Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for scanning. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of scanning are checked below.

L'Institut a numérisé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de numérisation sont indiqués ci-dessous.

- ☐ Coloured covers / Couverture de couleur
- ☐ Covers damaged / Couverture endommagée
- ☐ Covers restored and/or laminated / Couverture restaurée et/ou pelliculée
- ☐ Cover title missing / Le titre de couverture manque
- ☐ Coloured maps / Cartes géographiques en couleur
- ☐ Coloured ink (i.e. other than blue or black) / Encre de couleur (i.e. autre que bleue ou noire)
- ☐ Coloured plates and/or illustrations / Planches et/ou illustrations en couleur
- ☐ Bound with other material / Relié avec d'autres documents
- ☐ Only edition available / Seule édition disponible
- ☐ Tight binding may cause shadows or distortion along interior margin / La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure.

- ☐ Coloured pages / Pages de couleur
- ☐ Pages damaged / Pages endommagées
- ☐ Pages restored and/or laminated / Pages restaurées et/ou pelliculées
- ☑ Pages discoloured, stained or foxed/ Pages décolorées, tachetées ou piquées
- ☐ Pages detached / Pages détachées
- ☑ Showthrough / Transparence
- ☑ Quality of print varies / Qualité inégale de l'impression
- ☐ Includes supplementary materials / Comprend du matériel supplémentaire
- ☐ Blank leaves added during restorations may appear within the text. Whenever possible, these have been omitted from scanning / Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été numérisées.

☑ Additional comments / Commentaires supplémentaires: Continuous pagination.

Volume XXXI. MARCH, 1902. No 3

Established in 1872

Subscription Price
ONE DOLLAR A YEAR

CANADA
Medical Record

MONTREAL

A Monthly Journal of Medicine and Surgery

EDITOR:

F. WAYLAND CAMPBELL, M.A., M.D., D.C.L., L.R.C.P., Lond.

CONTENTS

University of Bishop's College

FACULTY OF MEDICINE, MONTREAL

JOHN H. HAMILTON, M.A., D.C.L., Chancellor.
F. W. CAMPBELL, M D., Dean of Faculty. J. B. MCCONNELL, M.D., Vice-Dean of Faculty.
J. M. JACK, M.D., Registrar. GEORGE FISK, M.D., Asst. Registrar.

F. W. CAMPBELL, M.A., M.D., L.R.C.P. Lond., D.C.L., Dean, Professor of Medicine, Physician to the Montreal General and Western Hospitals.

J. B. MCCONNELL, M.D., C.M., Vice-Dean, Associate Professor Practice of Medicine, Physician Western Hospital.

JAMES PERRIGO, A.M., M.D., M.R.C.S. Eng., Professor of Gynæcology, Surgeon Western Hospital.

H. L. REDDY, B.A., M.D., L.R.C.S.E., L.R.C.P. Lond., Professor of Obstetrics, Physician to Western Hospital, Physician Accoucheur Women's Hospital.

A. LAPTHORN SMITH, B.A., M.D., L.R. C.S.E., L.R.C.P. Professor of Clinical Gynæcology, Surgeon Western Hospital, Gynæcologist Montreal Dispensary.

J. T. DONALD, M.A., Professor of Chemistry.

GEO. TILLERIE ROSS, M.D., Lecturer on Laryngology and Rhinology, Laryngologist Western Hospital.

JOSEPH BEMROSE, F.C.S., Professor of Practical Chemistry.

F. R. ENGLAND, M.D., Professor of Surgery, Surgeon Western Hospital.

W. H. DRUMMOND, C.M., M.D., Professor of Medical Jurisprudence.

ANDREW MACPHAIL, B.A., M.D., C.M., M.R.C.S. Eng., L.R.C.P Lond., Professor of Pathology and Bacteriology., Pathologist Western Hospital.

ROBT. WILSON, M.D., Profes-or of Pharmacology and Therapeutics, Physician Western Hospital, out-patient department.

JAMES V. ANGLIN, B.A., M.D., Professor of Mental Diseases, Assistant Superintendent Protestant Hospital for the Insane, Verdun.

C. A. HEBERT, M.R.C.P., London, M.R.C.S., England, Professor of Anatomy, Temple Bldg. St. James St.

G. H. MATHEWSON, B.A., M.D., Professor of Opthalmology.

LECTURERS.

W. GRANT STEWART, B.A., M.D., C.M., Lecturer in Medicine, Physician to Western Hospital.

ROLLO CAMPBELL, C.M., M.D., Lecturer on Surgery, Assistant Surgeon Western Hospital.

WILLIAM BURNETT, C.M., M.D., Lecturer in Obstetrics, Assistant Accoucher Women's Hospital.

F. J. HACKETT, C.M., M.D., Lecturer in Surgery, Assistant Surgeon Western Hospital.

C. A. HEBBERT, M.R.C.P. Lond., M.R.C.S. Eng., Lecturer in Anatomy.

A. J. RICHER, C.M., M.D., Lecturer in Medicine.

D. MCNAMARA, M.D., C.M., Lecturer in Anatomy.

W. G. REILLY, M.D., Lecturer in Anatomy, Physician Western Hospital.

JAMES M. JACK, M.D., Lecturer in Dermatology, Dermatologist to Western Hospital.

R. H. CRAIG, M. D., Lecturer in Laryngology and Rhinology, Laryngologist to Western Hospital.

C. I. SHARPE, M.D., Lecturer in Pediatrics.

R. F. RORKE, M.D., Lecturer in Histology.

GEO. FISK, M.D., Lecturer in Surgery, Asst. Surgeon Western Hospital.

GEO. HALL, M.D., Lecturer in Physiology, 584 Wellington street.

L. LABERGE, M. D., Health Officer of City of Montreal, Lecturer in Hygiene.

INSTRUCTORS.

HERBERT TATLEY, M.D., Instructor in Surgery, Asst. Surgeon Western Hospital.

J. J. BENNY, M.D., Instructor in Anæsthetics, Anæsthetist Western Hospital.

E. A. ROBERTSON, M.D., Instructor in Gynæcology, Physician Montreal Dispensary.

CHAS. C. GURD, M.D., Instructor in Gynæcology.

F. E. THOMPSON, Instructor in Obstetrics.

DEMONSTRATORS.

G. A. LAGOMBE, M.D., M.P.P., Demonstrator of Anatomy, 710 St. Catherine street.

F. W. GILDAY, M.D., Demonstrator in Surgery (Orthopædics), 68 Beaver Hall Hill.

I. L. HARGRAVE, B.A., M.D., Demonstrator of Anatomy, 16 St. Famille street.

H. LIGHTSTONE, M.D., Demonstrator of Anatomy.

MATRICULATION EXAMINERS.

REV. G. ABBOTT SMITH, M.A., B.D.

L. R. HOLMS, ESQ., M.A.

EXAMINER FOR WEST INDIES.

REV. J. B. ELLIS, M.A., Kingston, Jamaica.

The course leading to the degree of C.M., M.D. extends over four years, and consists of four winter sessions of nine months each, beginning in October.

The Faculty of Medicine of Bishop's College aims at imparting a thoroughly practical medical education, and its facilities for doing so are in many respects unequalled in Canada. In addition to the regular course of didactic lectures, students have the advantage of extensive and varied hospital privileges.

The General Hospital, Royal Victoria, Western Hospital, Hotel Dieu Hospital and Dispensaries afford every opportunity to students of this College to receive clinical instruction in Medicine and Surgery. At the Women's Hospital special advantages are afforded for the practical study of Obstetrics.

The annual College fees are $100.

For information and copies of Annual Announcement, address

J. M. JACK, M.D., Registrar.

CANADA
MEDICAL RECORD
MARCH, 1903.

Original Communications.

CRIMINOLOGY.

BY
CHARLES A. HEBBERT, M. R. C. P., LONDON, MONTREAL
PROFESSOR OF ANATOMY BISHOPS' COLLEGE.
MONTREAL.

When first I had the honour of being invited to address you, I had some hesitation in selecting a title, but I was asked to give some collections and recollections of my experience during my connection with Scotland Yard and the law courts in England, the United States and Canada.

I choose the term "Criminology," a curious and not very satisfactory term, but it will serve; at any rate it is fairly comprehensive and suggestive.

For twenty years it has been my lot to be thrown into association with the law and its exponents, defenders, and victims, so that I thought I might probably entertain you with some of my reminiscences.

Both in England and America I have had personal knowledge of very cruel, foul, and brutal crimes, and murders hardly paralleled in the history of legal medicine. The aetiology of the perpetrators of such enormities must certainly be of interest to all intelligent and thoughtful people, more especially with a view to the control and improvement of these unfortunates, or, what is more important still, to the eradication of those instincts, whether inherited or acquired, which might tend to wicked and improper acts. Though it may be impossible to determine

*Read before the St. James Literary Society, Jan. 15, 1903.

from statistics the proportion of the criminal class in any community, the investigations of students establish the existence of a constant class disposed to crime in all civilized lands, varying in numbers according to different physical conditions and social environment, the prevalence of hereditary tendencies, and susceptibility to occasional impulse, in obedience to a law which Professor Ferri called the law of criminal saturation; that is, society under similar conditions has always a certain proportion of identified and possible criminals, in the same way as it has a certain proportion of insane, deaf, epileptics, and cripples, as well as strong, healthy, and extraordinarily capable members. The former are the effete residuum.

The criminal class specifically consists of all those who from physical deformity, mental incapacity, or normal depravity, are either unable, or indisposed, to regulate their lives in conformity with the laws of the community. The percentage of criminals is estimated at 2 per cent. The classification of criminals has been variously indicated. Probably the best and most satisfactory is:—

I. Criminal madmen, 5-10 per cent.

II. Instinctive criminals, 40-50 per cent.

III. Habitual criminals, 40-50 per cent.

IV. Single offenders.

V. Presumptive criminals.

The second and third class are criminals by nature, victims of a depraved or corrupting early environment, or of defective heredity.

A large proportion of general insanity may be traced to the same source. From a physical or physiological point of view, the disease of criminality may be diagnosed as the domination of inordinate egoism or selfishness over a character having inferior or enfeebled intelligence or energy.

Crime may be legally defined as an act, or omission, declared by the law injurious to public or private right or welfare, perpetrated intentionally by a sane person. The crimes are differentiated into three classes.

I. Sinful as violating divine and human law, *e. g.* blasphemy.

II. Vicious, as violating natural and human law, *e. g.* murder or assault.

III. Legal, as violating social law, *e. g.*, theft or adultery.

The study of the criminal leads to the consideration of his physical and mental qualities. Whatever the type of the crimnal may be, and in whatever class he may be placed, it would surely seem that there would be some significant types by which he can be recognized: "As was well written by Besant descriptive of a criminal."

