedy. . . .

The reader will easily comprehend that, in carrying out this plan, I had rigidly to exclude all cases concerning which I had no experience *of my own* to offer." The italics are the author's. His statement is frank, and we know exactly what we have to expect, and take the book for what it is worth. It is homœopathy according to Jahr.

But although the limitations herein implied do not coincide with the views advocated in this Journal, we are bound to say that the book itself is agreeable, chatty, and full of practical observation. It may be read straight through with interest, and referred to in the treatment of particular cases with advantage.

The following are the author's deliverances on the subjects of the dose, the form, and the repetition of the remedy.

“ I ought to call attention to the fact that all cures, an abstract of which is reported in this work, have been achieved with the 30th attenuation, unless some other is expressly mentioned; I either gave two globules dry on the tongue, once, twice, or three times, or the same number of globules dissolved in water. At the present time my general rule is to resort to watery solutions only in acute febrile inflammations of internal organs, and even then only until the fever is subdued, whereas in all other cases, after repeatedly trying Hahnemann’s method as well as that of his opponents in a variety of diseases, I have fallen back upon the globules, and have become firmly convinced that if two globules do not effect the least improvement in a proportionately short space of time, to be measured by the intensity or the protracted course of the disease, the want of success is not to be imputed to the smallness of the dose, but to the inappropriateness of the remedy. During the cholera of 1849, when I was in the habit of treating the well-known precursory diarrhœa with two globules of *Veratrum* 12, dissolved in a cupful of water, of which solution a teaspoonful was to be taken after every evacuation, I gave one of my patients who was tolerably familiar with homœopathy a vialful of such globules, with instructions to use it for himself and his family in the manner above indicated. He was the first who had to make use of his vial: for one morning, while attending to his business in the city, he was violently attacked with this premonitory diarrhœa. Not having his vial with him, and being too far from his home, he obtained *Veratrum* 12 at the nearest homœopathic pharmacy, and immediately took two globules dry on the tongue, with the intention of repeating the dose if another attack should take place. These globules had scarcely melted on his tongue when the urging which he still felt abated, so that when evening set in he had not only had no discharge from his bowels, but not even an intimation that his bowels would be moved. . . . Instructed by this result I likewise ordered all my patients to take the globules dry, and a single dose was sufficient in almost every case . . . Except in acute febrile inflammations of internal organs, I

have thus in all cases where the remedy was really adapted to the disease, even in the most violent attacks of spasms, diarrhoea, vomiting, hæmorrhages, &c., obtained in the latter as well as at any former period of my practice, a favourable change in the symptoms much more speedily by means of two globules dry on the tongue than by means of spoonful doses of a watery solution. This may, perhaps, be owing to the fact that, in prescribing globules, the medicine, being more concentrated in one point, is conducted by the absorbents of the tongue immediately into the circulation, and by virtue of the law of similarity, is brought in contact with the starting-point of the disease. . . . Be this as it may, I consider the use of globules in a single dose, with very few well-defined exceptions, a method of practice that cannot be sufficiently commended, of whose advantages any one who is willing to try it and knows *how to select the appropriate remedy*, can easily convince himself by actual experience."

Of alternations, he writes, "I am not by any means in favour of the *à priori* alternation of drugs. It is true I have seen excellent results obtained by my colleagues by this method, but I have always asked myself whether they would not have reached their object more speedily by giving first the most suitable remedy by itself and after this remedy had exhausted its good effects administering the other remedy for the remaining symptoms. The violence of febrile inflammations where *Aconite* corresponds to the fever is certainly more speedily subdued if the *Aconite* is given without alternation with another remedy; even if it should seem as though this alternate use of two drugs would lead to the desired end with equal promptitude, yet such a proceeding renders all rigidly-correct observations impossible. In corroboration of this statement, I remind the reader of Dr. Kallenbach's observation, who gave his diphtheria patients, when this epidemic first broke out at the Hague, *Apis* and *Lachesis* in alternation, but who afterwards, when he wished to find out which of these two remedies really effected the cure, saw those of his patients to whom he gave

Apis alone* recover in three days instead of five, whereas those who received *Lachesis* alone did not improve at all. As for my part I have never approved of the alternate use of two remedies, but have always got along best by watching the effect of one of the two concurrent remedies before giving the other, and I recommend this course to all those who wish to make real progress in the difficult art of always selecting the right remedy."

The following may be cited as a specimen of the mode of discussing the treatment of the several forms of disease.

"4. CATARRHAL angina.—This angina, which most commonly attacks the pharynx, velum, or uvula, yields to *Acon.*, or, in case this remedy should not help, to *Nux vom.*, more particularly if the patient complains of a rough, scraping sensation of soreness in the posterior fauces. *Bell.* likewise affords great relief if the affected parts are bright-red, with great dryness and spasm in the throat during deglutition; or *Bry.*, if the great dryness is associated with stinging and soreness, and difficulty of swallowing, as from a hard body in the throat; likewise *Cham.*, if the inflammation was caused by exposure to a current of air or by suppression of the perspiration, with tickling in the throat inducing cough, sensation when swallowing as if a plug were lodged in the throat, swelling of the submaxillary glands; or *Coff.* for an irritation of the throat in the open air, inducing cough, with elongation of the uvula, seated pain from the side of the palate to the fauces and a continued desire to swallow, excited by a sensation as if phlegm were lodged in the throat; finally, *Puls.*, for a scraping and excoriating sensation in the throat, dryness of the throat without thirst, stitches between the acts of deglutition, worse in the evening."

We wonder whether author or translator is responsible for the curious form of the following statement (p. 92). *Epistaxis* is being discussed: "In violent hæmorrhages that

* Apropos of *Apis* in diphtheria, we may note that Jahr himself says—"Since I have become acquainted with *Apis*, I prefer this remedy to any other, and accomplish my purpose with it better than with any other medicine."

cannot be arrested by any remedy, *Croc.*, *China*, *Carbo veg.*, and *Sepia* often help."

Of novelties in treatment recommended on the strength of the author's experience we note *Cyclamen* in chronic catarrh, and *Phosphorus* in fully developed membranous croup.

The Old Vegetable Neurotics ; Hemlock, Opium, Belladonna, and Henbane : their physiological action and therapeutic use alone and in combination. By JOHN HARLEY, M.D. Lond., F.R.C.P., F.L.S. : Macmillan & Co., 1869.

WHEN these studies first appeared in the Gulstonian Lectures of 1868, we gave (vol. xxvi, p. 387) a full account of them, with commentaries. We thus hardly felt it necessary to review the volume in which they were ultimately published. But our attention having lately been directed to it, we find so much additional matter, especially as regards *Belladonna*, of interest to us as homœopaths, that we think it well to give it this notice, however late.

In the first place, an apparent discrepancy between the reading of the dry mouth and throat of *Belladonna* current in our school, and that adopted by Dr. Harley, is now removed. He agrees now with our writers on pharmacodynamics in regarding these symptoms as the result of the arrest of secretion which accompanies congestion and inflammatory stasis. "If we examine the hard and soft palates, and the back of the œsophagus," he writes (p. 225), "we shall find them dark red and congested, and there will be no difficulty in recognising a turgid vessel here and there. It is plain, therefore, that the absence of moisture is not due to occlusion of the blood-vessels; we have, in fact, a condition which exactly resembles that accompanying the typhous state. The blood-vessels of the part are congested, and the blood is arrested."

Next, our observations of the occasional production of

conjunctivitis by *Belladonna* are confirmed (pp. 223-226); while simple injection of the membranes of the eye is with us regarded as indicative of a similar condition of the brain and its coverings (pp. 198, 202).

But the point of chief interest is Dr. Harley's view of the relation of *Belladonna* to fever and inflammation. We cite a few of his observations.

"An action which in every respect is as wonderful as any in nature. An infinitesimal quantity of *Atropia*—a mere atom—as soon as it enters the blood, originates an action which is closely allied to, if it be not identical with, that which induces the circulatory and nervous phenomena accompanying meningitis, enteric or typhus fevers; and as the alkaloid gradually passes out of the body, and is finally eliminated undiminished and unchanged, we see these great functional disturbances decrease *pari passu*, until the body is restored to its natural condition. Such an action is strictly comparable to that of sunlight on a mixture of chlorine and hydrogen, or of spongy platinum on hydrogen. *Atropia* determines an action as powerful and as rapid as either of these agents, and like them it is only the determining cause" (p. 216).

"My experience of the beneficial action of *Belladonna* in *acute disease*, in hyperæmia and stasis from impaired power and disordered action of the sympathetic, either general or local, leads me to believe that it has not yet attained to its legitimate place as a therapeutical agent, and to anticipate that its sphere of usefulness will be acknowledged before long to be co-extensive with that of acute disease itself.

"The similarity of the general phenomena which attend the operation of *Belladonna*, and those which accompany pneumonia, enteritis, the development of pus in any of the tissues or organs of the body, &c., has already arrested the attention. We know that these local diseases are the result of hyperæmia and stasis, and of exudations and their transformations which are taking place to relieve the congestion of the blood-vessels of the part. But what of the pyrexia? Why the general vascular excitement because the bed of the nail or the tonsil is inflamed? We call it symptomatic

or *sympathetic*, and so it really is. One part of the sympathetic nerve is irritated, and the whole system is aroused against a local offender. The pyrexia, then, is not the disease but the remedy. Nature is lavish in this as in all else; she develops the curative means abundantly, and leaves us to control them. Thus we dissociate pyrexia from morbid action; but if it be left uncontrolled, exhaustion ensues, and the remedial action becomes a part of the morbid process, just as occurs with *Belladonna* itself when used injudiciously. Thus, in applying *Belladonna* to the treatment of acute disease, we are not blindly led by an unscientific dogma, but simply follow nature. We divert the sympathetic from the original cause of its irritation by the introduction of another and more general influence which can be readily adjusted and controlled.

“Under the influence of this more general action we see the local irritation and pain abate as soon as the hyperæmia is relieved; and the products of the inflammatory process are rapidly removed, as the circulation through the part is freely established.

“We may readily satisfy ourselves of the influence of the drug in removing congestion and stasis. Thus, if $\frac{1}{200}$ of a grain of *Sulphate of Atropia* be injected under the skin of a frog, in which some cardiac paralyser has previously produced a condition of stasis in the web, we shall soon see the oscillating current begin to take a forward course, and in a short time the flow will be re-established, the dilated vessels will recover their original dimensions, the circulation will proceed with unwonted tone and vigour, and for many hours a slight contraction of the vessels may be observed.*

* “De Meuriot’s observations are as follows: ‘When a few drops of solution of *Sulphate of Atropia* are placed upon the interdigital membrane of a frog, the circulation is instantly accelerated . . . The circulation is maintained with rapidity for several hours, provided the dose of *Atropia* employed be small. If it be large, hyperæmia of all the vessels results; little by little the veins and capillaries become engorged; the circulation becomes slow, and is at last completely arrested. The stasis commences in the capillaries and veins, and the circulation always continues in the arteries for some time after it has completely ceased in the veins’” (p. 218).

“Passing from these observations to a consideration of the action of *Belladonna* in inflammation, we are naturally led to expect that its influence would be both powerful and beneficial. And such, indeed, is the case, provided that the medicine be timely and judiciously used.

“The action of *Belladonna* in febrile diseases is frequently attended with results which are not only unexpected, but exactly the opposite of what is observed in health. Thus it may happen, if we give a full dose of *Atropia* to a patient with a pulse of 120 and higher, a dry and hard tongue, and pupils measuring $\frac{1}{8}$ ”, that after ten, twenty, or thirty minutes, when the action of the *Belladonna* is fully developed, the pulse will be decreased, the tongue be moist, and the pupils contracted. Two similar effects, the one arising from a local irritation, and the other from the presence of *Belladonna*, like spreading circles on a smooth sheet of water, interfere with and neutralise each other. The coincidence of the two actions, and a corresponding augmentation of the effects may be possible, but this I have never witnessed.

“It appears, therefore, that the stimulant action of *Belladonna* is converted in great measure in febrile diseases into a tonic and sedative influence” (p. 245).

It is obvious that all this is homœopathy of the purest water. Dr. Harley’s only sign of consciousness of the fact, however, is his hardly generous side-glance at those who are “blindly led by an unscientific dogma.” It is the story of *Ipecacuanha* in vomiting over again. We who are “blindly led, &c.,” have used it for half a century to the benefit of numberless patients. But now it is re-discovered as an instance of the “tonic action upon the sympathetic generally” of the drug, and takes its place, small dose and all, in the orthodox practice; while our claim to priority is quietly snubbed. Dr. Harley emulates Dr. Anstie, and appropriates *Belladonna* in acute disease without acknowledgment, because we who have used it hitherto have not theorised about “following nature,” but have been “blindly led by an unscientific dogma.” Be it so. We shall not complain if our cause triumph, though its maintainers be

put aside. But it is well to call attention to the steps of the process, which may then be left to the judgment of impartial lookers-on.

Transactions of the Medical Society of the State of New York, for the year 1869.

Transactions of the Homœopathic Medical Society of the State of New York, for the year 1869.