"His face which was stamped with the plain and visible marks of the world, the flesh and the Devil. What is that stamp? Nobody can paint it or describe it, yet it is understood and recognized when ever one sees it."

As Sallust wrote:—

"Prorsus in facie vultuque vecordia inerat."

Voicing Duncan's disappointment, though Shakespeare said "There is no art to find the mind's construction in the face," he no doubt alluded to expression alone. The anatomical features indicative of defective development, by the prominent ears, the shape of the cranium, the projecting cheek bones, the large lower jaws, the deeply placed eyes, the shifty animal—like gaze, were observed by Grohmann, and were very important and anticipatory of later conclusions. The graphic description above quoted would almost indicate a relapse to a primitive type, a degeneration most devoutly to be avoided. On this point, there is one anatomical feature to which I wish to draw attention:

Dr. Nordau agrees with Lombroso that in these degenerates there has been an arrest of development, but not arrest at one of those fixed points, which may be held to mark a special epoch or stage in the past history of the race, but rather an irregular arrest. I think this is a very interesting observation. In the skulls of some of the primitive races that I have examined, there are abnormal developments in the ossifications of the skulls, such as the presence of wormian bones in unusual positions, and in unusual numbers, the anterior fontanelle for instance, and it is known that in the skulls of some criminals similar conditions have been described. The cranium is measured from certain defined points, and according to these measurements indices are recorded; for instance, we take height and breadth indices, as well as those of the jaw, nose, eye, and cheeks. In the criminal class the cephalic indices are generally exaggerated. The long-headed or dolicocephalic, or broad-headed, or brachycephalic races showing unusual anatomical formation. There are many

such peculiarities which can be pointed out, but would be tedious to you. Prognathism, or an increase of the angle of the upper jaw, has been frequently noticed, as well as an undue prominence of the cheek bones. The ear is also spoken of by many observers. Large outstanding external ears are said by some authorities to be indicative of boldness, vanity, folly, and incapacity for work, the angle taken from the edge of the ear to the mastoid process increasing from 90 in the normal to above 90 in criminals and insane, to above 100 in the apes. The presence of the Darwinian tubercle, a feature of which the apes should surely have the monopoly, is a common (so-called) atavistic abnormality. The eyes give some aid to the inquirer, but it must be remembered that in these investigations no one feature should be relied upon, but the picture as a whole, as before given, is the only fair evidence of a person's real character. It has often been noticed that the most distinguishing physiognomy of the typical criminal is the resemblance to the lower animals in his aspect. In the homicide, his eye cruel and feline. In prison he has the glance of a tiger, the canine teeth much developed, with spasmodic contractions of the muscles exposing these teeth. In thieves, the eyes are small and restless, and in sexual offenders, usually bright and suffusive. The graphic description of Cressida occurs to one: "There's language in her eye, her cheek, her lip, nay her foot speaks, her wanton spirits look out from every joint and motion of her body." It has been related that Socrates was adjudged by a Greek physiognomist to be a brutal sensualist, and he declared this was his true nature, which he had overcome. This only shows how difficult and unfair it is to judge by appearances alone.

In one case under my own observation: a young man was accused and found guilty of the very atrocious murder of a girl, a child about seven years old. His appearance was that of a mild, gentle, innocuous person. The only abnormality I could detect was an inequality of the pupils—a condition often associated with some brain lesion or imperfection. His family and personal history was very bad. His grandfather and father were drunkards. He was also a drunkard, and there were both insanity and epilepsy in the family record. I defended him on the ground of hereditary and acquired characteristics leading to a loss of control of his actions, under uncertain and ill-definable

suggestions of motive. In his case I believed he was under the impression that he was chopping wood when he struck the murderous blows—his occupation being that of a so-called chores' man. The unnecessary brutality and extent of the injuries to the poor child's head were so suggestive of the post—epileptic condition, a condition very well known to the medical authorities. Many crimes of a similar nature have been accredited to such a relapse of mental control.

In another case an elderly man was accused of embezzlement. I was consulted on the matter, and will briefly relate the details. He was about sixty-five years of age, and for twelve years or more had systematically defrauded his employers. The extent of his defalcations was only discovered on the change of the business to other people. The theft was about $70,000. On investigation of the case, I found on close examination that up to forty years of age he had led an exemplary life. He was domestic, kind, charitable, and absolutely trustworthy, fond of his family, and without any signs of extravagance or vice. After this he had a serious illness, the account of which I simply dragged from the reluctant family. It undoubtedly was an attack of acute mania. His whole disposition changed; for some years he was apathetic, morose and unoccupied; then he was employed by the people he defrauded, and took an active interest in life, but he was an altered man. He, a quiet citizen, bought a farm, reared cattle for a time, and then sold the beasts and started breeding dogs, after a time sold them, and then went in for large consignments of apples, piling them up in his cellar, and letting them rot. His aspect to his family was entirely altered; he was given to abusive and foul language on the slightest provocation or irritation, and became indifferent to his wife and children. I looked upon this as a distinct case of moral insanity, where the mental balance had been upset by the physical illness, and where he had lost the power of discriminating between right and wrong, and simply appropriated the property without a due perception of the crime he was committing. Perhaps his moral insensibility was of a gradual growth, but the whole picture was sufficiently strong to offer a fair defence, and the sentence was correspondingly mild.

It may be well to explain here that there are certain diseases of the brain and disorders of the mental functions, which, having upset the nervous balance, leave a

fresh moral standard far below what was the normal and healthy standard of the individual, and on this fact I acted.

The two cases quoted are cases of criminal madmen, not of the most pronounced type, but rather vicious. Through a sudden homicidal impulse in the one case, and temptation from opportunity on the other, not completely unbalanced minds or derangements. The first, an instance of that strange irresistible impulse of a mind feeble by heredity and personal habits, driven to an act of ungovernable violence. The other of temptation, a *gradual progress from small peculations to larger thefts*—the need of his new desires to be gratified without consideration of the consequences. Those new desires were the result of a changed physical and neurotic condition. These are some of the factors we have to deal with.

An example of the habitual criminal, that is of a person who is, by his organization, directly anti-social, as distinguished from a vicious person who is indirectly so, was one of the most notorious burglars of the period, a man named Barrett. He had robbed successfully for some twenty years, and was a strange mixture of criminal habits and artistic instincts. His rooms were crowded with articles of rare beauty and value. Statuettes, pictures, vases, clocks, etc., which he never had attempted to dispose of. He delighted in works of art, and would run any risk to gratify his taste.

This is another strange feature in the criminal class. Some are poets, some clever musicians, some artists, though their pictures usually are of nude females.

I would wish to add a few words on women as criminals. Everywhere they are less criminal than men, but the proportion varies in different countries. In France 4-1, United States 12-2, and in Italy and Spain very small, but an increase in England has been noticed during the past 5 or 6 decades—probably due to increasing alcoholic habits. Though the relative number of crimes is greater in men, yet there are some crimes where the sexes are nearly equal, and these are serious ones. Thus poisoners and paricides are about the same in the two sexes. Women's crimes are usually directed against husbands, fathers, or children. A very large proportion are directly, or indirectly, of a sexual character. Marro finds a marked physical resemblance between women cri-

minals generally, and the class of male criminals guilty of sexual offences, in the less length of arm and hands, less cranial capacity and greater transverse measurement of head. Again, prostitutes exhibit the physical and psychic signs usually associated with criminality, viz.—shortening of anterior transverse and posterior measurements of skull, asymmetry of face, and anomalies of teeth, ears, etc. The sexual variation in criminality with the exception above mentioned is probably due to several causes: 1. Physical weakness. 2. Sexual selection, 3. Domestic seclusion, 4. Prostitution, 5. Maternity.

The extreme though spasmodic energy of man favours outbreaks of violence, while the activities of women are at a more even level, and tend rather to conservation than destructive methods. Criminal women, as before stated, tend to approximate in physical character to ordinary men.

Secondly, with regard to sexual selection, masculine, unsexed, abnormal, ugly women, that is, those more strongly marked with signs of degeneracy and therefore a tendency to criminality, would be to a large extent passed by in the choice of a mate. It seems likely that this may have existed, and exerted influence. The domestic seclusion is an undoubted factor in Russia (Baltic). Where women share the occupations of men, feminine criminality is high. In Spain and Italy, where the women are poorly educated, but lead a domesticated life, feminine criminality is very low. In those countries which have taken the lead in enlarging the sphere of women's work, it is sad to think that, *pari passu*, with their so-called emancipation, their morals have declined and their criminality increased. Prostitution exerts an undoubted influence in diminishing criminality of women, in spite of the fact that the prostitute lies on the border land of crime. In those families where the brothers become criminal, the sisters join with considerable regularity the less outcast class of prostitutes. The strongest barrier against female criminality is maternity. The women with children are distinctly less criminal than those who are *sterile*. It is clear that the woman without children is heavily handicapped. In the race of life this one might suspect. Crime is simply a word to signify the extreme antisocial instincts of human beings. The life led most closely in harmony with the social ends of existence must be the most free from crime.

We must be careful not to confuse vice and crime. The criminal is directly antisocial, the vicious person indirectly so. They are both antisocial, because they are more or less unfitted for harmonious social action. Both for organic reasons, more or less lazy. Criminals and prostitutes have this common character, that they are both unproductive. This is true of vagabonds, and the vicious, and idle generally, to whatever class they belong. They are all members of the same family.

Among the female criminals I have had personal knowledge of, I can cite four cases of poisoning. In three cases the husbands were murdered, the motive being, evidently, the desire for a freedom of indulgence in illicit amours. The three cases present the perverted sexual element. Each woman had a paramour and the crime was apparently committed in order to conceal infidelity, and to remove an uncongenial mate, and join her associate in vice. In each case considerable skill and cunning were shown in the methods adopted to destroy the unfortunate victims.

I select these cases as showing the different poisons used.

The first case was a woman who married a barrister, named Bravo. She married him for his position and money. Previously she had been the mistress of a doctor, and their criminal relations continued after marriage. The poison used was antimony, a slow and effective poison, giving rise to gastro-intestinal inflammations; the choice of the poison was probably indicated by the lover, it being an unusual drug to administer to an adult.

The second case was a woman, Mrs. Bartlett, who first tried to kill her husband by mercury, but this attempt was frustrated by the doctor. She afterwards administered chloroform by the mouth with fatal result. Her paramour, who bought the chloroform, was a clergyman.

The third case was the poisoning of a husband by arsenic, a long and slow process, given rise to symptoms of semi-acute gastro-enteritis. The details of this case were very repellant, as during the slowly ebbing life of the tortured man, she was living in criminal relations with one of her husband's oldest friends. Her name was Maybrick. This occurred some twenty years ago, but I had all the details of this case from the two most eminent experts, Dr. Dupré and Dr. Stevenson.

The fourth case was that of an old woman, who was responsible for the deaths of some eighteen persons, all killed by arsenic. She had insured their lives and poisoned them to collect the money. I made P. M. in six cases exhumed by order of the government, the bodies having been buried during periods from six weeks to eighteen months.

To all forms of sexual excitement natural and unnatural, criminals of both sexes resort, often from an early age. As an instance of the strange and terrible perversity of this appetite, I had the experience of examining the bodies of the victims of men, who were clearly suffering from satyriasis or sexual mania. "Murder most foul, as in the best it is, but this most foul, strange and unnatural."

During the years 1887-1889, a series of murders was committed in London, by unknown and unidentified assassins. The victims were thirteen women of the class of prostitutes. These outrages were done by more than one man, the post-mortem examination showing very clearly that in one series the motive was the destruction of the identity of the person, and concealment of the crime. In the second, savage and singularly purposeless mutilation. The examination also proved the difference in the skill and intention of the operator. In the first series, as I may put it, the women's bodies were skillfully divided into sections such as might be done by a butcher or a hunter, evidently for the purpose of easy carriage and distribution, as the different parts were found in various districts, some in Regent's Park, Chelsea, Battersea, Isle of Dogs, even, in one case, the vaults of new Scotland Yard. In the other series, the women were horribly and unmercifully mutilated. Even the internal organs had been removed and taken away. It was in the last series that the theory of satyriasis was strengthened by the post-mortem examinations.

A woman was killed in a room. After the most frightful mutilation and destruction of her body, she was placed in a bed in such a position as would indicate the overpowering fiendish sensual passion of the brute. There was nothing to suggest any knowledge of anatomy or surgical skill. In fact, he evidently had attempted to remove the heart by cutting the ribs, and, failing to do this, he had dragged it down through the midriff. As I saw the awful sight before any disturbances of the body, or interference

with the room, I can vouch for the truth of the conditions, and shall never forget my vivid impression of the scene.

When one thinks of such a monster, the fierce invective against Macbeth recurs to one, and may be aptly quoted:

"Not in the legions of horrid Hell, can come a devil more dammed in evil."

Or Cicero's denunciation of Catiline:

"Omnium ante damnatorum scelera vix cum hujus parvâ parte aquari conferrique posse."

Gentlemen, I thank you for your courtesy and patient attention.

LIGHT AS A THERAPEUTIC AGENT.

By W. H. DALPE, B.A., M.D.

Being a series of three lectures delivered to the students of the Class in Pharmacology and Therapeutics, University of Bishop's College, Faculty of Medicine, Montreal, March, 1903.

LECTURE I.

Gentlemen, without more than the mere mention of the well-known effects of light on plants, I might say at the outset that for many years the action of light on bacteria had been studied and proven, and in the year 1885 one experimenter even expressed his views on the subject by saying that *solar light* was the most universal, the most economical, and the most active agency to which public and private hygiene might always appeal, and never in vain.

But I now purpose speaking of the effects of solar radiations on the human organism particularly, and I may state at the outset that these are subdivided into two kinds: caloric or heat effects, and chemical effects.

As is no doubt well known to you all, gentlemen, the solar spectrum is divisible into the humanly *visible* solar spectrum and the humanly *invisible* solar spectrum; the visible spectrum being made of seven colour-blending lights or rays due to different wave lengths, the violet rays being from 392–428 μ. in length, the red rays nearly twice as long, that is, 663–698 μ. But the violet waves, although

shorter, are proportionately more rapid, so that their rate of travel is identical.

But we also spoke of the humanly *invisible* solar spectrum; by this we refer to the infra-red radiations, whose action is purely caloric and the ultra-violet rays which are purely chemical; the latter are also called the *actinic* rays (ακτις = ray.)

The *visible* solar spectrum cannot be so clearly divided as to caloric and chemical effects, the red end of the spectrum containing a maximum of the caloric rays with a minimum of the chemical rays, while in the violet end of the spectrum the quality of the rays are reversed. For further elucidation of this subject I would refer you to any good work on optics.

Twenty-five years ago Downes and Blunt proved that the bactericidal action of light resided in the chemical rays almost exclusively, and from that time on, thousands of experimenters have added their quota of testimony to show that bacteria will thrive better in the absence of light or under the less refrangible rays of the spectrum, *i.e.*, the red rays.

It is asserted that ascaris lumbricoides (that lover of ways that are dark!) does not perceive the red rays, but takes the violet rays for complete light.

On human beings, French and German experimenters of note have proven that pigmentation is the result of the chemical rays of the spectrum (Charcot, 1859, Vidmerk, etc.) But it remained for a descendant of the Vikings of old, a wizard of the north, to demonstrate before the medical world the practical utility of solar and arc-light radiations in the cure of many skin affections which had heretofore baffled the profession as a whole. I refer to Prof. Finsen, who, after many tentative methods had been tried, devised first his solar condensors for the treatment of lupus vulgaris in 1896, and published his reports the following year before a somnolent profession.

We are a long way off from that decisive moment,

because now no physician of repute would dare confess to at least ignorance of this important branch of modern therapeutics.

To-day I purpose devoting the time at our disposal to the examination of this first instrument of Finsen, while to-morrow, if possible, we shall attempt to examine the electrical appliances devised by himself and others, used for the same purpose.

The *solar condensor*, as devised and used by Finsen at his institute in Copenhagen, consists, first, of a hollow plano-convex lens of 25–30 c.m. in diameter and focal distance of 60 c.m., the cavity having a capacity of about 2 litres, and usually filled by an ammoniacal solution of cupric sulphate, with the idea of absorbing the caloric rays both by the water (which is a great absorbent agent for such), and by reason of the blue colouring material used, which is supposed to absorb all rays except those having the same refrangibility as the corresponding colour of the spectrum. Some have replaced this cupric solution by one of methylene blue, and others consider this precaution as unnecessary and discard it altogether, whilst others use a solid lens with or without a blue glass filter, or a circulating water-glass filter independent of the lens.

This lens is mounted on a fork in such a way as to enable the operator to give it a vertical movement, a horizontal, as well as an up-and-down movement at will. The solar light passing through this apparatus is condensed and the rays focussed at a point about 60 cm from it. Thus we have at our disposal a greatly condensed luminous sheath of nearly pure chemical rays. We know them to be decidedly germicidal, so that in dealing with a cutaneous process in any way due to or associated with bacteria, we would possess a valuable aid to their destruction.

But, as a matter of fact, the theory of nearly perfect elimination of caloric rays does not appear to me from actual experience to be tenable; caloric rays are present and in such quantity as to necessitate further eliminative agencies.

Finsen uses for this purpose a diminutive hollow plano-convex lens, the cavity of which is in communication with two canulæ (one afferent and one efferent) through which a current of cold water is kept in circulation. I find, however, that even by this means a great deal of the caloric rays are yet allowed to pass, but not such as would in most cases interfere with the proper working of the apparatus, although frequently patients have complained of a sensation of burning. I have even been obliged to interrupt my sittings, for even with this second heat-filter I could set fire to paper or cotton goods in a very short time.

This second diminutive lens is called the *compressor*, owing to the fact that its main object is not so much the elimination of caloric rays as to render by compression the part to be treated ischæmic, thus enabling the rays to have a greater range of penetration; these rays have generally been thought to have a penetration of 1 to 2 inches, and even later trials seem to show that deeply situated tissues in a state of disease have been beneficially influenced by them.

Thus even tuberculous lungs have been favourably influenced, the cough mitigated, the breathing eased, and the lung tissue itself regained part of its lost elasticity.

This question of attempting the modification of internal morbid processes is as yet of a doubtful utility, at least for the present or immediate future.

Let us only consider the one condition in which this light treatment, or phototherapy, is the one *par excellence;* I refer to lupus vulgaris, this most distressing and intractable condition so frequently affecting persons from puberty to mid-life. The limited time at our disposal does not allow us to go into a description of the diverse forms and stages of this disease. This would fall to the lot of the Chair of Surgery. In the treatment of lupus vulgaris Finsen achieved his best results. The treatment is given to the patients daily for one hour, and during the whole of the sitting the patient is kept in some recumbent position, whilst the eyes

of both patient and nurses and physicians are protected from the glare of the intense light by adequate blue goggles. During the fine season this treatment is given in the open air to a large number of patients flocking to Finsen from all parts of the world.

The treatment is necessarily a slow one as only a few centimeters can be treated daily, so that if the disease is an extensive one it may take months, nay years, to cure. There must, therefore, be very serious disadvantages in this treatment, first, the duration of the treatment, entailing great loss of time and incurring great expense; with many this would be a most serious question. Next comes the loss of time to the operator, one hour a sitting is a serious breach in a busy man's life; next is the very close and continual attention required to keep the condensor properly focussed; unless one could command the sun like Joshua of old (?) to stand still, the condensing lens will have to be continually moved, vertically, horizontally, and up and down, and then few patients will remain still so long without stirring. The continual close attention to all these details, as well as to the adequate amount of compression, makes this method of treatment vexatious. Another great disadvantage of this method with us is the fact that few of our days are cloudless; one never realizes this so much as when he is working continually with such apparatus, and in our rigorous climate we must take refuge behind glass as a protection, and here one would needs live in a house with a glass dome.

But, gentlemen, with all these disadvantages there is one great advantage which no one can deny, it *cures*, though not quickly; you can employ this method away in the country where other forms of apparatus would be out of the question; you can go to your patient with the apparatus, if needs be, when the patient cannot come to you, and for such of you as may be called to live under a more clement sky, such a method of curing your lupus cases would be quite feasible and commendable.

Now, gentlemen, supposing you have done all these

things well, you must not think that your case is going to get well alone, the lupus sore or patch must be cleansed gently without rubbing, if possible, and a mild emollient dressing must be used in protecting it from the atmosphere. Finsen recommends ordinary zinc oxide ointment. Whatever dressing you use it must be bland. I prefer, as a rule, an ointment to a moist or a dry dressing. With powders I frequently use nothing but yellow vaseline on silk tissue or fine glazed paper; I may occasionally see fit to powder the sore previously with nuclein powder, boracic acid or some stearate.

You must not expect that the sore is going to show signs of healing at once; this is never so in my experience; the rays have, as it were, an incubative period varying with each case and with the size of the lens, the size of the focus and the brilliancy of your light. This period of *latency* varies from 2 to 4 weeks, and averages about 3 weeks.

I have frequently been astonished at the first results of the rays on a sore, it may appear much larger and deeper and very irritable. Some patients complain of a sensation of heat for some days after, and when the part treated is yet protected by skin, pigmentation and desquamation may confidently be expected.