IN Knickerbocker's *History of New York* there is an account of a certain Dutch magistrate who had a reputation for the profound wisdom of his magisterial decisions. On one occasion, if we remember rightly, two merchants had a difference as to which of the two owed the other money, and so they brought the case before this worthy "beak." He called for the ledgers of the disputants, counted their pages, and weighed them carefully against one another in his hands. Finding them to agree in the number of their pages and to be of precisely the same weight, he pronounced judgment to the following effect: That the accounts were equally balanced, that therefore neither owed the other anything, and both should pay costs. If this sapient administrator of law and justice were still an ornament to the New York bench, and had to decide from the books before us as to the relative merits of allopathy and homœopathy in that city, he would give his award without hesitation in favour of homœopathy, for he would find that the volume of transactions of the homœopathic society weighs more than twice as heavy as that of the allopathic; that while the former has 868 pages and 87 articles, the latter has only 368 pages and 35 articles. He would find moreover that while the allopathic volume can only display a few indifferent woodcuts and one tinted lithograph, the homœopathic volume is profusely illustrated by beautifully drawn and carefully coloured engravings.

Now for the contents of the two. And let us in defer-

ence to our elders look first to the transactions of the allopathic society. The first essay that strikes us is Art. iv, an exhaustive essay on acupressure, by Dr. Hutchison, of Brooklyn. Next comes a curious case of spontaneous lithotomy, in which the stone worked its way out below the left groin. Then there is an elaborate report by Dr. R. Newman, on consanguineous marriages. The next paper that strikes us is one by Dr. Jewitt, on *Apocynum cannabinum* in dropsical affections. The author seems to regard it as a powerful diuretic, and to ascribe its beneficial action in certain dropsical affections solely to this quality. An elaborate paper on vesico-vaginal fistula and its treatment by what is called the button suture, will be interesting to the limited number of surgeons who occupy themselves with the treatment of such maladies. Dr. Hun gives a good account of trichina spiralis and trichinosis. A new—or rather a modification of Syme's—operation for stricture, called by the author, Dr. Gouley, "external perineal urethrotomy," is the next paper that strikes us as original and useful. An article on placenta prævia, by Dr. Gay, strikes us as not up to the mark; the best method the author can propose is apparently the induction of syncope; our colleague Dr. Wielobycki's simple and ingenious plan of treating this malposition seems to be unknown to him.

These are the chief matters of interest in this volume of *Transactions*. A large portion of the volume is occupied with biographical memoirs of deceased members, and a still larger portion with a list of all members past and present since the foundation of the Society in 1808.

The superiority of the transactions of the homœopathic society is not more apparent in the size of the volume, the number of the papers and the profuseness and beauty of the illustrations, than it is in the quality of the articles it contains. While there is little in the allopathic volume that can be said to show originality or progress in medical science of any description, and much that harassed editors are in the habit of irreverently calling "padding;" there is in the homœopathic volume a freshness, vigour, and originality about almost all the articles that give us the

idea of a young and progressive medical school, eager to advance the art of healing in every possible direction.

There are three articles by the indefatigable Dr. E. M. Hale on new medicines. The first is a tolerably complete pathogenesis of *Ptelia trifoliata*, accompanied by a chromolithograph of the plant very well executed. The provings do not seem to have elicited much of a remarkable or characteristic nature in this plant. It does not promise to be of any great therapeutic value. Dr. Hale's next contribution is a fragmentary proving of *Menispermum canadense*. Accompanying this paper is a beautiful chromolithograph of the plant, and two other similar plates of the *Cocculus caslanus* and the *Calyocarpum lyoni* with which it is compared. The third of Dr. Hale's articles is on the so-called *Colorado Potato-bug* (*Doryphora 10-lineata*), a beetle of a peculiarly poisonous nature, found on the potato plant in some parts of North America. The poisonous effects seem to resemble those of the bite of some serpents. This paper is accompanied by beautiful chromolithographs of the beetle in question in all its stages of development, together with another beetle resembling it called the *Bogus Colorado Potato-bug*, and of all the flies, bugs, and beetles, its enemies. Another paper with which Dr. E. M. Hale has had something to do in the way of annotations is an article on Retroversion of the Uterus, by Dr. Hull, of Chicago. Dr. Hull recommends for this very frequent and very troublesome affection a pessary, called Scattergood's pessary, which seems well adapted for the purpose. The next paper is a detailed account of a remarkable case of strangulated umbilical hernia in a woman, occurring during pregnancy, in which fifty-eight inches of the intestine were found to be mortified and were removed, and an artificial anus created which in its turn was cured by operation. This is altogether a most wonderful and perhaps a unique case, and it is related with much simplicity and clearness by the operator, Dr. Beebe, of Chicago.

An article on "Progressive Locomotor Ataxy," by Dr. M'Clatchey, is followed by one on "Uterine and Vaginal Surgery," by Dr. Morgan. Dr. James contributes a paper

on "Encephaloid Disease," illustrated by drawings of a case of encephaloid of the eye in different stages of growth. Dr. Jones has invented a new triturator, of which he gives a descriptive drawing. Dr. Williamson has some sensible remarks on clinical experience, and Dr. Talbot gives seven cases of hydrothorax. Dr. Woodvine gives a short article on "Entozoa," accompanied by some excellent plates illustrating the minute anatomy of these parasites. Ten cases in surgery by Dr. Tod Helmuth follow this. They consist of the following more or less heroic operations:— 1 and 2, amputation of the thigh; 3, removal of the superior maxillary bone; 4, rhinoplastic operation; 5, fibroid polypi of uterus; 6, polypus of rectum; 7, tumour of left mamma; 8, resection of tibia; 9, resection of elbow-joint; 10, lithotomy. These cases are illustrated by coloured engravings, and are all extremely interesting, and give us a high idea of Dr. Helmuth's surgical skill. Dr. Burrows has some remarks on diphtheria, in which disease he especially commends *Arsenicum*. It is not of a deficiency, but rather of a redundancy of remedies for diphtheria that the young homœopathist has to complain. This *embarras de richesses* proves that the treatment of diphtheria is not yet so certain as is desirable. A thoughtful and suggestive article on "The Materia Medica in its Scientific Relations," by Dr. Rodman, comes next. This is followed by a short account of an epidemic dysentery, by Dr. Cropper. A review of some lectures against homœopathy comes next. Our Mr. Pope's well-known essay on *The Drift of Modern Medicine*, is reprinted in full, and is followed by an article on "The Origin and present Status of Homœopathy," by our Dr. Bayes. The remainder of the volume is chiefly occupied by reports of Public Institutions, and County Medical Societies, in which are contained several valuable papers on various subjects, notably one by Dr. Avery on "Pulmonary Tuberculosis," illustrated by a series of excellent chromo-lithographs.

Altogether, this very handsome volume is very creditable to our transatlantic colleagues, and we should feel very proud could we on this side of the Atlantic produce a volume of equal value and beauty.

Joseph Bonjean's Elixir of Health against Digestive Disorders. Chambery, 1870.

"If I was not a Frenchman, I would like to be an Englishman," said the polite Gaul to his English acquaintance. "If," was the reply, "I wasn't an Englishman, I'd like to be one." "Mossoo" occasionally displays his fervid desire to appear English by writing books like the above in what he conceives to be English, but which bears as much resemblance to the intended language as the French taught at Stratford-atte-Bow probably did to the language talked at Paris. How can we account for so many Frenchmen writing books in the incomprehensible jargon they intend for English? We are not aware that any Briton would think of writing a book in a language he was almost unacquainted with. He would rather abstain from writing altogether or intrust the literary part to some friend whom he knew to be a master of the language. His self-respect would keep him from publishing such glossological monstrosities as are frequently produced by our Gallic neighbours, and of which the work before us is a specimen. Frenchmen wish to show what first-rate Britons they would make were they not Gauls. The excellent Joseph Bonjean (or "Bono Johnny," as he might have rendered his name) of Chambery, lately a Savoyard but since the Napoleonic annexation, a good Frenchman—whether to remain such or become once more a simple Savoyard in the general *débâcle* that seems to be overtaking the "grande nation"—has a nostrum which he wishes to recommend to the English patient-world, so he writes a pamphlet setting forth its virtues in what he imagines to be the language of "perfidè Albion." He introduces his remedy to us thus :

"The elixir of health which I created in 1854 is by the advice of all physicians who have employed it the surest remedy against nervous affections of the stomach and intestines. Here is the explanation :—The remedy has for basis *Sulpheric Ether*, which constitutes the greatest medical

trial against nervous affections in general, especially those of the stomach. The *Ether* is combined with sugar in *apparels* of my invention and then united to substances lightly exciting, like tea, the peel of bitter orange, mint, aniseed, balm mint, &c. &c., so that it does not evaporate even after a vomitive; it enters thence in all the circulation of the body, instead of being rapidly evacuated as when it is taken as a portion."

We are curious to know what particular article of his *apparels* he employed in the process, but he is strangely reticent on this point. We remember a hospitable widow lady in a northern town, who had a reputation for her supper-parties, confiding to her guests one evening, to their great delight, that she utilised her late lamented husband's flannel drawers for the preparation of the admirable jellies they had just partaken of. Possibly this may afford us some clue to the *apparels* used by M. Bonjean in the preparation of his Elixir. If so, then, we think that his assurance that "it does not evaporate after a vomitive" would afford his patrons small consolation. We rather suspect most people would agree with him in considering a dose of his medicine "the greatest medical trial" they could subject themselves to. We would seriously advise M. Bonjean, if he wishes the British public to try his elixir, to refrain from revealing the awful mysteries of its preparation, at least in English, that is to say, in his English, which bears as much resemblance to the real thing as the hurdy-gurdy of his fatherland does to Joachim's violin.

A Manual of Pharmacodynamics : being Part I of a Manual of Homœopathic Practice for Students and Beginners.

2nd edition, revised and augmented. By RICHARD HUGHES, L.R.C.P., &c. London : Turner & Co.

As the preface to this second edition, which appears in our advertising columns, sufficiently explains wherein it differs from the first, we have nothing here to do but to note its appearance.

CLINICAL RECORD.

Popliteal Aneurism. By Dr. DUDGEON.

W. F—, æt. 75, had been more or less under my care for a couple of years, on account of paralytic affection of his legs, which he ascribed to a severe fall on the back a year previous to consulting me. During these two years, in spite of the steady use of galvanism, which seemed to suit him well, the paralysis made slow progress until, at the end of that period, he could with difficulty shuffle along the floor with the help of some one's arm. The sensibility of the limbs seemed unimpaired, and when lying he could raise his legs freely enough, but his powers of locomotion were nearly if not quite gone. For upwards of three weeks I had not seen him, when on the 13th October, 1868, he came to my house and showed me what he called a sore place on the side of the right great toe next the second toe. I found nearly the half of the toe on that side black and gangrenous, and feeling up his leg I discovered an aneurismal tumour, of the size of an orange, in the popliteal space. I sent him home and enjoined him not to leave the house. In less than a fortnight the gangrenous mass, which involved nearly the half of the toe, became detached, bringing along with it a portion of the extreme phalanx, and there appeared a healthy surface with numerous granulations. At this time I had Sir W. Fergusson to see my patient, in order to ascertain if any operation was advisable. Sir William would not advise any operation, as there was evidently so great a tendency to gangrene already that he feared an operation would be followed by fatal consequences, so he advised that nothing should be done, and he told the old gentleman that he might think himself extremely fortunate that the gangrene had not spread further. About the middle of November, the toe was quite healed and the patient was able to take carriage exercise and attend to his business as usual. I may mention that the only treatment he had on this occasion, was *Secale* 1, internally, twice or thrice daily, and whilst any portion of the sphacelus remained, a lotion of *Chlorate of Potash* to the toe.

After the toe had healed I continued to see him about once a

week until the 7th of January, 1869, when I was sent for by his attendant, who thought that all was not going on as it ought. I found the right leg, from a little below the knee to the end of the toes, icy cold, thin, and shrivelled looking, without the least sensation and with no perceptible circulation. I was told that this had been the state of things for two days, and that no amount of hot flannels or friction would bring the least heat or feeling into the limb. The aneurism was pulsating strongly, but I could find no pulsating vessel below the knee. I dreaded mortification of the whole limb and ordered the hot applications and frictions with various stimulating substances to be continued unremittingly. I gave also *Secale* internally, as before, only at more frequent intervals.

The following day the leg appeared to be warmer, and the day after it was not only warm but much too warm. It swelled, grew hot, red, and shining, and the patient complained of it being quite painful. I feared the reaction would be too strong, and prescribed cooling applications, such as cloths dipped in brandy, an elevated position for the leg, and gave internally *Belladonna* and *Arsenicum* ʒ. This violent reaction gradually subsided after a few days, and things resumed their former appearance, though the pulsation could never afterwards be felt in the arteries below the aneurism. I may mention that the paralytic symptoms continued to advance all this time. He had for some weeks been unable to stand alone, and urine and fæces were from this onwards passed involuntarily. His nights too, were excessively sleepless, and he usually attempted to get out of his bed or talked incoherently almost all night. By day he was quite collected and apparently rational. It was only on rare occasions that he seemed to have delusions by day also. There was, occasionally, a good deal of difficulty with the bowels, as having no call to stool a large quantity of fæces would accumulate in the large intestine. I had to meet this with occasional doses of *Castor oil* or confection of *Senna*. But even these were not always effectual, and I had more than once to remove mechanically the accumulated fæces. The urine gave no trouble, except to the nurse. It simply dribbled away constantly day and night. In spite of a water-bed, and water and air-cushions, bedsores were constantly occurring on the back or on one side or the other, from this period until the end of his life. These were often very

difficult to heal, but with care they were healed, but only to give place to others in different parts.

Towards the end of February there appeared a black sphacelated spot, the size of a florin, on the right heel. This I again treated with *Secale*, and it gradually and slowly separated, and left, as on the former occasion, a perfectly healthy sore, which, however, took four months to heal thoroughly, so low was the vitality of the limb. But long before it healed, viz. on the 11th of March, a great change occurred. I had been in the habit of feeling the aneurism every day, and measuring it very frequently with a tape measure in order to see if it altered in size. I cannot say that I perceived any marked alteration in its size from the first time I observed it. It was sometimes a trifle larger, and again as much smaller: but, on the whole, it remained nearly stationary as to size. On the date mentioned, on feeling the tumour, I was surprised to find it quite hard, incompressible and without pulsation.

The following day Sir William Fergusson saw and examined the leg, and congratulated the patient on the cure of the aneurism. The patient continued under my observation until the 7th of July, 1869, during which time the aneurism remained always the same, a hard, pulseless tumour. Nor could I detect any diminution of volume by the most careful measurement. He was removed from my care by some officious friends on that date, taken to Tunbridge Wells, and placed under allopathic treatment. He died on the 28th of August, and I lost the opportunity of making a post-mortem examination, which could scarcely have failed to be interesting.

I do not pretend to ascribe the cure of this aneurism to the *Secale*, which I administered for the sphacelus, though the cure of the aneurism took place while the patient was under the action of this drug, and we know that *Ergotin* has recently been much recommended in aneurisms. I only state the facts as they occurred, whence each may draw his own inferences.

I should mention that the sleeplessness and restlessness increased to such an extent that I found myself compelled to give him a nightly dose of *Morphine* for the last two or three months of my treatment. Without this he was restless and talkative all night.

There are several cases of spontaneous cure of aneurisms on

record, but I think there are some features in this case which render it unique. And first in respect to the gangrene. When this occurs in consequence of the impeded circulation in a limb affected with aneurism, it is seldom limited to the small portion of the limb it was in this case. Moreover, it is said to be generally or always preceded and attended by severe pain. My patient suffered no pain at all with either of his gangrene attacks. And yet the sensibility of the limb on both occasions was apparently perfect. He felt the slightest touch, but the complete absence of pain during the whole course of his disease was very remarkable. I do not remember to have read of any case of spontaneous cure of popliteal aneurism where the patient was so old as this one. Nor am I aware of such a case having occurred along with this form of paralysis, the progressive locomotor ataxy of French authors. The violent inflammatory attack in the leg that preceded by a few weeks the cessation of the pulsation was probably the immediate cause of the latter phenomenon. The arteries probably became filled with a fibrinous clot which gradually extended up to the seat of the aneurismal dilatation, and caused that to fill with a similar fibrinous clot.

Cases from Practice. By Dr. RICHARD HUGHES.

Headache—Atropia.

MRS. S—, a slender married woman of about 32, was bringing a child of hers for advice, and mentioned incidentally that she herself suffered every now and then from severe headaches, and would be glad if she could have something to take at the time to relieve them. From the symptoms she mentioned, I recommended *Aconite* for this purpose. It was tried, and succeeded well the first time; but on the second occurrence of the headache had no effect. I then recommended her to let me go into her case, and treat her systematically, to which she consented.

I found that the headaches attacked her about once a month, but not at the catamenial times. They came on rather suddenly, and soon became so intensely severe that she was blind and commonly delirious with the pain. This intensity of suffering

only lasted about three hours, but she was shattered for some time afterwards. There was no nausea or vomiting, and no flushing of the face. She could hardly localise the pain: it seemed deep in the brain, she said. Her health was otherwise normal, but she is of a nervous, though not hysterical, temperament. She dreads these attacks intensely.

I prescribed *Atropia* 2, two drops in water morning and evening.

The child was by this time out of hand; and I saw nothing more of the mother for some months, when she came, she said, to thank me for curing her headaches. She had had one slight attack since beginning the medicine, and that was the last of them. This is three months ago; and I doubt not but that I should have seen the patient had her symptoms returned.

I have given *Atropia* also with much benefit in a case of chronic headache, where the brain or cranial nerves might be said to be in a state of continual hyperæsthesia. The head was ever "on the ache," and not a week passed over without a severe paroxysm of pain.

The above are instances of pure nervous headache. In the following case the liver was evidently the *fons et origo*, though the headache formed the matter of complaint.

Headache—Chelidonium.

Agnes F—, æt. about 30, had suffered on and off from recurring "sick headaches" for the last eight years. I have treated her at times in the past, but with little result. On May 16th in the present year, she again applied to me to see if I could help her in this respect. When I came to inquire into her condition I found that the symptoms had acquired so typical a form that I was able to promise her almost certain relief.

Every fortnight regularly this patient began to feel much pain in the right hypochondrium, which gradually increased in severity. As it grew worse, the head began to ache, especially in the right forehead and temple. This also rose by degrees to its acme; and, as it did so, the nausea which had been present to some extent from the first resolved itself into vomiting, chiefly of bile. This continued for some hours, and then the symptoms as gradually declined, the whole attack lasting nearly three days. In the intervals there were occasional feelings of headache,

sickness, and pain in the side, but in a slight degree. The secretions and the uterine functions were normal.

The medicine I had fixed upon in my mind as I heard her story, and from which I was able to promise such certain benefit, was *Chelidonium*. I gave her three drops of the 3rd dil. night and morning.

May 30th.—The attack came on at the usual time, but was less severe. Continue medicine.

June 15th.—It is now three weeks since the last paroxysm, and no further one has occurred; she feels altogether better. Continue medicine, 3rd dec. dil.

25th.—An attack came on the day after I last saw her, but was quite a slight one. She feels little of the nausea, headache, and pain in side. Continue medicine.

This was the last of the headaches. I saw her twice in July, and once in August; but only to receive the same report "no headache, and feeling quite well." She has now discontinued the medicine for more than a month.

Carotid Aneurism (?)—Lycopodium.

An old lady in her eightieth year sent for me on June 16th to look at a lump which had come in her neck, and which was causing her some inconvenience. I found just external and inferior to the angle of the right jaw a swelling rather larger than a walnut. It pulsated strongly, and felt continuous with the carotid below. It was not at all tender, but was the seat of shooting pains radiating to the neighbouring parts. She had noticed it gradually increasing for about a fortnight.

I have put a query to my diagnosis of the nature of the case, but I cannot really conceive of the swelling being other than aneurismal. *Lycopodium* having been spoken of for this malady, and having frequently of late years relieved her of dyspeptic symptoms, I gave her a drop of the 12th dil., three times a day.

On the 18th, I found the shooting pains diminished, and by the 20th they were gone. At this time too I could assure myself that the tumour was diminishing in size. It continued to decrease for another week or ten days, when there was but a small difference between it and the corresponding spot on the left side. It now became stationary, but causing no inconvenience; and after another week I discontinued the medicine.

Rheumatic Paralysis—Rhus.

A woman, æt. 52, came to see me at the Dispensary on August 2nd. She had a wretched appearance, and came in dragging her legs after her rather than walking. Her story was that a year and a half ago, on a cold winter's day, she had to take a long railway journey, involving much changing trains and waiting at stations, so that she became chilled to the bone. Since then her legs had gradually become stiff and weak. There was numbness of the feet, with tingling; and every now and then she had attacks of painful stiffness in the back which would lay her up for two or three weeks. The urine was thick, and the action of the bladder uncertain; but as she had a prolapsed womb, no stress must be laid on the last-named symptom.

She got *Rhus*, and took it in the dilutions from 12 to 1 for a month. There was steady improvement, both in general appearance and in the power of the limbs. On August 30th she reported that she had walked five miles during the preceding week, whereas formerly a hundred yards had been a fatiguing journey to her.

I put this case on record as a contribution towards the identification of the disease vaguely described as "rheumatic paralysis." The indications for *Rhus* are obvious.

Ovarian enlargement—Kali bromidum.

Mrs. C—, æt. 38, an old patient of mine, asked me to attend her in her confinement, which she expected in January of the present year. This was in August, 1869. She mentioned that, while all the other signs of pregnancy were present, she was rather puzzled by the fact that her monthly periods recurred as usual, and were indeed rather profuse. She had consequently said nothing of her expectations till now, when her doubts were set at rest by her having quickened. As she had had several children before, I entertained no misgivings as to the correctness of her discernment; and merely determined in my own mind to look out for placenta prævia.

January came and went, but no baby appeared. I visited her. Her size was what might be expected; and she stated that she felt the movements of the child strongly, and had done so ever since the quickening. The periods had continued regular till

now: and as, under the circumstances, it was easy to be out in reckoning, I advised her to wait another month.

When, however, February had passed away, and all was as before, I recommended an examination. I found, as I expected, no foetus: the womb was not enlarged at all. The abdomen was large, but not tense: and on palpation I found rising from the left iliac region a well-defined elastic tumour, yielding indistinct fluctuation. It was here, she stated, that the movements were so plainly felt.

I stated my diagnosis,—ovarian enlargement, probably dropsical: and, remembering Dr. Black's case in vol. xxvii of this Journal, prescribed *Kali bromidum* ϕ , a grain night and morning.

One interesting result followed almost immediately. In thirty-one hours, after the third dose of the medicine had been taken, the fancied "movements," which had lasted six months or more, ceased, never to return. If the mental influence of the revelation of her real state had brought about this result, it would surely have done so more rapidly.

At the end of a week she thought there was a little diminution in her size. After a fortnight the decrease was unquestionable,—she was an inch smaller round the centre of the abdomen, and felt lighter. When a month had elapsed I examined again, and found every trace of the ovarian enlargement gone. But the abdomen, previously flabby, was now tense; and examination showed, by fluctuation and dulness on percussion, the presence of fluid. What had occurred? Had the ovarian cyst rapidly increased so as to fill the abdomen? I think not, for the fluid evidently lay loose in its cavity, and gravitated with the posture of the body. Had the cyst ruptured, and its contents escaped into the peritoneum? This is possible; but is hardly consistent with the gradual diminution in size and weight.

The interest of the case is now over. The subsequent treatment, embracing the use of *Apocynum*, *Apis*, and *Arsenicum* successively (as for ascites), has resulted in an almost complete restoration of the natural bulk. The patient has now settled away from Brighton: so I cannot say whether any fluid is still present in the abdomen.

Fungus hæmatodes (?)—*Phosphorus*.

Miss W—, æt. 46, consulted me on May 23rd, telling the

following story. Five years ago she noticed a small lump in the right breast. She showed it to a physician, but he told her not to be troubled about it. She thought no more of it till last winter, when it began to enlarge, and to be the seat of darting pains. Then a hole formed in the skin, through which matter discharged; and last a flat sore formed at the seat of the lump.

This was the condition of things when she came to me. I found a sore, not much depressed and not unhealthy looking, near the nipple. The latter was not retracted, and there was no hardness at the base of the sore. The health was good; and the only trouble complained of was the soreness and occasional pain at the seat of ulceration.

I prescribed (I hardly know why) *Phosphorus* 6, a drop night and morning: and *Calendula* lotion to the sore.

Miss W— came again on June 3rd, and, on displaying the breast, showed me to my horror a large bleeding fungus, which had sprouted from the sore during the ten days since I first saw her. It bled freely when dressed, and was the seat of frequent and severe darting pain.

The case recorded in vol. xxvi of this Journal, p. 658, had determined me to try *Phosphorus* in the first case of encephaloid cancer which might come under my care. Regarding the fungus before me as of this nature I prescribed the medicine; but, as the disease had manifested itself while the patient was already taking frequent doses of a medium dilution, I gave rare doses of a high, viz. a drop of the 30th every alternate night. The growth was to be dressed with dry lint, and to be kept cool; pressure also to be made upon it by means of a bandage.

June 10th.—The fungus had not increased since last week: and there is little pain now, and less bleeding than before. Continue.

18th.—No increase of size: the pain quite gone, and the bleeding only occasional. Continue.

25th.—Report the same: bleeding quite ceased, and the fungus, which was dark red at first, is now pale, and is suppurating. Continue.

So matters stood till August 4th; when, the size of the growth remaining unaltered, I thought I would try whether *Thuja* would help us, and prescribed it in the 30th dilution.

August 9th.—Miss W— came to me again thus early, because

she feared that the growth was increasing. It was certainly looking larger, and I found on one side of it a fresh red mass, which had evidently sprung from the root of the fungus, and was pushing the old and deadened portion up from beneath. There had been an outburst of bleeding. As may be supposed, I returned to the *Phosphorus* 30, giving a dose every evening.

31st.—Miss W— has been taking the *Phosphorus* till now. The progress of the excrescence has again been checked; there is no pain or bleeding; her general health is excellent; and the axillary glands are unaffected.

As my patient is leaving for Canada at the end of September, I shall have little opportunity of following up her case. But as far as it has gone it seems to me very interesting. I have called it one of "fungus hæmatodes:" for there was certainly a fungus growth, and one which bled freely. But whether it is an instance of the encephaloid cancer which commonly goes under this name, I hesitate to say. The effect of the *Phosphorus* has been very decided: and the appearance of the growth while the 6th dilution was being taken frequently, and its immediate arrest by the 30th dilution taken rarely, is sufficiently curious.

I shall, if occasion offers, report the further progress of this case.