One of the effects of the light treatment is in many cases one of local anesthesia; it has been laid to the action of the light, although it has seemed to me that the compression of the cutaneous nerves might account for it; I have not always been able to dissociate these factors. One of my patients has frequently told me that for sedative effect he had never experienced anything like the treatment by this method, and this particular patient had tried the tender mercies of the surgeons twice, the plaster-for-cancer-fiend once, and had undergone all the other forms of light-treatment; for all of these he expressed his opinion in unmeasured terms, with the exception of the Finsen method.

On the uses of this method in the treatment of other conditions, I may say that some cases of dermoid cancer

seem to yield to its influence fairly readily, but in this as in many other conditions of the skin we have more potent means at our disposal, so that we need not say anything about them here.

One condition in which this apparatus renders valuable services is cancer of the cervix uteri. A cure is beyond expectation, but to control hemorrhage and to ease pain it is a boon, indeed. The compressor must be differently made, and is commonly made with heavy glass tubing.

A New Zealander has devised a very nice way of eliminating caloric rays. It is known that the red rays or heat rays are less refrangible, so that he gets rid of them by means of a parabolic mirror; these refrangible rays are condensed and focussed on the patient in the usual way. He does not use the direct rays of the sun, but only the reflected rays.

As a matter of fact, it is even possible to obtain surprising results by the persistent use of comparatively small focussing lenses; lupus has been cured in this way, and in the Paris inaugural theses we find one before Finsen's time advocating luminous heat as a curative agent in a large number of rebellious cutaneous conditions.

(*To be Continued.*)

EXTREME HOARSENESS ALMOST AMOUNTING TO ABSOLUTE APHONIA, DUE TO THE PRESENCE OF A FOREIGN BODY IN THE EXTERNAL AUDITORY MEATUS.

By GEO. H. MATHEWSON, B. A., M. D.

Lecturer on Opthalmology and Othology, Medical Faculty University of Bishop's College, Oculist to the Western Hospital.

(*Read at the Montreal Medico-Chirurgical Society,*) March 6, 1903.)

In February, 1898, a young man, 19 years of age, consulted me on account of deafness and hoarsness, which he said had come on quite suddenly.

He was so hoarse he could only whisper. I examined his ears and found one external auditory canal nearly filled with inspissated cerumen, while the other contained a small quantity of the same material. From the more completely filled ear I removed a considerable quantity of cerumen and from the deeper part of the canal a large piece of the lead or graphite from a carpenter's lead pencil, about ⅓ of an inch long. The piece of lead was placed obliquely across the canal, the outer end being embedded in the cerumirious mass, the inner being free and presenting several sharp angles.

The moment this was removed the patient recovered the use of his voice, and after the other ear had been cleansed of cerumen his hearing also was restored. I regret to state that no examination of the larynx was made.

Cough from foreign material in the meatus is quite common, but, so far as I am aware, aphonia from this cause has never been noted. I suppose the pneumogastric had been stimulated either by irritation of Arnold's nerve in the meatus, or indirectly by pressure through the membrana tympani against the tympanic plexus of Jacobson's nerve on the promontory, and thence to the pneumogastric by one of the many communications between the glossopharygeal and the pneumogastric nerves. The patient remembered having got the lead into his ear several years previously.

Keratosis obturans, or Laminated Epithelial plug. The patient, a girl of 13 years, was referred to me on account of severe pain in the ear and over the mastoid. On looking into the external auditory meatus it was found to be filled with what looked like ordinary inspissated cerumen. After syringing and making use of blunt curettes and forceps for for over an hour, I managed to get some of the material out, but was unable to dislodge the main mass. As the child was exhausted from the pain produced by these manipulations, she was anesthetized and then only after much difficulty could I remove the remainder of the mass by curette and

forceps. It was then seen where the difficulty lay, for the plug was found to consist of a series of conical casts of the meatus lying one within the other with the bases outward. When the water was forced into the ear it caused these cones to open out at the base and fill the canal more completely than before.

Aspergillus nigricans—The occurence fungi in the ear is not common in this country, so I venture to report the following case:.

A gentleman came to me complaining of a feeling of fulness in the left ear and slight discharge. Two days later the external auditory meatus was found to be dry and the hearing improved. A small perforation could be seen in antero inferior segment of the membrana tympani. Eight days later he came back complaining of a recurrence of discharge from the ear. On examining the ear an inky black mass could be seen in the depths of the meatus, cover ing most of the membrana tympani. On removal it was seen to be a vegetable mould and microscopic examination showed it to be "Aspergillus Nigricans." Specimen is under the microscope.

Peculiar creaking tinnutus due to ingrowing hair in meatus.—A gentleman came to me last summer complaining that whenever he moved his jaw there was a loud creaking noise (like that produced in bending stiff leather) in his ear. I found that a strong coarse hair had grown inwards (from about the middle of the meatus , until it lay against the membrana tympani, and whenever the patient moved his lower jaw the hair rubbed against the membrane tympani. I removed the hair and the symptom ceased at once.

Selected Articles.

ON SYPHILIS.

By JONATHAN HUTCHISON, LL.D., F.R.C.S., F.R.S.

It is now well recognized that spyhilis stands side by side with the exanthemata, that it is a febrile disease, having quite definite stages, and that it must have necessarily from that fact a particular virus which breeds in the blood and produces the various phenomena associated with the disease. The stages have been classified, as all know, into primary, secondary and tertiary. That classification will never be set aside, although it must be fully recognized that it is not one which can be applied with very great strictness. We know what is meant by the primary stage of syphilis, namely, the stage of inoculation or introduction of the virus, characterized usually by the formation of what is known as a primary sore, a chancre. The secondary stage is the febrile stage, during which an eruption comes out on the skin of the patient and on the mucous membranes, and during which there is a certain amount of febrile reaction. So the primary or first stage is a local one, and the second is a blood stage, in which the virus is in every portion of the blood. The secondary eruption will be accurately symmetrical, proving clearly that it is a blood disease. In the third stage, to which the name tertiary is given, the symptoms are no longer symmetrical, they no longer imply blood disease, and the patient is no longer capable of communicating the virus to any one else. The symptoms of the tertiary stage concern the solid tissues and not the blood.

We will now consider the peculiarities which attend the inoculation, or, in other words, the primary sore. We all know that what are called chancres differ very much in their features. In book descriptions of chancres it is sometimes implied that the primary sore of syphilis is always indurated and sclerosed. There are very many exceptions to this. Syphilis does tend to produce very remarkable sclerosis in some cases, but it does not do it in all, nor does it do it in all parts. For practical purposes the most definite examples of sclerosis in connection with a primary sore may be

said to be met with only on the genitals. It is said that on the female genitals you scarcely ever meet with indurated sores. That is a mistake. They are frequently overlooked and they are seldom so characteristic as those met with on the genitals of the male. On the genitals of the male we often meet with a form of induration, especially just above the corona, as hard as cartilage, which is quite specific, and which, to those who have become acquainted with it, is pathognomonic. Fifty years or so ago, the distinction between the hard and the soft chancre was strongly drawn —that is to say, the distinction between what I prefer to call the infective and the non-infective chancre. We do not nowadays hear anybody talking about dualism in syphilis; we recognize that there are sores which are non-infective as well as those which are infective, but that there are two kinds of syphilis and that the word dualism is in any way applicable no one nowadays dreams of. In investigating syphilis we are not dealing with the introduction of a pure virus; there is no such thing as a pure culture in the case of syphilis. It is introduced in a mixed state in the great majority of instances, and it is owing to that mixture of pus and other secretions, and to the accidental way in which syphilis is conveyed that we owe the multiplicity of appearances in the primary sores. The incubation stage, prior to the appearance of any sore, before the place which has been inoculated will inflame in any degree whatever, will be at least three weeks, probably a month, and possibly five weeks. The sore on its first appearance will be simply a little papule or red patch or spot which may be observed for a few days. It will take a week before anything in the nature of specific induration, which you can estimate with the finger, will be produced. If no sore has appeared until the end of nearly four weeks, it is probable that it will indurate within a week of its beginning to such a degree that it may be recognized as an infective chancre. In some cases other sores due to the introduction of the products of inflammation, pus and other poisons are present, and the elements which the pus may contain may produce a sore which may take precedence of a true chancre. A patient may have a non-indurating chancre which was never at any stage "hard." The absence of induration is all that we should take cognizance of; "softness" is not in itself a positive feature, not anything pathognomonic, to which we can trust. For practical purposes I warn every one

most strongly never to tell a patient who has got a sore which may possibly have been contracted by a venereal source that he has not got syphilis until a month has elapsed, because it is not till then that you can judge; the syphilis may be absolutely latent, or it may be entirely concealed by the presence of something else, such as an inflamed sore, until that period has elapsed. Hence my idea of the relationship between the nonindurated sore and the indurated. The sores which are not indurated are the result of various forms of pus contagion, and they may very often carry with them the virus of syphilis.

The peculiarities presented by the sores called "soft" vary very much indeed. Multiplicity is one of the features in which the non-indurated sore differs from the indurated. The secretion of pus is another; but an indurated sore may also be multiple, and four or five up to fifteen indurated sores have been noticed together. On the other hand, non-indurating sores may be single. But in proportion to the shortness of the period intervening between the contagion and the appearance of the sore, so may you feel sure that the sore is not as yet syphilitic. This does not exclude syphilis afterwards, but it makes it pretty clear that that sore, as at present seen, is not due to the syphilitic virus, that virus producing nothing until at least three weeks have elapsed. In the true indurated Hunterian chancre it is usual for the glands in the groin to be enlarged and to become very hard. The expression "bullet bubo" is a very proper one. The chancre may be as hard as cartilage, and the swelling in the glands of the groin may be as hard as bullets, quite movable, that is, not becoming glued together. Here again the tendency of the syphilitic virus is to cause an adhesive inflammation with fibrinous exudation, a tendency to organization and not to suppuration, whereas in the other form there is a tendency to suppuration. But just as the sore itself is inflamed and ulcerated, so the bubo, which results from, it is inflamed and tends to suppurate. But none of these features of distinction must be pushed too far. The bubo of true syphilis may also suppurate, and this we witness not very infrequently. There is a chance also, of course, that the other form may not suppurate; indeed, it is only exceptional that it does so.

A useful point in diagnosis is to examine the glands. If you find hard glands in the groin the inference is there has been a chancre at the anus, on the perineum, or on the genitals, and if you find a hard bubo in the armpit that the

hand has been the seat of infection. Whilst I believe that there is such a thing as syphilis without any obvious chancre, I have no doubt there is in most of these cases some trivial sore, and it must in some be trivial to a minute degree, because observant patients and surgeons often fail to identifiy it. In the cases of surgeons who get syphilis after having their hands exposed in midwifery practice, and who yet never recognized a chancre, I suppose the virus has probably been lodged by the side of the nail. Surgeons have become the subjects of syphilis from rather deep pricks with needles which were poisoned. In one case a surgeon had pricked himself in the thumb with a needle when operating on a syphilitic patient. The site of the prick was a little tender for some time, and then there was just the slightest brown discolouration around it, and that was all he had in the way of chancre. In a great many cases the sore is not a characteristic one ; we are far too much in the habit of insisting that the primary sore of syphilis should always be a well characterized, indurated chancre. If we can have syphilis without a chancre in the case of pricks it is possible it may follow sores on the genitals which never indurate. In the diagnosis of primary syphilis, we, of course, pay great attention to induration, for when it is present it is a symptom which is beyond appeal. If there is no induration whatever in the glands, that is another reason for doubting specific inoculation, but the omission of induration of glands is not infrequent in syphilis, and we must not, therefore, trust too much to it.