Homœopathy at Warsaw.

THE *gobe-mouches* of the old school recently swallowed, with much apparent satisfaction and avidity, a *canard* about the Czar having put a stop to the practice of homœopathy throughout his dominions. It was shown at the time that the report was a mere stupid hoax, for we have certain knowledge that homœopathy is in great favour, especially among the educated classes of the Russian Empire. We borrow from the columns of our contemporary, the *Bulletin de la Société Médicale Homœopathique de France*, an account of the present condition of homœopathy in the capital of Russian Poland, from which it will be seen that the system of Hahnemann is tolerably well appreciated even in that least favoured part of the Czar's dominions.

Homœopathy is represented at Warsaw by a small group of

medical men. But these disciples of Hahnemann have, by their success and zeal, obtained for the new school a most respectable position, in the face of a large and highly esteemed body of old-school practitioners.

At the head of this small body of homœopaths we find Drs. Kuszinski and Wieniawski. By their learning, their familiarity with the languages of Western Europe, their care to keep themselves *au courant* with recent scientific discoveries and discussions, they both take high rank among men of science.

They were not content with a large private practice, but felt it incumbent on them to devote themselves to the propagation of the truth they held. In 1867 Dr. Kuszinski gave public lectures on homœopathy at Warsaw. In the same year the Administration of Hospitals granted to Dr. Wieniawski, in the Hospital of the Holy Ghost, where the allopathic faculty had their clinical department, a ward in which to practise the homœopathic method.* In August, 1868, a homœopathic pharmacy was opened by Mr. Schmitt in Warsaw, by the special authorisation of the Czar. Drs. Wieniawski, Kuszinski, and another, whose name the writer forgets, opened a dispensary in connection with the pharmacy.

All these innovations were made without opposition from the allopathic doctors, a thing scarcely credible to the practitioners in countries farther west. The Warsaw doctors combat homœopathy with honorable weapons, and they treat their homœopathic colleague as a colleague whose honour and good faith are to be respected. At the inauguration banquet of the homœopathic pharmacy there were present, among others, two allopathic doctors, inspectors of the medical science of Poland, who drank all the homœopathic toasts heartily.

On the 12th September the Administration of Hospitals allotted to Dr. Wieniawski a ward of eight beds, to which the patients were only to be admitted on their demand for homœopathic

* Dr. Wieniawski had already practised homœopathically from the 1st October, 1856, in the Hospital of Szczebrzeszin [a charming name, only we have too much respect for our jaws to make an attempt to pronounce it], near Zamosc, founded by the Zamoiski family. The following were the statistical results furnished by the homœopathic treatment in that hospital: mortality, 18 in 541 patients = 3·33 per cent; expense of medicines for each patient per day, one twentieth of a kopeck = 0·002 fr., or the fifth part of a centime.

treatment. Into this little ward there were admitted, from the 11th September, 1867, to the 27th March, 1869, 106 male patients. Of these, 46 belonged to the following professions—priests, doctors, professors, students, employés, showing that the first recruits were from the literary class. The following shows the general results of the treatment :

Admitted, 106; died, 6; cured, 93; dismissed on the 27th March, 1869, 9.

On the 27th March a severe epidemic of hospital gangrene having broken out in the surgical wards, this one was required for the separation of the patients, so that the homœopathic treatment was brought to a rather abrupt conclusion. This was only for a time, however, for the hospital administration, having witnessed the good results of the treatment, promised to give up to it a larger number of beds as soon as convenient.

Subjoined are some cases treated in the hospital by Dr. Wieniawski.

OBS. I.—*Encephalitis.*

M. S—, notary, 53 years of age, admitted the 2nd May, 1868. The patient has led a sedentary life, more so even than his profession demanded. Hæmorrhoidal attacks several times a year; frequent appearance of eczema on the forehead and face, consisting of small vesicles, followed by desquamation; a spinal curvature in the lumbar region, causing a bending inwards of the whole of the right side.

According to what his sister says, his character has totally changed the last six months. He has become much milder, and from parsimonious has become prodigal; his head was always full of expensive purchases and buying large properties. This was succeeded by wandering and delirious ideas, and any remarks made to him by those about him caused fits of rage, proceeding to fury, with convulsions, lasting several hours. At this time the patient came into the province of Warsaw and was lodged in a hotel, but his cries and fits of violence rendered it impossible to be in such a place, so he was brought to the hospital on the 2nd May, and was placed in the homœopathic ward.

The patient complains of much pain in the dorsal region of the spine; the lower extremities, paralysed for ten days, are the seat of frequent and insupportable cramps; these cramps affect also the

muscles of the belly, and the patient feels as if the abdominal parietes were constricted by a cord ; there is retention of urine. The patient in his hallucinations sees the Blessed Virgin surrounded by circles of light ; his eyes are sparkling ; his expression fierce ; deglutition difficult. *Belladonna*, a drop of the mother-tincture in a quarter of a glass of water, was swallowed with difficulty. Some hours afterwards the symptoms grew worse, and towards evening he fell into a state that seemed to threaten immediate death ; the limbs were completely rigid, the face immovable, the skin insensible and cold ; the pulse 50, scarcely to be felt ; respiration hardly perceptible.

3rd.—The pulse rose to 80, and the eczema of the face re-appeared. The patient regained consciousness gradually ; he can describe his sensations accurately, and he says that his cramps come on at every change of temperature ; he has perpetual yawnings. *Bell.* 3, a drop every four hours.

5th.—The patient has no pain. The insanity has taken a completely religious turn. He quotes texts from the Bible ; prepares himself for confession ; all the morning he is searching for something in his prayer-book, but cannot find it. *Verat.* 8, as above.

6th.—The cramps return with severity ; the whole body is affected with clonic convulsions ; the urine sometimes passes involuntarily and unconsciously ; the alienation continues. The same remedy, and to take in addition, in the evening a dose of *Cuprum* 30,

8th.—Same state. The eczema has disappeared ; the patient asks for food. *Verat.*, 4 doses per diem.

10th.—No sleep at night ; cramps in the upper and lower extremities ; abdominal constriction ; spinal pain. Urine clear ; blood has appeared in the stools. *Nux vom.* for the evening.

11th.—Intelligence perfect ; the patient complains of burning in the urethra. Same medicine.

12th.—General rigor. Burning like a hot iron in the canal ; severe cramp in the calves. *Cupr.* in the morning, 2 doses ; in the evening *Nux v.*

13th.—Cramps and rigor gone. Complete restoration of the intellect.

15th.—The patient, having been informed by some letters that an intrigue to deprive him of his lucrative situation is going on

in his province, begs to be dismissed, and is allowed to go out. Since that time a year has elapsed, during which he has been able to fulfil his functions as notary.

OBS. II.—*Pneumonia.*

L. P—, house-porter. was admitted 7th January, 1868.

7th January.—The patient, who has a vigorous constitution and has never before been ill, has been suffering for four days. After a chill there came on rigor, then violent pain, with much thirst, dry mouth, and anxious breathing. On examination, the fourth day of the illness, percussion elicits a dull sound on the right half of the thorax, and on that side auscultation reveals a crepitant râle in front and tubular breathing behind. The patient coughs little, and it is only on breathing deeply that he experiences a stitch in the side. Urine scanty and red; skin dry; some delirium at night. *Aconite* 3, a dose every two hours.

8th.—Same general and local state. No motion for three days. *Bry.* 3, as above.

9th.—Fever continues, crepitating rattle and tubular breathing heard on taking a deep breath.

10th.—The patient no longer feels the stitch in the side on coughing. Expectoration easy, sputa rusty, crepitation very distinct. No fever; pulse 60. *Bry.*, as before.

11th.—Crepitation moister, mucous rattles, copious stool. No medicine.

12th.—Patient feels much better. Sputa easily ejected; they no longer adhere to the side of the vessel.

14th.—The patient wants food, which is given him. Since the 11th has had no medicine. Is convalescent. He left the hospital quite cured on the 18th.

OBS. III.—*Pneumonia.*

O. M—, æt. 44, admitted 19th December. He is a stout-made man, with a capacious chest, of sanguine temperament. For a considerable time he has had an ulcer on the right leg. Five days ago, when working at his trade of mason, in wintry weather, he caught cold; this was followed by stitches in the left side, a violent rigor, high fever; expectoration of bloody viscid sputa that adhered to the sides of the vessel. On this, the fifth day of

the disease, dry crepitating *râle* is heard posteriorly on the left side in the region of the scapula; the fever is very strong; tongue dry and fissured, great heat of skin, pulse 120, delirious at night. A diarrhœa, which began three weeks ago, still continues; abdomen tympanitic. *Acon.* 2, a dose every hour.

20th.—Same state. To continue the medicine, and, in addition, two doses of *Sulphur*—one in the night, the other on the following morning.

22nd.—Fever abating, pneumonic symptoms diminished, diarrhœa stopped. Continue.

23rd.—Fever much less, perspiration, face coloured, tongue moist, sputa still rust-coloured, mucous rattles in the chest, nocturnal delirium. *Bry.*, four doses during the day.

24th.—Fever quite gone, tongue moist and soft, sputa not bloody. *Bry.*, as before.

26th.—Auscultation shows the hepatization in a fair way to be resolved.

The patient was going on favorably when, on the 30th December, without apparent cause, there came on a tiresome cough, with abundant expectoration of rusty sputa. *Phos.* 12, three doses a day. This relapse was speedily allayed. On the 4th January the expectoration was much diminished; the patient had entered on convalescence, asked for food, and walked about the ward. On the 11th January he was dismissed completely cured of his pneumonia, and at his own request was transferred to a surgical ward to be treated for the ulcer on his leg.

Obs. IV.—*Pneumonia.*

H—, æt. 42, admitted 23rd November, 1867.

24th.—Four days ago, after a chill, he had a rigor which lasted some hours: then high fever, with stitches in the left side, tiresome cough, quickened respiration, bloody viscid sputa, headache. To-day the pulse is hard, 90. Percussion elicits a dull sound throughout the whole of the left side of the thorax, and fine crepitation is heard at the lower part of the left lung. Disposition to diarrhœa. *Acon.* 2.

25th.—Fever continues, with great thirst; tongue dry and red. But the stitch in the side is only felt on coughing, or breathing deeply; perspiration has set in; the sputa are less

copious and less viscid. Tubular respiration on the left side. Delirium at night. *Acon.* 2.

26th.—The hepatized lung is still impermeable to air; cough dry, and in fits. *Bry.* 6, a dose every hour.

27th.—The general condition is better. No more thirst, diarrhœa, nor stitch in the side. The tongue is clean, moist; sputa less coloured; crepitation less harsh. *Bryon.*

28th.—Pulse 75, respiration easy; mucous rattle in both lungs; appetite returned. *Bryon.*

30th.—Yesterday the patient had a slight rigor followed by feverishness and perspiration. To-day he feels quite well; the sputa are no longer coloured, and the air penetrates freely into both lungs. No med.

1st. Dec.—A natural motion; convalescence established; and the patient is dismissed quite cured on the 3rd Dec.

Obs. V.—*Aphonia.*

A. F—, æt. 24, admitted 28th November, 1867. Four months ago this young man was suddenly attacked with aphonia, without preliminary hoarseness, fever, pain in the larynx, or any hereditary disposition to phthisis. He had been treated in two allopathic hospitals; the second was the Lazarus Hospital, though he showed no signs of syphilis. There he was subjected to a mercurial treatment administered on a grand scale; he came through this trial much enfeebled, but without any return of his voice. The voice is completely extinct, he tries hard to produce articulate sounds, but all his efforts are in vain. He has great dryness of the throat. *Spongia.*

10th Dec.—The dryness of throat continues, along with it there is a sensation of scraping; he has a shrill cough when he eats or drinks anything hot; no pain in the larynx when touched. *Sulphur* two doses, after this the patient remains twenty days without medicine.

30th Dec.—Aphonia still complete. *Caust.* 30 morning and evening for four days.

8th Jan., 1868.—To-day, for the first time, the voice was heard, but it immediately became extinct. No remedy.

23rd.—From time to time the patient succeeds in uttering some sentences in his natural voice; but in about an hour he again loses his voice.

30th.—He speaks progressively always better. In the morning he speaks without effort in his natural voice; towards evening the voice usually becomes fatigued and dies away. *Caut.* 30, two doses.

This remedy was followed by an aggravation that lasted some days and then went off; and on the 17th February the patient in the full enjoyment of his voice and without any painful sensation in his throat, leaves the hospital completely cured, to the astonishment of his friends, and to the great honour of homœopathy.

Obs. VI—*Typhoid fever.*

A. W—, 16 years old, admitted the 17th March, 1868. He has been ill five days. The febrile state is violent, continued, with headache, noise in the ears, epistaxis. *Acon.*

18th.—Violent fever, nocturnal noisy delirium, deafness; tongue moist, abdomen tympanitic, constipation, spots the size of a lentil appear on the abdomen and chest. *Bry.*, a dose every two hours.

19th.—Same general condition, a liquid stool. *Rhus tox. ut supra.*

22nd.—Intense delirium, during which he tries to leave his bed. Epistaxis; skin dry, burning; pulse 100. *Arsen.* during the day, a dose of *Bell.* at night.

23rd.—Stupor without delirium. He can answer questions; stertorous sleep; an involuntary stool. *Arsen.*

24th.—Same state, but the patient made known his want to go to stool. *Arsen.*

27th.—Sleep calm; mind quite mild; catarrhal rattle in the lungs. *Arsen.*

29th.—Hypostatic pneumonia on both sides; cough frequent; tongue dry; several involuntary serous stools; carphologia. *Phosph.*, six doses per diem.

1st April.—Serous diarrhœa stopped. Cont. *Phos.*

3rd.—Abundant mucous rattles in both lungs; flow of pus from the left ear. In spite of a new attack of epistaxis the pulse is 70; tongue clean; appetite returning.

5th.—No return of diarrhœa; deafness continues; he asks for food.

9th.—Deafness persists ; return of epistaxis, but not violent ; he sits up in bed.

15th.—Strength much increased ; appetite good ; a natural motion every day. The patient leaves cured on the 20th April, quite able to resume his occupation of locksmith.

OBS. VII.—*Acute Articular Rheumatism.*

D. M—, æt. 27, admitted 13th December, 1869.

13th Dec.—Five weeks ago the disease commenced with lumbar pains, and at the same time stiffness, pain, and swelling of the right ankle-joint set in. From this first locality the pain and swelling, without redness of the skin, attacked successively the left shoulder, the right knee, and the left wrist. These migrations were attended by strong fever with dry skin ; constipation for three days. *Acon.* 3, a dose every two hours.

14th.—Profuse perspiration ; tongue moist ; left ankle attacked. *Puls.*, as above.

16th.—Fever abating ; the pains in the joints continue as severe as before, the patient complains of pain and stiffness in the lumbar region, he cannot turn in bed ; nothing wrong with the heart. *Puls.*

18th.—Constipation has continued for a week. *Bryon.*, four doses per diem.

19th.—General and local conditions improved. The left shoulder is the only joint that remains painful. A copious motion. Cont. *Bry.*

20th.—No more fever ; he asks for food, which is given him ; he walks about the ward. On the 21st Dec. he left the hospital quite well. A month later he had had no relapse, and he is able to follow his trade of baker.

OBS. VIII.—*Gonorrhœal Rheumatism.*

J. M—, æt. 24, admitted 24th April, 1868.

Had gonorrhœa six months ago. After the cessation of the urethral discharge, the knee and elbow-joints became affected with swelling and redness, and at the same time there occurred pains along the bones of the leg and forearm. He has never had chancre or sore throat and shows no symptoms of specific disease, but he has chronic keratitis that renders his sight very confused ; everything appears to him enveloped in smoke. He has under-

gone a heroic treatment at the venereal hospital, including two courses of Zittmann's decoction and twelve mercurial inunctions. He left the hospital with the joints slightly less swollen, but far from free, with salivation and spongy gums. At every change of temperature he experiences very sharp tearing pains in the affected parts. *Puls.* four doses per diem.

28th.—The local condition is the same, the urethral discharge has not returned. *Puls.* night and morning for five days.

5th May.—Same state. *Lycop.* 30, a drop night and morning.

10th.—Swelling of both knees; tearing pains in joints, worse at night. Continued *Lycop.*

20th.—Same local state. Always worse at night, and in addition profuse perspiration. *Merc. corr.*, a dose every morning.

25th.—Pains in joints less severe, more general; appetite good. *Puls.*, 4 doses per diem for ten days.

12th June.—Little better. *Sulph.* 12, night and morning.

18th.—Pain in joints have disappeared, and the urethral discharge has returned abundantly, and of an opaque appearance. No medicine for a week.

16th July.—The patient left the hospital free from his rheumatism and urethral discharge. At the end of eight months there was no relapse, he had grown strong and fat.

OBS. IX.—*Intermittent Headache.*

S. P.—, æt. 46, admitted 13th June, 1868.

This patient, of swarthy complexion and vigorous constitution, had suffered for two winters from a headache that recurred every day, commencing at 11 o'clock a.m., and lasting till 4 p.m., without chilliness or sickness. In the allopathic ward he had taken 200 grs. of *Sulphate of Quinine* without effect. He had had some *Castor oil* a short time ago, and for the last four days has had no stool. *Arsen.*, four doses, to be taken before the attack.

14th.—The nocturnal attack of headache was divided into two periods, separated from one another by three hours of freedom from pain. *Arsen.*, as above.

15th.—The headache did not make its usual appearance at night, it came on at 5 a.m., and lasted till 11. Tongue coated. *Puls.*

16th.—The headache returned at 5 a.m., and lasted till 2 p.m., but the pain was much less severe; the patient could walk about

the ward ; his face bears no signs of suffering. Four doses of *Ipec.*, one every hour, and this evening a dose of *Nux v.* before going to bed.

21st.—No headache yesterday : appetite voracious. Continue.

23rd.—This morning, at 10 o'clock, vertigo with nausea. A dose of *Nux v.* at 8.

24th.—The patient begged to leave the hospital. He had no return of his headache.

OBS. X.—*Gastralgia.*

Z. F—, æt. 24, admitted 9th September. This man, who had served in a corps of picked men, the Warsaw fire brigade, is stout, sober, and subject to attacks of gastralgia three or four times in the year. To-day, without assignable cause, there has come on an attack of gastralgia, of such a violent character that the patient cannot help 'groaning. The allopathic doctor gave him a *grey powder* to make him vomit, which only made him worse ; in this condition he was brought to the hospital. First, hot fomentations were applied to his abdomen, and he was given warm water to drink in order to get rid of the *Ipecacuanha* that had been given him in the morning. Towards 4 p.m. he had thrown up a large quantity of the emetic powder and some bile ; but the pains in the stomach are excruciating ; he can't bear the slightest pressure on the epigastrium ; he cries, and twists about in agony. *Acon.* and *Coloc.* alternately every half hour. At 10 p.m. he fell into a sound sleep.

10th September.—He had a copious stool. The tongue is clean ; the patient calm ; the pain has gone off entirely. Continued *Coloc.*

11th.—Tearing pain in tibiæ. There are ecchymosed spots on the legs as though he had been bruised. Appetite returned. *Arnica.*

12th.—No return of the gastralgia. He can take food without inconvenience, and without producing the slightest discomfort to the stomach. He went out on the 15th September, and has had no return of his pain since then.

MISCELLANEOUS.

Bromide of Potassium and Acne.

In the *Medical Times and Gazette* for Dec. 11th, 1869, Dr. W. Cholmley relates a case in which "a severe and confluent acne" was excited by the internal use of *Bromide of Potassium* for epilepsy. The report concludes thus:

"Dr. Cholmley remarked that, while it was well known that acne sometimes appeared during the exhibition of the *Bromide*, it was not with us a very common occurrence. In France it seemed to be much more common, and some French physicians, as Voisin and Fabret, expected its occurrence in every case, at least where the patient was epileptic. Voisin had described five forms of eruption as induced by the *Bromide*, and his fifth form closely resembled that in the present, only being much less copious. Voisin had seen six cases of it. *Lastly, as showing the Bromide to possess a stimulating power over the cutaneous structures, Dr. Cholmley had seen an obstinate long-continued acne disappear entirely while Bromide of Potassium was being taken for a nervous disorder.*"

The italics are our own. It would seem that homœopathic action in skin disease is to be henceforth disguised under the phrase of "a stimulating power over the cutaneous structures."

On the Effects of Arsenic in Phthisis. By Dr. ISNARD.

(*Bulletin General de Therapeutique*, Dec. 30, 1869; and *Brit. and For. Medico-Chirurg. Review*, April, 1870.)

The effects of *Arsenic* in the treatment of phthisis have already been investigated by Dr. Cersay, of Langres, and Dr. Isnard has lately contributed some of his experience on this subject in memoirs published in recent years. Dr. Isnard now gives a summary of his views in reference to the local and general action of the drug. He states, in the first place, that when *Arsenic* is employed in phthisis, the febrile disturbance, when it exists, is weakened and suspended, while the nocturnal sweats, the general excitement, and the sleeplessness are also diminished. As the

fever abates the digestive function is improved, and the diarrhœa, or constipation, or vomiting disappears ; in short, a general improvement becomes perceptible. As the constitution improves, the local lesions and the lung itself undergo a beneficial change, and the cavities in the lung are cicatrised. This result is proved, according to Dr. Isnard, by the relief of the cough, the diminution of the secretion of the bronchial tubes and of the pyogenic membrane of the cavities, by the substitution of mucus for purulent sputa, and of dry for humid rhonchi. Another and no less important result of the arsenical treatment is the retardation of the evolution of tubercles which are not yet softened, and the arrest of development of those which were about to form. Many tubercles are thus rendered abortive, or they remain in a latent condition, or they do not pass beyond their period of crudity. Dr. Isnard then examines more particularly the immediate action of arsenical preparations upon the respiratory function, the respiratory organs, and the tubercles. *Arsenic* promotes respiration, as is proved by its physiological and therapeutical effects, and Dr. Isnard states that *Arsenic* eases, and those who take *Arsenic* for other diseases than those of the lungs, are relieved of the dyspnœa caused by various pulmonary diseases. The drug also acts beneficially on the pulmonary tissues, and the nerves and muscles of respiration ; but Dr. Isnard's views on this point are somewhat hypothetical, as are also those which relate to the action of *Arsenic* on the tubercle itself. He considers that the *Arsenic*, by its regenerative action on our tissues and functions, is well adapted to remedy the organic disturbance which engenders phthisis, and that it impresses on the economy a vitality which is superior to, and incompatible with, the development of tubercle, and thus renders the soil unfit for its reproduction. The general conclusion drawn by Dr. Isnard as to the action of *Arsenic* in phthisis is, that by its local and general action, at once curative and preventive, it influences at once the capillary system and the different tissues, affecting both the lungs and the whole economy. It does not attack the tubercle directly and specifically like a parasiticide, but directs its action to the elements and tissues which remain actually or relatively healthy. (*Half Yearly Abstract of Medical Sciences*, p. 140).

[Surely *Arsenic* has a degenerative rather than "regenerative influence on our tissues and functions" in health, and "impresses

on the economy" mortality rather than "vitality." Hence its action in phthisis, of whatever value it be, is an instance of the operation of the law of similars.—EDS.]

Homœopathic Hospital of Colombia.

The United States of Colombia have the happiness to possess a considerable number of homœopathic practitioners, and a monthly periodical advocating their views. We find from the periodical called *La Homeopatia*, which is published in the capital of the States, Bogota, that Colombia now rejoices in a homœopathic hospital. Chiquinquirá is the name of the Colombian town which possesses this hospital, but that does not convey much information to us, for we have not the slightest notion where Chiquinquirá is, and the last edition of Johnston's *General Gazetteer* makes no mention of it. If the size of the town be proportionate to that of the hospital it must be rather a small place we should say. By the way, the only chance one has of knowing anything about the geography of these South American States is when a war breaks out; then the papers describe towns and fortresses, rivers, mountains, and lakes, that we search for in vain in our atlases, until some London map-publisher comes to our assistance and furnishes us with a map of the seat of the war, where what were blank spaces in our older maps swarm with the names of places rendered immortal and illustrious by some sanguinary fight. Paraguay was the last state that was opened up to our geographical research by its war with Brazil, and we suppose we must wait for something similar to occur in the United States of Colombia before we can hope to find out where Chiquinquirá, and a hundred other equally important towns in that happy republic, are situated. However, here is what *La Homeopatia* has to say about the hospital. This little hospital of charity had for long been served allopathically by Dr. Angelo M. Baptista. In January, 1867, Dr. Joachim Calvo came to the town and took charge of the hospital. He at first treated the patients allopathically, but then he thought he would try homœopathy. He found this method yielded better results; so he continued to treat the patients homœopathically. He next set about giving a course

of lectures on homœopathy, and among those who attended these labours was his predecessor, Dr. Baptista himself. Dr. Calvo and the disciples he made founded a society—"The Homœopathic Society of Chiquinquirá." Dr. Baptista again took charge of the hospital, and at first treated the patients allopathically; but soon his eyes were opened by the aid of the light obtained by Dr. Calvo's lectures, and he resolved, with the aid of the Society, to treat the patients henceforward homœopathically. This method, we are told, furnished results infinitely superior to the old practice. We are furnished with the results obtained by this treatment during the first five months of 1869. Here they are:

Patients remaining from last year	10
Admitted during the present year	44
	—
	54
Of these were cured	36
Died	7
Remain	11
	—
	54

The mortality here seems to be sufficiently large. But if these results were "infinitely superior" to those of the previous treatment, how frightful must have been the mortality under that treatment. The loose manner in which the doctors seem to have held their medical creed, and in which they changed from one treatment to another, has a very odd appearance.

After we had written the above, we were called to see a lady professionally, who proved to be a native of Bogota, and who satisfied us with regard to Chiquinquirá (pronounce Chickenkiráh); and as our readers must be curious to know all about it, we shall tell them what we know. It is a small town or village, about ten or twelve leagues from Bogota, celebrated for a wonderful representation of the Virgin—Nuestra Señora de Chiquinquirá—which is believed to work all sorts of miracles, on which account the village itself is much resorted to by the Bogotans at certain seasons. It must be allowed that it speaks strongly for the civilisation and enlightenment of the Colombians that such a small town should possess homœopathic practitioners, a homœopathic society, and a homœopathic hospital.

Laying of the Corner Stone of the New Hahnemann College and Hospital, at Chicago, Ill., U.S.A.