Any one who has any doubt as to the influence of mercury upon syphilis, or upon the sclerosis produced by it, may easily convince himself. Give a patient with an indurated sore mercury and it softens in a few days, then melts away. Stop the mercury and it indurates again, resume the mercury and it again softens. As to the question whether the chancre will disappear without treatment, I believe that a primary chancre will usually disappear spontaneously in a month or six weeks, but it is difficult in the present day to get facts which help in this direction, because everybody gives mercury as soon as the disease is recognized. The induration will certainly go away except in the rarest cases after a period of induration of a few months. The secondary stage of syphilis will often begin while the primary one is still existent. It is a rule if the patient be not treated, for the symptoms of blood poisoning

to begin to manifest themselves long before the primary induration has disappeared. The peculiar feature of indurated chancres is recrudescence. By recrudescence of the chancre I mean its spontaneous reappearance after a considerable period in the precise locality in which the first appeared without any fresh inoculation whatever. The induration induced is exactly like that of the original one, so that anyone who is not familiar with the fact that a recrudescence is possible would certainly be inclined to doubt his patient's statement, and to believe that he had contracted a fresh sore. There are two or three other peculiarities which the primary sore may assume; one is that it may cause not a hard ulcer, but a fungating growth. This is important, because it has been this kind of sore which has been claimed as peculiar in a case of yaws. Whilst a primary chancre may sometimes never ulcerate at all, it is sometimes nothing but an ulceration. Primary chancres have been cut out in mistake for tumours because they were not ulcerating, the skin around remaining perfectly sound and soft.

It has been customary to say that the soft chancre never occurs anywhere but on the genitals, but as a matter of fact almost all sores which occur on the tongue, lips, skin, or other parts are infective. These are not all indurated. I have seen on the fingers definite induration, but in the majority of cases you must not expect to recognize specific induration in an erratic chancre.

As regards the secondary symptoms and the period of their appearance in round figures, we will say that two months must elapse before the secondary symptoms begin. The patient at that time will become a little feverish and will probably have an eruption on the skin, and that eruption will perhaps be in the first instance roseolous, an eruption which very probably may be overlooked by the patient. Teat eruption is quite transitory and is usually followed in the course of two or three weeks by a papular or mixed one.

With regard to treatment, I entertain no doubt that mercury may be regarded as a specific against the syphilitic virus. It removes the indurated chancre and prevents the secondary symptoms. Of the latter fact I make no question whatever. The symptom which it least constantly prevents is the sore throat; indeed, mercury often causes sore throat, but there will be no skin phenomena whatever. The inconveniences attending the use of mercury are the salivation and diarrhœa. If a patient is dieted while he is

taking the mercury he will not have diarrhœa. o Every kind of fruit and all green vegetables should be forbidden, and the patient should live simply upon beef, mutton, fish, and potatoes and bread, and an opium pill can be given if necessary to prevent diarrhœa—*Medical and Circular, Jan. 7,* 1903.

DISINFECTION IN SMALLPOX

A REVIEW OF RECENT METHODS.

The methods of preventing the dissemination of smallpox are, in general, threefold, namely by vaccination, isolation, and disinfection. Disinfection includes sterilization of rooms occupied by patient, of the patient's discharges, of bedding and other articles after contact with the patient, and the patient's person after recovery, and management of the physician and attendants who pass to and from the sick room. The methods now in use to effect these objects as presented by various recent writers are as follows:

Dr. S. D. Hubbard, in an article on the methods employed by the New York Department of Health in the treatment of Smallpox (*New York State Journal of Medicine* April, 1902, 102), speaks of measures for disinfection as follows:

The room from which the patient was removed should be disinfected by fumigation with sulphur and steam, or with formaldehyde. He regards the two methods as equally efficient. Fumigation is continued 6 to 8 hours, after which the premises are well aired, and articles like pillows, mattresses, etc., are sterilized in a steam chamber.

The smallpox ward should be provided with vestibules with one closet for receiving the clothing of the visiting physician and attendants, and another closet for the clothing to be worn into the ward, and a wash-bowl containing mercury bichloride solution. The clothing donned in entering the ward consists of a large loose gown, rubber shoes, and a cap. The ward is kept carefully cleaned, and the entrance and gathering of flies are guarded against. Soiled bedding is kept in tightly covered wooden barrels containing mercury bichloride solution.

The attendants wear washable outer clothing, caps and canvas shoes. On leaving the ward the outer garments are

removed in the vestibule and the hands are well washed and the nails well cleaned, and the ordinary clothing is then put on.

On the recovery of the patient the scabs are removed, and on the evening before his discharge he is given a bath of warm water and soap, and then a soaking in 1:5000 mercury bichloride solution, the head and hairy parts are soaked in soap and tied up. He sleeps in a clean bed, and next morning he takes a thorough bath in hot water and soap, followed by a soak in bichloride 1 to 3000 or 4000. He is then placed in a room that has not been used, aud here receives his clothing and effects which have previously been sterilized by steam, or (in the case of articles that would be damaged by steam), by fumigation for at least eight hours in a box. He then leaves by a door leading directly into the open air.

Dr. John L. Hess describes his experience and practice while Health Officer in the city of Cleveland in disinfection in smallpox (Cleveland *Journal of Medicine*, 1899, IV, 528). At first, being in doubt of the efficacy of sulphurous acid gas, he had all clothing and furniture that had come in contact with smallpox patients burned. This gave excellent results, but on recurrence of the epidemic he conducted experimental tests of various germicides, with the result of finding that formaldehyde was the most efficient. The moist vapour was found more efficacious than dry gas; if for any reason dry formaldehyde gas is used, the room and the contents should be first sprayed or moistened with water or a solution of formaldehyde.

Household furnishings, bedding, clothing, etc., should be immersed in tubes of 15 per cent. formalin (or of Platt's chlorides) for 12 to 24 hours. Articles that cannot be moistened without injury should be burned. The woodwork, ceilings, walls and contents of infected rooms were thoroughly sprayed and wiped with 20 per cent. solution of formalin, the rooms were closed approximately hermetically, and formaldehyde generators were then started and continued till the rooms were thoroughly filled with gas, after which they were kept closed for four or five days.

Patients on discharge from the smallpox hospital were given a bath in 2½ per cent. formaldehyde solution (which is stated not to have caused any irritation), and then supplied with new clothing sprayed with 10 per cent. formalin solution.

Dr. M. K. Allen presented before the Kentucky State Medical Society in May, 1901, the methods employed by the Health Department of the city of Louisville in the management of smallpox cases. (Published in the *American Practitioner and News*, 1901, XXXII, 41). The practice with reference to disinfection of houses in which smallpox cases have developed is as follows:—

The old bedding and woolen fabrics in the infected houses are saturated with coal oil and burned. The house is then tightly closed and fumigated with formaldehyde gas. Health departments all over the country have almost unanimously concluded that formaldehyde is the most destructive agent to germ life available for house disinfection, an opinion in which Dr. Allen, from his personal experience, concurs. Formaldehyde has no odour itself and does not attack metals, and in these respects presents advantages.

In using formaldehyde for this purpose, the windows, doors and other openings of the room or rooms to be disinfected should first be closed as tightly as possible with folds of paper, wet batting, or old cloths. Bedclothes, carpets and other fabrics should be lightly spread over chairs and bedsteads. From eight to twelve ounces of formalin (40 per cent. solution of formaldehyde) should be used for each 100° cubic feet of room space. It would thus require thirty ounces of formalin for a room fifteen by twenty feet in size and ten feet high. This amount will evaporate in about forty minutes. The space thus treated should be kept closed from six to twenty-four hours.

There has recently been put on the market a para-formaldehyde candle in two sizes, of 350 and 700 grains respectively consisting of para-formaldehyde incorporated with a small proportion of paraffin and pressed in a cylindrical form. The candles are supplied in a tin container or burner to which a limited amount of oxygen has access, so as to support combustion only at the bottom of the candle; the heat thus generated converts the solid para aldehyde into the gaseous formaldehyde. One candle (of the smaller size) is necessary for every hundred cubic feet of space in the room to be disinfected. The larger candles are used for large halls and rooms. Exhaustive tests of these candles have shown that, properly used, they energetically destroy all pathogenic microbes.

Formaldehyde gas disinfection is not entirely reliable for glazed surfaces like china, marble, metal, etc., and such

surfaces should after fumigation be washed with such antiseptic fluids as five per cent. formalin carbolic acid and the like.

Dr. G. H. Fox, Consulting Dermatologist to the Health Department of New York city, in his Practical Treatise on "Smallpox," just published (1902), makes the following recommendations concerning prophylactic measures and disinfection in this disease.

In disinfecting a recovered patient prior to his discharge from the hospital or sick room, a prolonged bath should be given, the head thoroughly shampooed with carbolic soap, the nails cut and scrubbed with the same, and the mucous orifices cleansed with hydrogen peroxide. Fresh or disinfected clothing should then be provided.

All unnecessary articles, especially of soft texture, should be removed from the sick room at the beginning of the case. A sheet moistened with some volatile disinfectant should hang before the door, and no one be allowed to enter except the nurse and physician. A change of clothing should be made outside by the nurse whenever leaving, and a gown should be ready for the physician to wear at each visit. On leaving the room the physician should carefully disinfect his hands and remain for some time in the open air before making another call.

During the course of the disease, all discharges (feces, urine, sputum, vomitus) should be received in glass or earthen vessels containing five per cent. carbolic acid. Handkerchiefs and soiled rags should be burned, or with towels and sheets kept in carbolic solution for twelve hours. The eating dishes and utensils used should be kept in the sick room and washed in a disinfectant solution by the nurse. Uneaten food should be treated like the patient's discharges. In case of death the corpse should be washed with strong bichloride solution or painted with twenty per cent. carbolized oil, and should be buried or cremated as soon as possible.

The clothing worn by the patient at the beginning of the attack should be destroyed or disinfected by baking for an hour in an oven at 220 degrees F. or steaming for five minutes at 212 degrees F.