At the recent Meeting of the American Institute of Homœopathy at Chicago, immediately after adjournment, the members took omnibuses to the corner of Twenty-eighth Street and Cottage Grove Avenue, where the ceremonies in connection with the laying of the corner-stone of the new homœopathic college and hospital took place.

The Building is under contract to be completed October 1, 1870. It is 55 by 63 feet in dimensions, and is to be three stories in height, with basement.

The lot was offered by Hon. J. Y. Scammon, and fronts 60 feet on Cottage Grove Avenue, with a depth of 200 feet. The building will accommodate 300 students, and contains all the usual departments and conveniences of such buildings, together with separate dissecting rooms for ladies and gentlemen.

Introductory.—The carriages having arrived at their destination, the services of the dedication were commenced by an address by Dr. Small, the president of the college. Dr. A. E. Small said:

“For an hour we have left other scenes of interest to repair to this place for the purpose of formally inaugurating an enterprise which, we humbly trust, has the approval of Heaven, as well as the fullest sanction of our wisest and best fellow-citizens and countrymen.

“We assemble in the broad light of day, and beneath the drapery of the sky, with our rights, privileges, and preferences, protected by the Sovereign Ruler of the Universe and our country, to witness and assist in the laying of the corner-stone of a new ‘temple of medicine,’ to be called ‘The Hahnemann Medical College of Chicago,’ named in honour of him who first discovered and announced to the world that great central principle in therapeutics, popularly termed ‘homœopathy,’ and more especially because we conscientiously believe this discovery to have been of such immeasurable and practical advantage to the human race, that we are justified in ranking it in the curriculum of medicine with the other sciences of observation. With heartfelt gratitude, therefore, to the Great Giver of all good for having

endowed us with the right and privilege of serving Him and humanity according to the dictates of conscience, let us look to Him for wisdom, and for light and knowledge to guide us onward in this work, which, should fortune favour, we hope to accomplish in a few months.

The Ceremony.—Prayer was offered by the Rev. Dr. Jennings, after which the ceremony of laying the corner-stone took place. The stone was placed *in situ* by the Building Committee—Dr. W. Danforth, Dr. E. M. Hale, and Dr. F. A. Lord, and the cement applied by Dr. A. E. Small, the president of the college. Within the stone was placed the customary box, containing historical documents, such as copies of the daily papers, and of the commencement exercises of the college, and Hahnemann's scheme of medicine. In addition to these, a photograph of Mr. Scammon, brought down to the most recent dates, was deposited in the box.

Address by Dr. Small.—At the conclusion of the ceremony, Dr. Small spoke as follows :

“The corner-stone of Hahnemann Medical College is laid, and henceforward let the work of raising the superstructure go on, until it stands forth as a monument of beautiful proportions, as well as a fine college edifice in readiness for its faculty, museum, dispensary, and apparatus. Let it be honoured as the hall for thorough instruction in all the broad principles of sciences embraced in medicine—the nursery of every branch of knowledge that can be made practically available in promoting the mental and physical well-being of mankind ; and, with its faculty so well appointed that students of both sexes will be attracted by their reputation from the north, south, east, and west, feeling assured that here is the amphitheatre and here the lecture-room for receiving instruction in the latest achievements of science, therapeutics, and surgery : and we are led to believe that their seats will be made comfortable in proportion to the amount of interest infused into them by the lively didactics of each and every teacher.

“Hitherto, and for the last ten years, the faculty of Hahnemann Medical College have been subject to temporary and restricted accommodations, which they have now surrendered, with the encouraging prospect of soon occupying apartments more desirable for didactic, dispensary, and hospital privileges, and for

testing the utility of the comprehensive doctrines of homœopathy. About thirty years ago, the Hon. J. Y. Scammon, a distinguished fellow-citizen of Chicago, was the first layman known to have had homœopathic practice in his family in this city. About thirty-three years ago, the first homœopathic medicine was prescribed in the state of Illinois by a physician, and he the first representative of the system in this state, the first on whom the mantle of Hahnemann fell with a great, if not a double, portion of his spirit. This physician is present with us to-day, our distinguished co-labourer and fellow-citizen, Dr. David S. Smith. Mr. Scammon, who, thirty years ago had no associate partner of homœopathic practice to sympathise with him in his preferences, can to-day rejoice in being the first to lead the way for a mighty army of practical defenders of the homœopathic faith. There are at this time seventy-five or a hundred thousand patrons of homœopathic practice in this city, and twice as many more in the State. Had no one come forward to assist Dr. Smith, his practice would have become prodigiously large before this. But he was not long suffered to remain alone. Other physicians began to betray a fondness for training in his company, and now more than four hundred physicians have come into fraternal relation with him in this State. And so, my friends, you may perceive our cause, which is the cause of truth and humanity, has not been at a stand-still in the north-west. There stands 'Scammon Hospital'—a nucleus which is prophetic of a more magnificent structure in the future, but now capable of accommodating forty patients. The trustees and faculty of the college, through the distinguished generosity of Mr. Scammon, have secured the free use of this building as soon as finished, and also from the same liberal source, the lot on which the college building is commenced, has been furnished. May the honorable gentleman live to see these two buildings completed, that his name may also stand first in weaving homœopathy into a charity, in Chicago; and may the name of Dr. D. S. Smith, the pioneer of homœopathy in the State, who was instrumental in obtaining the charter of Hahnemann Medical College, and for ten successive years was its president, be written sufficiently high upon the scroll of fame to be held in remembrance by future generations; and while the college stands may a catholic and liberal spirit pervade its transactions. While from conviction of its importance it will hold up the great

discovery of Hahnemann as the corner-stone of Therapia, and a branch of science requisite for a complete medical education, let it be tolerant in regard to matters of private preference, and ever ready to exercise kindness and courtesy to gentlemen of the medical profession in general, and to admit them with friendly liberality to its courses of instruction, that the cause of science may be served, the community honoured, and society benefited."

Collation.—At the conclusion of the address, the members of the institute were invited to Scammon Hospital, situated adjacent to the college grounds, where a collation was served. Short addresses were delivered by H. M. Smith and Mr. Scammon, after which the delegates returned to the hall.

Homœopathic Hospital in New York.

We see by an announcement at the end of the first report of the North Eastern Homœopathic Dispensary, in New York, that a homœopathic hospital has been opened, or about to be opened, in connexion with that institution; the second and third floors of the dispensary being arranged for the reception of twelve in-patients. This is not a very mighty beginning, but it is a beginning, and we shall watch with interest the future career of this homœopathic hospital. We often wonder how it happens that our American homœopathic colleagues, who so nearly equal the old school practitioners in numbers and clientèle, have never yet succeeded in getting themselves appointed to existing hospitals and charities supported by voluntary contributions, and whose officers we suppose are elected by the subscribers in the same way as they are in England. In this country, and with our great inferiority, numerically, to the old school, we have almost succeeded in one or two instances in securing the appointment of homœopathic practitioners to the existing institutions. Is the reason of the complete failure of our American colleagues to obtain those places their number and influence ought to ensure them to be sought in the fact that they have constituted themselves too much of a sect, and with their colleges and medical schools, their immense periodical literature, and even their in-

surance offices, have assumed such an attitude of decided and active opposition, that no amalgamation or harmonious working with the old school faculty is either desired or possible? In this country, with all our militant attitude, we have never lost sight of the possibility of the gradual extinction of sectarian differences, and though we boast of our more perfect system of therapeutics, we are proud of the old schools and colleges where we received our education and degrees, and have no wish to establish others on a sectarian basis.

The Effect of Powerful Magnets on Man and the Lower Animals and Plants. By JOHN VANSANT, M.D.

Comment on the foregoing experiments upon animals, appears almost unnecessary, since, when carefully considered, they seem to be able to produce no other conviction in the mind than that the phenomena observed were caused by the power issuing from the magnetic poles. That there is a power emanating from the magnet we *know*. Approach it to some substances they are attracted; to others, they are repelled. A mass of inert, unorganized, dead iron, submitted to its power, springs, as it were, into life, moves bodily against gravity, and at the same time *alters its form*. Living beings have the ability to move against gravity, and change their form by virtue of a power elaborated within themselves. But, in both cases, the original source of the power exists in, and is communicated from, something external to the moving body. A magnet is a palpable agent, containing (as we seem bound to believe) a subtle *thing* (be its motion vibratory, or otherwise)—magnetism—which, we now see, can be employed, not only to infuse a kind of *life* into ordinary dead matter, but to arrest the life already existing in living matter.

Coming, now, to experiments performed on the *human* subjects to discover and exhibit the effects of magnetism, I find it impossible to give, within the limits assigned to this paper, the details of a sufficient number of cases to show the *grounds* for my conclusions. Nor is this at all necessary: because, by

grouping together in a tabular form the symptoms I have observed in a large number of trials to follow each form of application, the whole will rest upon the same authority as if every case had been separately reported in full; and that when the general mode of experimenting is explained, and particular directions given for placing the respective magnetic poles, any one who desires to repeat the observations has the *data* for so doing. Still, it may not be out of place to relate very briefly a few cases, as examples, to show that magnetism, being applied in an abnormally sensitive state of the system, manifests its effects more quickly and obviously than in a condition of health.

Experiments upon Human Beings.—1. Mr. J. R—, a gentleman of rather delicate organization, had neuralgia in the upper part of one side of his face. I applied the northward (—) pole of a small bar magnet, not quite capable of lifting half an ounce with one pole, for a few seconds, over the painful place. In about ten minutes he said the pain was increased and more localised. I then applied the southward (+) pole in the same way, and in a few minutes he said the pain had nearly ceased. This gentleman *expected* to be relieved by the *first* application.

2. Mr. M—, a strong, unimaginative man, had facial neuralgia of malarial origin. I applied the — pole of the same small magnet last described over the seat of pain for about one minute. In five minutes he complained of the pain being worse. I then made an application of the + pole, and in less than a minute the pain almost subsided. After about an hour there was a recurrence of pain for a short time, but much lessened in intensity. This person, also, was led to *expect* relief by the *first* form of application. (I have repeated the above experiments on myself, with similar results.)

3. Mrs. S—, a lady of remarkable sensitiveness, but great self-control, was suffering from excruciating neuralgia of the nerves passing out of the left side of the pelvis. The day before I had injected subcutaneously, near the painful place, one fourth of a grain of *Sulphate of Morphia*, with the effect to produce very great depression of the vital powers, but not to relieve the pain, which continued to be felt during the semi-consciousness that followed. On this occasion, without any knowledge on the part of the lady what I was doing, I passed slowly, for about ten seconds, over the upper third of the thigh, the — pole of a

strongly magnetised steel rod, 4 in. long by one third of an inch diameter. The effect was surprising and alarming. The pain shifted its position, became more diffused and higher up, but was not relieved. A kind of stupor supervened, her respiration was oppressed, a death-like pallor overspread her countenance, her features became contracted, her eyes sunken and half-closed, the heart acted feebly, and the surface of the body was cool and covered by clammy perspiration. The depressing effect much resembled the action of morphia on the previous day, but was even greater. All these symptoms were manifested within a few minutes. After waiting about fifteen minutes I applied the other pole—the + one—for the same length of time to a spot a little below the hip-joint, and in a short time new symptoms were manifested. The pain was apparently increased and more localised, the extremities remained cool, but the perspiration was checked, the breathing was deeper, the eyes closed naturally, and all the signs of depression began to vanish.

In the above instances of disease, the real action of the magnetic force on the economy is not, probably, any greater or more speedy than in health; but when the equilibrium of the vital forces has already been disturbed, there would seem to be less resistance offered than when the perfect balance exists. Nevertheless, a careful inspection of the groups of symptoms in the subjoined table, *which are those capable of being produced by magnetism when applied to the body in health*, will show that there is hardly a function of any organ that is not more or less affected, though the action appears to be observable chiefly by its effects on the ganglionic nervous system, and, through that, on the various organs. *The (American) Journal of Psychological Medicine.* (Quoted in *Scientific Opinion.*)

Poisonous Envelopes.

In the days when the Medici ruled in France it is said that the art of poisoning had attained to such perfection that one might make away with one's enemy by means of a bouquet, a pair of gloves, or even a letter. The art can hardly be said to be

lost in the present day, only the principles on which it is practised, and the subjects on whom it is exercised, are different now-a-days. The sixteenth century poisonings were methodical and rational. You wanted to get rid of your enemy, and you poisoned him, and him only. But now-a-days people poison their best friends in the most irrational and wholesale manner. Our paper-stainers make papers of such lethal compounds, that we are poisoned in the rooms in which we hang them. Our hosiers sell us brilliantly coloured stockings that act on us like the shirt of Nessus. And now we are informed by the *Journal de Médecine* of Bordeaux, that our stationers are plotting against the lives of their customers—by whom they live—by selling us envelopes rendered opaque by a beautiful green colour on the inside, which proves to be *Arsenite of Copper*, the very poison with which our friends the paper-stainers had already sought to destroy us. As most of us are accustomed to moisten the gum on our envelopes by applying them to the tongue, we can readily imagine the frightful consequences that must ensue to any one with a large correspondence who uses these envelopes, so beautiful to the sight, but so destructive to the health.

On the whole, we would advise our friends to be content to veil the secrets of their correspondence in the ordinary moderately opaque envelope, rather than endeavour to attain perfect opacity at the risk of becoming the victims of their own correspondence. We doubt if any secrets they have to communicate by letter are worth concealing at the peril of their lives.