After the patient leaves the sick room this should be disinfected. The mattress and bed-covering should be burned, or sterilized in large public plants. In disinfecting the room, the furniture, wood-work and floor should first be scrubbed with carbolic soap and hot water or 1 :500 mercury

bichloride solution. The windows, ventilators, and fire-places should then be tightly closed and the room fumigated with sulphur or formaldehyde. Ordinary sulphur burned in a moist atmosphere (one pound to every thousand cubic feet of space), is effective, but objectionable on account of its bleaching action. The use of formaldehyde is therefore preferable.

Dr. Llewellyn Eliot describes the methods employed by the health department in the District of Columbia in the management of smallpox cases (*Virginia Medical Semi-Monthly*, May 9, 1902, VII., 60). Immediately after removal of the patient to the hospital, the room occupied by him with its contents, are disinfected. Door-knobs, furniture, etc., are first washed with acid mercury bichloride solution. Room disinfection is done with formaldehyde, either using special generators or saucers of formalin or sheets moistened with formalin being left to evaporate in the closed room. Clothing and similar articles are disinfected either with formaldehyde or by steam.

The bodies of those dead with smallpox are best burned; but in the absence of any compulsory law they may be buried with proper precautions. The body orifices are cleansed and closed with cotton, and the body put in a clean gown; when the coffin arrives a blanket is placed in it, a sheet dripping with saturated mercury bichloride solution is wrapped about the entire body; chloride of lime is freely sprinkled in the coffin, the blanket sewed tight, and the lid fastened on. The grave is dug deep and lime is placed both beneath and above the coffin.

Dr. J. D. Kenney, of Cook's, New Mexico, describing his experiences in the management of a number of cases of smallpox (*Texas Medical Journal*, April, 1899, VXI, 550), states that he used sulphur and chloride of lime for room disinfection. He dampened the ceiling, walls, and floor of the room with solution of chloride of lime, and then burned four pounds of sulphur for every ten thousand cubic feet of space in the room.

To protect himself while visiting his cases he used a pad of bichloride gauze to breathe through, and a long rubber coat to protect his clothing. After each visit he bathed his hands, face and hair in antiseptic solution.

In No. 12 *red cross notes*, Series III., a very simple scheme for disinfecting the clothing of a physician after visiting a smallpox patient, or in fact, a patient sick with

any contagious disease, is outlined. The scheme is simplicity itself:

After contact with a contagious case, the clothing is removed and hung in a tight closet, and a Lister's Fumigator lighted and placed therein, and the closet door closed.

If the closet is tight, the clothing hung loosely, and the door kept closed while the candle is burning, a few hours contact will give perfectly effiicient disinfection.

Some physicians who employ this method have devised a box covered outside and inside with paper, which forms a perfectly tight receptacle. Otherwise, one of the closets always at hand in a physician's office can be used.

This practice gives to the physician a great sense of security, and he can go through his ordinary work, even to taking up surgical or obstetrical cases without fear.

The practice also has a great moral effect upon the public. It gives them a realizing sense of the danger of infection, the value of care, and above all an object lesson in disinfection.

RAILWAY ACCIDENTS.

The Norfolk and Western Railway Company issue the following instructions to be observed in case of accidents:

"Employees will observe the following medical directions in cases of accidents:

"A. In accidents to persons, the ranking employee of the road present will take command and direct proceedings for the relief of the injured.

"B. When there is danger from fire, remove all persons promptly from the train, looking first to those who may be helpless from injury or jammed in the wreck.

"C. Take hold of the injured gently but firmly and without fear. Lay the injured one down on cushions, blankets, clothing or straw, where he will have perfect ventilation and not be in a draught or strong current of air. Loosen the clothes about the neck and body to permit easy breathing, and place the injured part in the position most comfortable to the sufferer. Do not permit strangers to approach and talk to or ask the injured one questions. Place him, if possible, in charge of one or two friends and keep him warm with proper covering.

"D. As soon as practicable, summon the nearest surgeon of the company and notify the superintendent by telegraph. State the number of persons injured and the nature and extent of the injuries, as clearly as time will allow, in order that the surgeon may come with what is needed.

"E. Bleeding.—If the bleeding is from the limbs, keep them bent and the bleeding points elevated as much as practicable.

"F. In case of broken bones, place the injured part in the most natural position, or, if this cannot be done, then in the position most comfortable to the patient. Having done this, seek to steady the limb either by splints of wood or by a pillow folded around the limb and tied in the desired position. In case of broken ribs, relief will be afforded by a wide bandage around the chest drawn as tightly as can be borne. When a broken bone is suspected do not move the limb about to find out if this is so.

"G. In cases of burns or scalds, cover the part with a paste made of baking soda and water.

"H. When there is much weakness from injury, whisky may be given in small quantities say from one to two tablespoonfuls, to be repeated at short intervals, if necessary. Large quantities must not be given, and no whisky must be given if the head is injured. In all cases of weakness from shock or loss of blood keep the patient warm.

"I. Cold water, ice, tea, coffee, milk or soup may be freely allowed to all injured ones who wish them.

"J. In moving an injured person, place a board, door, shutter or mattress, with one end at the patient's head, and lift or slide him gently on it. If the patient can sit up, he may be carried in a chair or upon the locked hands of two persons, around whose necks he throws his arms to steady himself.

"K. When forwarding a patient who has been seen by a surgeon, obtain from the surgeon a written statement as to his opinion of the nature and extent of the injuries, and attach this statement, along with the name of the injured one (if it can be obtained), securely to his clothing.

"L. When the injured person is able to be moved, take or send him to the nearest surgeon of the company in the direction in which the first train is moving. It can then be decided whether the patient will be treated there or taken to some other point.

"M. When the injured person is not able to be moved,

place him in charge of the station agent, section master or some official of the road, and summon the surgeon of the company most easily obtained.

"N. In urgent cases, if no surgeon of the company can be promptly had, summon the nearest physician to take charge of the case until the company's surgeon arrives.

"O. In a general emergency, summon the surgeons of the company in both directions and wire the superintendent if more surgeons are needed."

It should be made an imperative rule in every factory that all injuries must be reported to the foreman at once, no matter how small or trifling. He or his assistant will apply the necessary first aid. If in any way doubtful as to recovery, the case should be referred by him to a competent surgeon, not the nearest, but the best.

Chewing tobacco. dirty cob-webs, soot, mud, turpentine, coal-oil, black oil, or any other oil, arnica, dirty rags, handkerchiefs in use, or rancid salves should never be used as a dressing for any wound.

Syncope or faint, fright and bleeding are the first difficulties to overcome in injuries. When your subject falls let him lie until he becomes conscious; then give him a drink of water, not whisky. Never apply ammonia or any strong stuff to his nose, nor sprinkle him with water; such treatment does no good. When the injured person is able to sit up wash his face and ears, and, when you observe him getting pale, make him stoop over low so his ears get red ; he will then perspire and feel better and his faint goes away. Should it return, repeat your experiment. Encouragement and kindness is the most successful remedy for the frightened; especially children should be handled carefully. Never add to their misery with cruelty and unkind remarks.

Bleeding is the bogy man of surgery. Don't get scared by blood; when too severe, just hold the cut shut with your fingers and it cannot bleed.

Don't try to stop the bleeding by cutting off the circulation between the heart and injury. That is an old surgical superstition that generally causes more bleeding than if left alone, because it cuts off the veins. Tie the wound shut securely, as we will instruct you later in this series. A recent report of a first-aid surgeon shows that in over 36,000 injuries of all varieties, principally glass cuts, which bled severely, none have bled to death.

Pain is seldom very severe except in burns and smashed

wounds that don't bleed. When finger or toe-nails are smashed and have pounding pain and turn black, drill a hole into the nail with a sharp pocket-knife to let out the blood and pain readily ceases.

To correct deformity in injured parts, pull or squeeze them into shape as nearly natural as possible, applying some tension or force.

JAMAICA AS A WINTER RESORT—WHERE TO STAY AND HOW TO GET THERE.

The Canadian winter can be best distinguished as brilliant; with special characteristics of its own, which, to be known, must be experienced. It is not a sombre season; though the three prevailing colours are the gray, black and white of sky, forest and field. These in their shades and combinations lend to the snow-months an endless charm and variety, which seem, unfortunately, to have escaped the imagination of the laity as well as the skill of the artist. A few have even gone so far as to repudiate, or at least to ignore, the winter of Canada altogether; but to the lover of outdoor pastimes it is still very real; and to the physician it is a factor that has been gratefully reckoned with. It is tonic in its effect. It is bracing, renovating, inspiring. The breeze has liquid and invisible iron in solution. The air shines and glitters like champagne. The day is iridescent. The night, with its northern stars, a glory. It is a place to rear conquerors. Finally, it is strenuous, and appeals to the period of youth when the blood is most brisk. But there is somewhat of a strain nevertheless; and the debilitated may find themselves unequal to it. The broken and the infirm may dread it.

There comes a time when one fails to react, when the north wind chills, but ceases to invigorate; when the blood is thin, and the blanket of snow no longer causes the heart to leap up. Indeed there are many cases where discretion is the better part of valour; and while it is often a great mistake to drag a patient away from his home and its comforts and familiar faces, there are times when it is a crime to leave him there. In health the exhilarating pleasures of the Canadian winter act as a stimulant, but in the feeble this stimulant is often contra-indicated. Also in neuras-

thenia, in all its protean forms, a warm and sedative climate is greatly to be desired, and the winter must be escaped at all hazards. A warm climate soothes and rests. It does not directly build up; but indirectly it prepares the constitution for this. There are few physicians who have not among their patients a dozen or more who would be infinitely benefited by a three months' rest during the rigours of the northern winter in the far South. But the South has its dangers also. Though scores of the aged die every winter in the North from maladies due to the cold, the South, on the other hand, has its malaria and yellow fever. Furthermore, many southern resorts cost a fortune to reach, and the revenues of a principality to remain at. In fact, the choice of a suitable winter resort in the South is not easy. Practical therapeutics cannot ignore the southern winter. To many hundred residents of the snowy zone, perhaps to many thousands, the far South means life this coming winter. To many other thousands, who stand not in actual peril, it means health and rejuvenescence. Ponce de Leon sought these last in Florida, and he no doubt did well, but he who turns his face to Jamaica does better. Florida is low, and is called the land of flowers for unknown reasons. The Bermudas are also low, and the Bahamas. But Jamaica is a lofty group of mountains, towering in air more than a mile above the level of the sea. The Alpine is here blended with the soft Sicilian. The scenery is beautiful beyond all description. There is loveliness in the detail, majesty in the large.

The life in Jamaica is full of interest, and the living is within the means of those in moderate circumstances. The hotel charges are less than in Canada, only in one or two cases exceeding two dollars a day, while board may be had in private houses for one pound ten a week. As pointed out by the present writer in an article on the "Winter Climate of Jamaica," which appeared in this Journal two years ago, the island enjoys a marked immunity from many of the tropical diseases which render neighbouring points undesirable as a winter residence. Yellow fever is entirely absent, and malaria is only contracted in a few regions, to which there is no call for anyone to go. The Hotel Titchfield, at Port Antonio, is conducted in the American fashion, and, considering the service, is very moderate in charge. It is the only American hotel on the island, and will afford an agreeable stepping-stone for strangers who might not over-readily adapt themselves to life *a la Creole*, with which they

will be met everywhere else. The sea-bathing here is a constant source of pleasure, and the northerner learns for the first time what sea-bathing really means. The water is as clear as an emerald, about the same temperature as the body, amazingly buoyant and medicinal in its effects, much as a mineral water bath. The roads along the coast and through the mountain valleys are of the best, and driving is a cheap and unfailing recreation. Moreover, though the climate is tropical, it cannot be called hot. The nights are cool and grateful. At noonday the thermometer seldom rises above 76. It is the lack of extremes in temperature that soothes and benefits the system. The life in a coast or mountain city is not exciting, yet the variety of wholesome recreation prevents the time from ever being dull or tedious and hanging on one's hands. At the Titchfield, which is one of the best hotels in the West Indies, all the comforts of the North are to be obtained, and when to these are added the immense variety of native luxuries, it is no wonder that the failing appetite is renewed when other means have failed. After all is said, the ability to eat a good dinner, and to sleep well upon it is one of the best criterions of health. That be what it may, one carries away with him, after a visit to Jamaica, a sense of freshness which remains for a year afterward. From the Titchfield Hotel many excursions may be made to historical landmarks of great interest in the neighbourhood.

The island of Jamaica is law-abiding, and quite free from the political tumults which disquiet most of the neighbouring islands. The natives are quaint and interesting. Among the upper classes of society there is an air of old world refinement and culture. Kingston, the capital, is larger than Port Antonio, and is one of the most interesting cities in the West Indies. Here there are two excellent hotels, the Myrtle Bank, on the harbour, where it is constantly fanned by the breeze from the Caribbean Sea, and the Constant Spring Hotel, a few miles back in the mountains. Both are equipped with every modern improvement, and are very reasonable in charge. The city has a good system of electric cars, and the cab tariff will amaze residents of northern cities, sixpence being the rate for short drives, and longer in proportion. The Jamaica Government Railway runs from one end of the island to the other, and is efficient in every respect, with penny mileage. As the route lies through some of the most beautiful scenery in the world, it goes without

saying that no visitor to the island should go away without availing himself of the opportunity to explore the island. A stay at Montego Bay, the western terminus of the railway, will also amply repay one. This ancient city of the Spaniards abounds in historical reminiscences, and it has been very aptly compared to Naples. The chief mountain resorts are all easily accessible from the Jamaica Railway. Mandeville is the nearest of these. It is in the heart of the mountains, and is surrounded by famous coffee plantations. There is an excellent hotel here under the management of Mr. Lindo, and the region is healthful in the extreme. The Santa Cruz mountains are also reached from the railway, and here also there are two well-kept hotels, that of Mr. Ambrose Lawrence, and that of Mr. Isaacs. Lastly, there is Moneague, a few miles from Mount Diablo, and at the Moneague Hotel excellent accommodation can be obtained. The world-famous Fern Gully is in the vicinity. The scenery about these resorts is very beautiful, and in some places the view approaches to the sublime. To Mandeville, Santa Cruz and Moneague might also be added Montpellier, in the mountains that overlook Montego Bay. The hotel at Montpellier is excellent, having been originally built by an English nobleman as a winter home for the entertainment of his guests. By way of a last word, let it be understood as regards the hotels enumerated, none of these are "cheap" in the American sense, but compared with hotels of the same standard in America, their charges are certainly very reasonable. The places have been mentioned by name for the convenience of those contemplating a winter in Jamaica, and it may be added that the information given is not hearsay, but the result of personal knowledge of the places referred to.

In going to Jamaica one will be surprised at the comparatively small cost of the journey, as well as the shortness of the voyage. Going by rail to Baltimore one is there able to catch every Wednesday morning either the steamship *Brookline* or *Barnstable*, of the United Fruit Company's fleet, which make the voyage in a little over four days. By this route the traveller escapes much of the rough weather encountered in sailing from the northern ports, and each day the air will be found a little milder in a passage due south. On the second or third day the winter atmosphere has changed to the eternal summer of the South, and when one lands at Port Antonio, though the calendar may say that it is January, the thermometer declares the soft and

balmy warmth of June, and the wraps and furs worn at setting out are put off for summer clothing. Though the fare is only thirty-five dollars, these steamers are, in the matter of accommodation, quite up to the standard of the great trans-Atlantic lines.

It has lately become a catchword in some of the States, owing to the pressure of competition in commercial matters, to always "patronize home industries," no matter how bad. Surely this philosophy ought also to hold, no matter how good, and if patriotism of this practical sort is to have any part in the question of a winter health resort, it is suggested that the Canadian health-seeker can scarce do better than spend his winter (and his money) under the British flag. The foundations of empire are often strengthened by apparently trivial circumstances, and no Canadian will ever regret making the acquaintance of this noble sister Colony which was in her golden prime a century before axe had fallen in the timbered solitudes beyond the Great Lakes. The English blood and the English faith have lost none of their virility where the tamarind grows and the cinnamon tree casts its shade; none of its sincerity where the jasmine exhales its intoxicating incense upon the night.—*Canadian Journal of Medicine and Surgery Feb.*, 1903.

LESSONS DRAWN FROM EX-SPEAKER REED'S CASE.

Normal excrementious products are sometimes retained within the body. Such a condition apparently occurs in uremia from excretory insufficiency of the renal cells. The suppression of perspiration, by coating the body surface with an impermeable material, may produce sufficient retention of toxic substances to cause death. In certain conditions, normal emunctories may be insufficient to carry off an abnormal excess of effete products.—*Brooklyn Medical Journal.*

In our Oct.-Nov. (1901) issue, Vol. I, Nos. 10 and 11, in an editorial, under the caption "President McKinley's Case," we called attention to the generally accepted belief among the members of the profession, that had the President (at the time of the wound and operation, which proved so disastrous in his case) been in the prime and vigour of health, with organs of secretion and excretion equal to the full performance of their duty, the wound and operation might not have proved fatal. We then asked the question: "Does not the case of this illustrious patient—whose sedentary mode of life led to the

impairment of the metabolic functions and gradual accumulation of toxic waste products within the system, *and which paralyzed reparative energy when the occasion demanded* —indicate to us the importance of maintaining a proper functional activity of the excretory organs ?"

Bearing upon this point, we quoted the words of an eminent writer who says : "When the truth is once thoroughly understood and appreciated that anything which interferes with the functional activity of the excretory organs and prevents the free elimination of poisons, not only causes the blood to become loaded with toxic materials, and thus renders it less able to take up the retrograde products of cell activity than when it contains a comparatively small amount of these materials, but that the poisoned blood less readily conveys the nutrient material which is absolutely necessary for the life and the health of the cells, and that the accumulating poisons inhibit their activity and lessen their power to recognize and combat maleficent agents,—when, I say, we once fully appreciate the importance of these truths and realize to how great an extent the welfare of the body depends on the consentaneous activity of the cells, the blood and the excretory organs, we will be able to appreciate the importance of auto-intoxication as an active factor in the production of disease." To which may be added—and we will be better able also to appreciate the importance of ELIMINATION in the treatment of disease.

Our reference to the subject of auto-intoxication and the death of President McKinley, has been suggested to us in this connection owing to the sad news of Ex-Speaker Thos B. Reed's death, at Washington, on the morning of Dec. 7th. While it is true, that in one case, the immediate cause of death was an assassin's bullet, and, in the other, "uræmic poisoning," yet we cannot rid ourselves of the conviction that these two eminent patients were afflicted very nearly alike, and that the chances of recovery in both instances were blasted by the same pathogenetic factors. Both were men of generous physical proportions ; both led strenuous political lives, necessitating enormous expenditure of nervous energy ; both acquired habits and modes of living which called for extra work on the part of the metabolic and glandular organs—especially the organs of excretion : and, yet, both were burdened with public duties, so important, that neglect of personal laws of health was a natural consequence ; and, through this neglect, the system of both

became charged with toxic-borne substances, which blunted the recuperative powers when called upon in an emergency.

A few hours before announcing his death, Ex-Speaker Reed's physicians issued the following bulletin: "Mr. Reed's condition not so favourable. Uræmic symptoms becoming more pronounced. Almost total suppression of kidney function." A previous bulletin had informed the public that the patient was unobservant of his surroundings, that he was partially delirious, and that severe nausea had set in. Although he had been ill less than a week, yet the condition at this time gave evidence of a blood charged with toxic waste which paralyzed glandular activity, resulting eventually in total suppression of the gastric and renal functions, systemic poisoning, and death. Inhalations of oxygen, and injections of the normal saline solution, were administered during the last hours, but, of course, without avail—the poison had done its work.

Are there any practical lessons to be drawn from this case? Does not the fact that the best treatment known to modern science proved ineffectual here, suggest to us the importance of *preventative* measures? Here was a patient who suffered no infectious nor contagious disorder, he had not exposed himself to an environment which his system was unable to cope with—*i. e.*, he had had no poison introduced into his body from without; he had simply neglected to rid himself of the poisons generated within. What shall be done in the treatment of such a condition? There are two modes of treating a poison case. If the patient has swallowed a toxic dose of opium, arsenic, or strychnine, and he is seen directly afterward, the rational course to pursue is to *eliminate* it from the body as quickly as possible (with an emetic, stomach-pump, or cathartic) before it has entered the general circulation. If it has already gained entrance into the blood, an *antidote* is given—i. e., some agent which chemically combines with the poison and forms an inert compound, or a soluble one which may be easily excreted by way of the urine.

We believe that the same line of treatment should be followed in a case of auto-poisoning—that is, it should be *solvent and eliminative* in character. We should endeavour in the first place to *prevent* self poisoning, by aiding the organs of elimination to perform their work. If liver, kidneys and bowels shall at any time show an inclination to shirk their duties, or if they prove themselves partially incompetent to perform any extra labour forced upon them, it then

becomes essential that they be stimulated to greater activity in order to prevent the retention and accumulation of waste tissue poisons within the system. It is, of course, understood that proper dietetic measures should be observed—*i. e.*, only such foods being allowed as contain the smallest amount of purin extractives, or of the raw material from which toxins of the uric acid type are formed.

In patients whose manner of living has been like that of President McKinley and Ex-Speaker Reed, we believe that the excretory organs should be furnished assistance from time to time, even though no serious rheumatic or gouty symptoms have yet manifested themselves. The development of auto-toxæmia is an insidious process, and the primary symptoms—headache, slight dizziness, loss of appetite, vague muscular pains, fits of blues, etc.—may be overlooked or disregarded, the patient not feeling himself ill enough to consult a physician until some well marked sign of a disordered condition of the stomach, liver, kidneys, bowels, or nervous system, presents itself. For this reason, we believe that the time-honoured custom among the laity, of taking a "blood purifier" in the spring of the year (always composed of cathartics and eliminants) is one to be heartily commended.