Causes of the Antipyretic Action of Quinine.

(From Meyer's *Allg. Hom. Zeit.*, Feb. 14, 1870.)

At a meeting of the Lower Rhine Society of Physical and Medical Science, at Bonn, November 11th, 1869, Professor Binz brought forward in the form of curves the results of experiments which he had instituted, with Bouvier, to determine the proximate causes of the antipyretic action of *Quinine*. Taking every possible circumstance into account, there remain three causes,

according to the present standing-point of our knowledge. *Quinine* acts in diminishing temperature—first, by its direct chemical influence on the change of matter; second, by lowering the contractile power of the heart; third, by direct excitement of the regulative centre of heat. The writer has endeavoured to expound the first of these in a previous experimental work.

It cannot be admitted that a substance which powerfully hinders the process of oxidation in organic compounds, and in the blood when *out of* the body, should be destitute of such influence *in* the circulating fluid, especially if, as in the case of *Quinine*, it is so constant in this effect. The second view presents theoretically various points of support which render it probable; but as yet there is very little known with certainty of the relation of arterial pressure to bodily heat. The idea that any change in the one absolutely necessitates a change in the other is in a measure opposed to clinical experience; where, at any rate, the *frequency* of the pulse very often appears still unaltered, after the refrigerating action has commenced (Liebermeister "On the Antipyretic Action of *Quinine*." *Deutsches Arch. f. klin. Medicin*, bd. 3, s. 6.) In every case it must first be ascertained by experiments on animals whether in such a case a diminution of arterial *pressure* may not, after all, have taken place. To the third question the following experiments were devoted. By the recent researches of Fischer, and of Naunyn and Quincke, the clinical conjecture supported experimentally by Tschischischin is rendered extremely probable, viz. that certain nerve-fibres, proceeding from the brain to the spinal chord, exercise on the organs an influence which moderates the oxidizing process, and therefore the development of heat; and that, by the separation of those fibres, an excessive exaltation of temperature may thus be rendered possible in those organs. The preliminary question is whether the refrigeratory action of *Quinine* takes place when that inhibitive centre is excluded; and, therefore, whether this must be derived from a direct relation of the alkaloid to the portions of the central nerve, as generally received. The experiment was repeatedly tried with satisfactory result, mainly after the method prescribed by Naunyn and Quincke. After destruction or separation of the lower cervical portion of the spinal chord in narcotized dogs, time was allowed for the temperature, in heated boxes, to mount up in a steep curve; then strong doses

of *Quinine* were given. The result was that in the majority of these cases the antipyretic action commenced undeniably a short time after they were administered. So, then, it can at any rate take place without any action whatever on the central nervous system. It was only when the condition of oxidation had been too favorable, and the curve was already for a length of time in a rapid course of ascent that the doses of *Quinine* (which were not sufficient to poison) did not succeed in producing a flattening of the curve, or an immediate descent. *Alcohol* showed itself at least equal to *Quinine*; and its antipyretic effect can also take place during complete separation of the brain from the peripheral nerves proceeding from the spinal chord. A transmission of the influence through the centre is not needful, not even probable, taking the other grounds and facts into account. We may already remark, in the case of both these medicinal substances, that, in the cases with positive results from moderate doses, no particular alteration in the activity of the heart or in the respiration was exhibited. As for the cases where death was purposely induced by *Alcohol*, the absence of increased temperature after death is to be prominently noticed. So, also, after both *Quinine* and *Alcohol*, the carcasses did not decompose so rapidly (when left under precisely similar circumstances) as in the simple pathological experiment according to the researches at Berlin. (*Allgem. Medicin. Centralztg.*, 1870, 4.)

One word more on London Swimming Baths.

By Dr. DUDGEON.

In addition to those I have enumerated there is another still to be described. It is the

Kilburn Swimming Bath, 5, Osborne Terrace, Kilburn. It is 15 yards long by 6 wide; constructed of cement rounded off at the angles. Its depth is from 3 to 4½ feet. The boxes are at the entrance end, 12 in number, with three quarter doors, plainly painted buff, without mirrors. The floor here is of cement or asphalt. Round the other sides of the bath is a narrow ledge,

and at the further and deeper end is a spring-board. The walls, coloured with light blue size, rise up from this ledge and support a doubled sloped ceiling braced with light iron rods. The top of the ceiling is of glass along its whole length, giving sufficient illumination. The water is tolerably clear and fresh; but the cement of which the bath is constructed, being discoloured, gives it a dirty look. The ventilation not good; it has a stuffy feeling. This bath is reserved for ladies on Mondays till 2 o'clock. It is first class on three days of the week, second class on the other three.

I have also been able to inspect another bath I was unable to describe in my article in the January No. I refer to the

Poplar Swimming Baths, East India Dock Road. The first class bath is 15 yards by 9. From $3\frac{1}{2}$ to $5\frac{1}{2}$ feet deep. Bottom and sides of glazed bricks originally white, but at present rather discoloured. The boxes, thirty in number, arranged in a double tier at either end, are quite open, painted buff and furnished with cheap mirrors. Walls of white-washed brick rise up from the bath on both sides and support a tolerably lofty wooden ceiling, double sloped, painted yellow, braced by iron rods, and with glass let in the whole length in the centre. The lighting and ventilation are good. The two ends of the bath are connected by a wooden gangway about 5 feet above the water, from the under surface of which depend six ropes, evidently for some unexplained purpose of aquatic athletics. The water is clear and fresh, though the bath is rather mean in appearance. There is a second class bath of similar dimensions.

I may mention that there is a cold swimming bath at Acton, but this, though within the metropolitan postal district, can scarcely be considered accessible to Londoners. Swimming baths also are in course of construction at Peckham and at the Crystal Palace, Sydenham.

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INDEX TO VOL. XXVIII.

- Acne and *bromide of potassium*, 807
- ACWORTH, Dr., on the Contagious Diseases Acts, 481; on MATTEI'S marvelous medicines, 675
- Agaricus* in chorea, 135
- Ague, homœopathy in, 398, 752, 754; *ipécacuanha* in, 3; producing power of *bark*, 394
- Albany Swimming Bath, 35
- Albion Hall Swimming Bath, 622
- Alexandra Swimming-Bath, 36
- Allopathic homœopathy, 413
- ALLSHORN, Dr., death of, 414
- Aloes, BURT on, 191
- Alternations, JAHN on, 775
- Amblyopia, *silica* in, 478, 479
- Aneurism, carotid, *lycop.* in, 792
- Aneurism, popliteal, case of, 787
- ANGELL on diseases of the eye, 590
- Anosmia, 385
- Aphonia, case of, 802
- Apis* in diphtheria, 613, 738, 775
- Apocynum*, its homœopathicity to dropsy, assertion of, by Dr. E. M. HALE, 655; —, denial of, by Dr. R. D. HALE, 362
- ARNAUD, Dr., death of, 415
- Arsenic* and cholera, VIRCHOW on, 202; —, in chorea, 132; —, in eczema, dose of, 756; —, in hemicrania, 612; —, —, in phthisis, 807
- Asparagus*, alleged glycogenic power of, Dr. BLAKE on, 206
- Athenopia, 594
- Attraction and repulsion, doctrine of, 628
- BAHR'S *Science of Therapeutics*, 607
- Bagnères de Bigorre, 454
- Bark*, ague-producing power of, 394
- BECKER on *silicated water*, 471
- BREER'S case of mortification of small intestine, 783
- Belladonna* in chorea, 135; —, in meningitis, 609; —, physiological effects of, 777; —, relation of, to fever and inflammation, 778
- Bermondsey swimming baths, 36
- Biarritz, 219
- Bismuth*, dose of, in gastralgia, 745
- Bladder, Dr. COOPER on some medical diseases of the, 58, 417, 657; —, the, anatomy of, 63; —, children, in, 63; —, atony of, 78; —, hysterical paralysis of, 84; —, inflammation of, 96; —, irritability of, 91, 418, 422, 658; —, muscles of, 65; —, neuralgia of, 424; —, paralysis of, 88; —, position of, 60; —, shape of female, 62; —, shape of male, 61; —, spasm of cervix of, 70; —, spasm of fundus of, 72
- Bladder, neck of, atony of, 85; —, inflammation of, 658
- BLAKE, Dr., on the alleged glycogenic action of *asparagus*, 206
- BONJEAN'S *Elixir of Health*, 785
- BREYFOGLE'S *Epitome of Homœopathic Medicine*, 178
- British Homœopathic Pharmacopœia*, 602
- Bromide of potassium* and acne, 807
- BUBB, Dr., on *cimicifuga racemosa*, 157
- BURT'S *Characteristic Materia Medica*, 178
- Calcarea*, odd symptom of, 729
- Camberwell swimming bath, 621
- Cambo, 432
- Camden swimming bath, 33
- Cantharis*, poisoning by, 83
- Carbo* and *graphites*, HALE on, 358; —, MADDEN on, 365

- Carbo vegetabilis*, FAIVRE'S experiments with, 232
- Carbolic acid* in surgery, 196
- Cardialgia, *sulphate of atropine* in, 614
- CARFRAE, Dr., on chorea, 131
- CARNOT'S law, 259
- Carotid aneurism, case of, 792
- CASANOVA, Dr., on the climate of winter stations in the South of France, 209, 432
- Cases by Dr. R. D. HALE, 353
- Cataract, operations for, 596; —, *silicated water* in, 478
- Catarrhal angina, JAHR'S treatment of, 776
- Caulophyllum* in chorea, 136
- Cautisticum* in chorea, 136
- Chapman's entire wheat flour, 618
- Characteristic Materia Medica*, BURT'S, 178
- Charities, medical, HARRIS on, 181
- CHEADLE'S introductory lecture, 119
- Chemical attraction, FARADAY on, 631
- Chicago, Hahnemann College and Hospital of, 811
- China* in chorea, 136
- Cholera and *arsenic*, VIRCHOW on, 202
- Cholera, homœopathy in, 398
- Chorea, Dr. CARFRAE on, 131; —, *agaricus* in, 135; —, *arsenic* in, 132; —, *belladonna* in, 135; —, cases of, 171, 172; —, *causticum* in, 136; —, *china* in, 136; —, *cimicifuga* in, 136; —, *cina* in, 136; —, *cocculus* in, 135; —, *conium* in, 134; —, *crocus* in, 136; —, *cuprum* in, 134; —, gymnastics in, 136; —, *hyoscyamus* in, 135; —, *ignatia* in, 133; —, *iodine* in, 134; —, *iron* in, 131; —, *nux vomica* in, 133; —, *rhus* in, 136; —, *scutellaria* in, 136; —, *secale* in, 136; —, *stramonium* in, 135; —, *strychnia* in, 132; —, *sulphur* in, 136; *zincum* in, 132
- Choroiditis, *ipsecacuanha* in, 18
- Cimicifuga*, Dr. BUBB on, 167; —, in chorea, 136; —, in melancholia, 159
- Cina* in chorea, 136
- City of London swimming baths, 36
- Clematis*, urethric symptoms of, 664
- Climate of winter stations, Dr. CASANOVA on, 209, 432
- Cocculus* in chorea, 135
- Cold swimming baths of London, 31
- Cold bath plunge baths, 32
- COLI on MATTEI'S marvellous medicines, 675
- Colic, 386
- Colocynth* in gastric catarrh, 613
- Colombia, Homœopathic Hospital in, 809
- Colorado potato bug*, HALE on, 783
- Conium* in chorea, 134
- Contagious Diseases Acts, Dr. ACWORTH on, 481; —, Dr. KER on, 330
- Convulsions, 388
- Convulsive maladies, *ipsecacuanha* in, 8
- COOPER, Dr., on some medical diseases of the bladder, 58, 417, 657; —, on *sulphur*, 192
- Coralline sock poisoning, 411
- Coryza, *ipsecacuanha* in, 20
- Cough, 372, 374, 384
- Cramp in swimming, causes of, 29
- Crocus* in chorea, 136
- Cuprum* in chorea, 134
- Cysterethismus, 91
- Dax, 209
- Dentition, disorder from, 369
- Diarrhœa, *rhus* in, 717; —, *veratrum* in, 718
- Digitalis* in irritability of neck of bladder, 422
- Diphtheria, *apis* in, 613, 738, 776; —, *arsen.* in, 784; —, fifty cases of, by Dr. HUGHES, 729; —, discussion on, 739
- DIXON, Dr., cases treated at London Homœopathic Hospital by, 369
- Doryphora 10-lineata*, HALE on, 783
- Dose, on the rule of the, by Dr. YELDHAM, 745; —, discussion on, 760
- Drift of modern homœopathy, by Dr. R. D. HALE, 333; —, discussion on, 364

- DRURY, Dr., cases treated in London Homœopathic Hospital by, 171
- DRYSDALE, Dr., on force, protoplasm, and stimulus, 252, 523, 625; —, on *petroleum* capsules, 403
- DUDGEON, Dr., on *phellandrium* in headache, 404; —, on the swimming baths of London, 25, 621, 820; —, popliteal aneurism by, 787
- DUFRESNOY on *rhus*, 664
- Dysuria, 75
- Eclampsia, *ipecacuanha* in, 10
- Eczema, *silicated water* in, 474
- Elixir of health*, BONJEAN'S, 785
- Encephalitis, case of, 798
- Energy; actual and potential, 527, 625
- Envelopes, poisonous, 817
- Epilepsy and chorea, 172
- Epistaxis, *ipecacuanha* in, 22
- Epitome of Homœopathic Medicine*, BREYFOGLE'S, 178
- Eruption, dry, 372, 388
- Erythema, chronic, 387, 388
- Eye, Dr. ANGELL on *diseases of the*, 590
- Eyes, *ipecacuanha* in diseases of the, 12
- FAGGE'S introductory lecture, 125
- FAIVRE'S experiments with *carbo veg.*, 232
- Feet, sweating, 387
- Fennel*, oil of, in atony of the bladder, 82
- Fever, *ipecacuanha* in, 1
- FITZWYGRAM, Col., *Horses and Stables*, by, 177
- Flannel next the skin, dangers of, 463
- Force, law of equivalence of, 262; —, nature and definition of, 523, 625; —, protoplasm and stimulus, by Dr. DRYSDALE, 252, 523, 625
- FULLER, Dr., alkaline treatment of rheumatism of, 103; —, on *ipecacuanha* in sickness, 413
- Fungus hæmatodes, *phosphorus* in, 794
- GAMGEE on curative powers of nature, 124
- Gastralgia, case of, 806; —, large dose of *bismuth* in, 745
- Gastric catarrh, *colocynth* in, 613
- Glaucoma, 595
- Goutre, 390
- Gonorrhœa, 380
- Gonorrhœal rheumatism, 804
- Gourbeyre, Dr. Imbert, on *ipecacuanha*, 1
- Gout, Dr. V. HUGHES on, 537; —, discussion on, 551
- Graphites* and *carbo*, Dr. R. D. HALE on, 358; Dr. MADDEN on, 365
- Gravity, B. JONES on, 632
- Greenwich swimming baths, 37
- Gymnastics in chorea, 136
- Hæmorrhage from stomach and bowels, Dr. SHULDEAM on, 555; discussion on, 566
- HALE, Dr. E. M., on the homœopathicity of *apocynum* in dropsy, 655
- HALE, Dr. R. D., on the drift of modern homœopathy, 353
- Hammermith swimming bath, 37
- HARLEY'S *Old Vegetable Narcotics*, 777; —, homœopathic treatment, 780
- HARRIS *On Medical Charities*, 181
- Headache, *atropia* in, 790; *chelidonium* in, 791; —, *phellandrium* in, 404; —, bilious, 373; —, intermittent, 805
- Heat and mechanical force, 261; —, of sun, cause of, 255
- Helbig, Dr., death of, 414
- HELMUTH'S heroic surgical operations, 784
- Hemicrania, *arsenic* in, 612
- HEMPFEL'S *Jahr's Clinical Guide*, 402
- Hepatic disorder, 386
- Horses and Stables*, by Col. FITZWYGRAM, 177
- Hospital, Homœopathic, Chicago, 811; —, Columbia, 809; —, New York, 814
- Hughes, Dr. R., cases from practice by, 791; —, fifty cases of diphtheria by, 729; *Manual of Pharmacodynamics* by, 787
- Hughes, Dr. V., on gout, 537; —, on rheumatism, 103
- Hyoxyamus* in chorea, 135
- Ignatia* in chorea, 131

- Impetigo, 353, 373; —, discussion on, 364
- Injection per anum, TRAUTWETTER on, 198
- Intermittent, *ipécacuanha* in, 3
- Intestine, mortification of, BEEBE'S case of, 783
- Introductory lectures, Dr. KER on the, 118
- Iodine in chorea, 134
- Ipécacuanha*, Dr. IMBERT-GOURBEYRE on, 1; —, in choroiditis, 18; —, in convulsive maladies, 8; —, coryza, 20; —, in diseases of eyes, 12; —, in epistaxis, 22; —, in fever, 1; —, in keratitis, 19; —, in leucorrhœa, 20; —, in puerperal fever, 6; —, in purulent meningitis, 25; —, in vomiting, 322, 413; —, in worms, 22; —, pathogenetic effects on eyes of, 13
- Iritis, Dr. LEADAM on, 144; —, discussion on, 152
- Iron, effects on bladder of, 74, 417; —, in chorea, 131; —, in irritability of cervix uteri, 420; —, in vesical irritability, 91, 418
- Ischuria, 75
- Itching of face, 372
- JÄHR'S *Clinical Guide*, by HEMPEL, 402; —, *Therapeutic Guide*, by HEMPEL, 773
- JOHNSON'S introductory lecture, 122
- JOULE'S discovery, 262
- Kali bromidum* in ovarian enlargement, 793
- Kensington swimming bath, 38
- KER, Dr., on the introductory lectures, 118; —, on the Contagious Diseases Acts, 330
- Keratitis, *ipécacuanha* in, 19
- Kilburn swimming bath, 820
- Ladies, swimming baths for, 56, 820
- Lambeth swimming baths, 39
- Laryngismus stridulus, *iodine* in, 616
- Latent heat, 255
- LEADAM, Dr., on iritis, 144
- Legitimate medicine*, Dr. MOORE'S, 177
- Leucorrhœa, *ipécacuanha* in, 20
- Liberal opponent, a, 407
- Life, nature of, 646
- London Homœopathic Hospital, cases treated in, by Dr. DIXON, 369; —, by Dr. DRURY, 171; —, report of, 568
- LORD'S *Investigation of Homœopathy*, 176
- Lumbago, 372, 373; —, *tartar emetic* in, 616
- MACKECHNIE, Dr., cases of rheumatism by, 764
- MADDEN, Dr., on the true plan of repertories in homœopathic practice, 709; —, discussion on, 725
- Magnets, effects of, on man, animals, and plants, 815
- MARCHAL DE CALVI'S testimony for homœopathy, 407
- Marylebone swimming baths, 39
- MATTEI'S marvellous medicines, by Dr. ACWORTH, 675; —, note on, 708; —, theory of disease, 690
- Matter without force—chaos, 629
- MAYER'S discovery, 262; —, history of, 263
- Mechanical equivalent of heat, 278
- Melancholia, *cimicifuga* in, 159
- Meningitis, *belladonna* in, 609; —, cases of, by SUM, 619; —, *ipécacuanha* in, 25
- Menispermum canadense*, HALE on, 783
- Mercury* and syphilis, 395
- Metritis, 245
- Metropolitan swimming baths, 40
- MOORE, Dr., *legitimate medicine* by, 177; —, surgical treatment of enlarged tonsils by, 137
- Narcotics, the old vegetable*, by Dr. HARLEY, 777
- Nature of life, 646
- Nephritic irritation a cause of strangury, 661
- Neuralgic rheumatism, 109
- New York, homœopathic hospital in, 814; —, transactions of allopathic and homœopathic societies of, 781

- NEWTON, Dr, on pelvic cellulitis, 161 ;
 —, on post-partum affections, 236
 Nipples, sore, *silicated water* in, 476
 North London swimming baths, 40
Nux vomica in chorea, 133
 Obstipatio, 390
 Old Roman Bath, 31
 Old Royal Bath, 32
 Ophthalmia neonatorum, 594 ; —, rheu-
 matica, 595 ; —, scrofulosa, *hepar* in,
 595 ; —, scrofulosa, *silicated water* in,
 477 ; —, tarsi, 597
 Ophthalmic remedies, 598
 Ophthalmology, recent advances in, 592
 Orthez, 446
 Otorrhœa, 385
 Ovarian enlargement, *kali brom.* in,
 793
 PAGER's address to clinical society, 121
 Pannus, inoculation cure of, 594.
Paralysis in infancy, Dr, ROTH on, 176
 Paralysis, rheumatic, *rhus* in, 793
 PARTRIDGE, Dr., death of, 415
 Pan, 446
 Peerless Pool, 31
 Pelvic cellulitis, Dr. NEWTON on, 161,
 249 ; discussion on, 167 ; *veratrum*
viride in, 166
 Pelvic hæmatocele, 250
 Pemphigus, 388
Petroleum, capsules, Dr. DRYSDALE on,
 403
Pharmacopœia, British Homœopathic,
 602
Phellandrium in headache, 404
 Phlegmasia alba dolens, 241
 Phlyctenular conjunctivitis, 595
Phosphorus in fungus hæmatodes, 794 ;
 —, poisoning by, 409
 Phthisis, *Arsenic* in 807
 Pneumonia, cases of, 800, 801 ; —,
 homœopathy in, 399
 Polypus of nose, 356, 386 ; —, discus-
 sion on, 364
 Poplar swimming-baths, 41, 821
 Popliteal aneurism, case of, 787
 Post-partum affections, Dr. NEWTON on,
 236
Practitioner, The, and homœopathy,
 322
Present State of Therapeutics, by Dr.
 ROGERS, 392
 Processes for making tinctures, 184
 Properties of matter, essential, 638
 Property and force, BENCE JONES on,
 630
 Prostatitis, 659
 Protoplasm, force, and stimulus, by Dr.
 DRYSDALE, 252, 523, 625
 Proving drugs, ROGERS on, 400
Ptelia trifoliata, HALE on, 783
 Pterygium, 595
 Puerperal fever, *ipecacuanha* in, 6
 Puerperal mania, 247
 Puerperal peritonitis, 245
Quinine, causes of antipyretic action of,
 818
 Repertories, their true place in homœo-
 pathic practice, by Dr. MADDEN, 709 ;
 —, discussion on, 725
 Rheumatic fever, homœopathy in, 398
 Rheumatism, 382, 804 ; —, alkaline
 treatment of, 103 ; —, as a medicinal
 disease, 114 ; —, Dr. VAUGHAN-
 HUGHES on, 103 ; —, Dr. MACKECH-
 NIE's cases of, 764
Rhus, DUFRESNOY on, 664 ; —, in chorea,
 139 ; —, in cutaneous diseases, 606 ;
 —, in diarrhœa, 717 ; —, in hemi-
 plegia, 668 ; —, in paralysis, 668 ;
 in paraplegia, 670, 753 ; —, poisonous
 effects of, 665
 ROGERS, Dr., *The Present State of*
Therapeutics, by, 392
 ROTH, Dr., *Paralysis in Infancy*, by, 176
 Royal York swimming-baths, 41
 St. Georges's swimming-baths, 42
 St. Giles' and St. George's swimming-
 baths, 42
 St. James' swimming-baths, 43
 St. Jean de Luz, 229
 St. Margaret and St. John's swimming-
 baths, 43

- St. Palais, 436
 St. Pancras swimming-baths, 43
 Salies de Béarne, 439
 Sciatic rheumatism, 549
Science of Therapeutics, BAEHR'S, 607
Scutellaria in chorea, 136
 Sea-bathing, prejudices in favour of, 55
 Seal of the British Homœopathic Society,
 false heraldry of the, 605
Secale in chorea, 136
 Serpentine as a swimming-bath, 48
 SHULDHAM, Dr., on hæmorrhage from
 stomach and bowels, 555
Silicated water, BECKER on, 471
 SILVER'S introductory lecture, 128
 Snow-blindness, 596
 Spasm of sphincter ani, case of, 71
 Stimulus, force, and protoplasm, Dr.
 DRYSDALE on, 252, 523, 625
 Stomacace, *silicated water* in, 476
Stramonium in chorea, 135
 Strangury, 75; —, caused by nephritic
 irritation, 661; —, caused by urethric
 inflammation, 662
Strychnia in chorea, 132
Sulphur, Dr. COWPER on, 192; —, in
 chorea, 136
 SUM, Dr., on meningitis, 619; —, 're-
 port of the Vienna Homœopathic
 Hospital by, 468
 Swimming, dangers of, 28; —, in cold
 water, effects of, 26; —, pleasures of,
 28; —, rapid, 27; —, uses of, 25,
 28
 Swimming-baths of London, Dr. DUD-
 GEON on the, 25, 621, 820
 Syphilis, 378
 TAIT'S unfair treatment of MAYER, 279
 Teeth, looseness of, *silicated water* in,
 476
 Tepid swimming-baths of London, 35
Therapeutic Guide, JAHR'S, 773
 THOMSON'S injustice to MAYER, 313
 Throat, dryness of, 371
 Tibia, disease of, 372
 TIDY'S introductory lecture, 127
 Tinctures, processes for making, 184
 Tonsils, enlarged, Dr. MOORE on, 137;
 —, effects of, 138; —, various modes
 of removing, 140
 Tower Hamlets swimming-baths, 44
 TRAUTWETTER on injection per anum,
 198
 TYNDALL'S defence of MAYER, 313
 Typhoid fever, case of, 803
 Typhus, homœopathy in, 398
 Urethritis, 428
 Urinary disorder, case of, 174
 Uterus, irritability of cervix of, iron in,
 420; —, sub-involution of, 236
Veratrum album in diarrhœa, 718; —,
 odd symptoms of, 727
Veratrum viride in pelvic cellulitis, 166,
 363
 Vesical irritability, 91, 428
 Vesicular eruption, 173
 Victoria Park swimming-lakes, 49
 Vienna (Gumpendorf) Homœopathic
 Hospital report, 468
 VIRCHOW, cholera and arsenic by, 202
 Vital force, 647
 Vomiting, *ipocacuanha* in, 322, 413
 WADHAM'S introductory lecture, 124
 Warsaw, homœopathy at, 796
 Wenlock swimming-bath, 40
 Worms, *ipocacuanha* in, 22
 YELDHAM, Dr., on the rule of the dose,
 745
 Zinc in chorea, 132