It is perhaps unnecessary for us to reaffirm our oft-repeated views concerning the efficacy of the hot thialion solution, as a *solvent and eliminant* agent in the treatment of these cases. It may be used not only as a preventative means against self poisoning, but as an antidote and evacuant after the poisoning has already begun. Its solvent action upon the salts of uric acid renders it especially effective in the treatment of those cases of hepatic and renal insufficiency in which this toxin plays so important a role, and which, as in Ex-Speaker Reed's case, may eventually develop "uræmic poisoning." In other words, we feel assured that this latter condition of affairs may be warded off, by a timely dosage with thialion; *i. e.* a teaspoonful, dissolved in a glassful of hot water, taken twice daily (morning and night) and continued in this way until urinalysis reveals a normal urine, so far as urea and the amount of other solids are concerned.—*Uric Acid Monthly.*

Progress of Medical Science.

MEDICINE AND NEUROLOGY.

IN CHARGE OF
J. BRADFORD McCONNELL, M.D.
Associate Professor of Medicine and Neurology, and Professor of Clinical Medicine University of Bishop College; Physician Western Hospital.

THE MEDICAL TREATMENT OF GALL-STONES.

The formation of gall-stones is due in the first instance to a nucleus in the gall-bladder, usually of bacterial origin, and secondly to the precipitation of cholesterin or colouring matters from the failure of the bile to hold these substances in solution. Cholesterin and the colouring matters are held in solution by the glycocholates and taurocholates, and it follows that there precipitation must be due to an insufficient quantity of these substances. The obvious therapeutics of this condition is the administration of glycocholate of soda by the mouth, which, as is well known, is absorbed from the intestine, increasing the flow of bile, and at the same time preventing the precipitation of the cholesterin and colouring matters. Even when the nucleus exists in the gall-bladder, the formation of stone would be prevented if there was a sufficiency of glycocholate to prevent precipitation.

If small cholesterin or colouring-matter stones be placed in a solution of glycocholate of soda for a few days and kept at body temperature, they become friable, so that they can be crushed between the fingers and gradually dissolved.

In severe cases, when the gall-duct is secluded, or the stones are very large, surgical interference is necessary, but in the large majority of cases the futher formation of stones will be arrested, and those present gradually dissolved by the administration of their normal solvent. There is no other drug which can be administered which will enter the bile and act as a solvent, and further, as it is the natural solvent, it is presumably the best.

After operation and removal of the stones, it is not uncommon for a reformation to take place, necessitating a second operation. Several cases of periodic hepatic colic have been permanently cured by the administration of glycocholate of soda (5 grs. t. i. d.), the patient for some time

continuing to take about two drachms per month to insure that there should be no insufficiency.

Besides its action as a solvent for gall-stones, it is the only real cholagogue that we possess, increasing the flow of bile, thereby purging the liver, as well as assisting in the assimilation of fats from the intestine.—*The Therapeutic Gazette*, December, 1902.

SURGERY.

IN CHARGE OF

ROLLO CAMPBELL, M.D.,

Lecturer on Surgery, University of Bishop's College; Assistant Surgeon, Western Hospital;

AND

GEORGE FISK, M.D.

Instructor in Surgery, University of Bishop's College; Assistant Surgeon, Western Hospital.

ACTINIC RAYS IN MINOR SURGERY.

A set of lamps for utilizing the ultra-violet rays of the electric light has been devised by Minin, of St. Petersburg, who has reported the treatment by this means of burns, hematoma, acute myositis, and who has utilized it further for the relief of the pains accompanying contusions, pleurisy, etc. Minin claims that the rays from his apparatus produce cutaneous anesthesia and thus make skin stitching and incisions painless. In a number of minor surgical cases reported by E. A. Tracy (*Boston Medical and Surgical Journal*, Nov. 6, 1902) the Minin apparatus was used to produce either anesthesia or antisepsis by means of the actinic rays. For anesthesia the operator applied the rays from a No. 3 Minin lamp at a distance of 10 inches for 15 minutes. In one case two one-inch incisions were made for the removal of a cyst; the patient felt no pain. Similar cases are reported by Minin, who shows that after illumination with his lamp primary union occurs in wounds which otherwise would heal less kindly.—*Ex.-Medical Sentinel.*

THE TREATMENT OF GASTRIC ULCER WITH OLIVE OIL.

The excellent results gained by Walko (*Centralblatt für Innere Medicin*, No. 45, 1902), with the use of large doses of olive oil in the treatment of hyperacidity of the stomach induced him to administer the same in gastric ulcers. Of greatest importance in the treatment of stomach ulcer is the prevention and removal of all irritations so far as possible. As a hyperacidity is usually present, the removal of the same would have a beneficial influence on the healing process of the ulcer. The value of olive oil as a nourishment cannot be estimated too highly, because it is absolutely non-irritating, does not interfere with the motility of the stomach, and is easily assimilated. The author finds in his experience that the oil has given satisfactory results, the pains disappearing rapidly. In fresh ulcers Walko gives a tablespoonful three times a day to begin with, and gradually increases the dose to 50 cubic centimeters. After taking the oil the patient should wash the mouth with an agreeable mouth-wash. In cases where the oil caused nausea, it was given as emulsions in doses of 100 to 200 cubic centimeters, and by means of a soft stomach-tube. This treatment was carried on for three to six days until the severe symptoms of the ulcer disappeared, all other nourishment per os being excluded, though rectal feeding may be given at the same time. The author cites seven clinical histories illustrating the above treatment.—*Med. Age.*

Jottings.

Half a teaspoonful of table salt allowed to dissolve on the tongue, and then slowly swallowed, is said to act promptly in arresting hemorrhage from the lungs.

Jaborandi is directly an active diaphoretic and sialogogue. In fever, if given in small doses of two drops every two hours, it keeps up a moist skin, favours elimination, reduces the temperature and prevents local congestions.

Olive oil by inunction has been used with great success in the treatment of wasting diseases in children, and as a

cathartic in place of castor oil. Its use in colic of gall stones is well known.

Minimum doses of iodide of potassium are said to be of great service in frontal headache. A heavy, dull headache, situated over the brow, and accompanied by languor, chilliness and a feeling of general discomfort, with a distaste for food, which sometimes approaches to nausea, can generally be removed by a two-grain dose of the potassic salt dissolved in half a wine-glass of water, and this quietly sipped, the whole quantity being taken in about ten minutes. In many cases the effect of these small doses has been simply wonderful.

In the incipient stage of coryza, when the patient sneezes and feels chilly, camphor is a valuable remedy.

A teaspoonful of powdered alum in syrup is a good and safe emetic in croup. It may be repeated in ten or fifteen minutes if required.

In nervous disturbances and undefinable and transitory disorders of children, the bromides, in doses of one or two grains every ten or fifteen minutes, will often prove of great benefit.

An agreeable prescription of extraordinary value, not only in follicular tonsillitis, but also in diphtheria, ulcerated tonsils, stomatitis, pharyngitis, and other sore throats may be formulated something like this :—

℞ Potass. chlorate ..... ʒ j
Acid. hydrochlor. dil ..... ʒ ij
Ferri chlor ..... ʒ ij
Aqua cinnamon. } .....aa q. s. ad. ʒ iv
Syrup. }

M. Sig.:—One teaspoonful every two or three hours.—*Med. Standard.*

Eupatorium, or the common boneset, with which every mother is acquainted, is a very excellent remedy in intractable hiccough, curing where all other remedies have failed.

Patients afflicted with dribbling urine, accompanied by a burning sensation in the urethra, should be given santonine in Sanmetto. The administration of one grain in teaspoonful of Sanmetto every hour or two will usually afford prompt relief.

THE

CANADA MEDICAL RECORD

PUBLISHED MONTHLY.

Subscription Price, $1.00 *per annum in advance. Single Copies*, 10 *cents.*

Make all Cheques or P.O. Money Orders for subscription, or advertising, payable to JOHN LOVELL & SON, 23 St. Nicholas Street, Montreal, to whom all business communications should be addressed.

All communications for the Journal, books for review, and exchanges, should be addressed to the Editor, Box 2174, Post Office Montreal.

Editorial.

TO PREVENT INFECTION.

A practical and helpful series of rules for the sanitary management of contagious and infectious diseases has been prepared by The Palisade Manufacturing Company, of Yonkers, and issued in pad form with cover.

It is intended that when called to a contagious case the physician shall sign and hand to the attendant one of these printed sheets of "Precautions to be observed by Patient, Family and Attendants." This series of rules, couched in plain, everyday English, has been carefully prepared, and the information given is accurate and up to date. The delivery of such a signed code of instructions not only impresses the family favourably, but also relieves the physician of all responsibility should any of the necessary precautions be omitted. The advertising of Borolyptol is so arranged that, if the physician desires, he can detach all reference to the preparation before handing the directions to the family.

One of these pads (thirty-two sheets) will be mailed to any physician who may apply for same.

AMERICAN JOURNAL OF DERMATOLOGY.

A SYMPOSIUM ON MODERN PROSTATIC INVESTIGATION.

The entire issue of the *American Journal of Dermatology & Genito-Urinary Diseases*, published at St. Louis, Mo., for May, 1903, will be devoted to symposium on Modern Prostatic Investigation.

The leading surgeons of the World will take part in this work, which will be discussed, arranged and presented in a manner never before undertaken. The following subjects will be discussed: (1) To what extent occupation tends to prostatic hypertrophy with especial reference to active indoor, active out-door, and sedentary pursuits. (2) Which suffer oftenest, the phlegmatic or nervous, the lean or obese?

(3) Etiology of prostatic hopertrophy. (4) To what extent the cystoscop has been of service in diagnosis. (5) To what extent habit is responsible for prostatic hypertrophy with especial reference to the use of alcohol and constipation. (6) In what cases palliation is advised, and of what it consists. (7) Ligation of the vasa deferentia and results. (8) Castration for prostatic hypertrophy and results. (9) Bottini operation or some modification of this treatment and its success with especial reference to complications, permanency of relief, etc. (10) Supra-pubic drainage with an estimate of results. (11) Supra-pubic prostatectomy and results obtained. (12) Perineal prostatectomy and with what success. (13) Operation of choice for prostatic hypertrophy. (14) What unexpected complications have arisen during the operation for prostatic hypertrophy, and what during the post-operative conduct of cases. (15) Résumé of prostatic work.

THE WYETH-LYMAN LABORATORY.

Messrs. Lyman Sons & Co. have just completed, on Prince street, Montreal, a laboratory which is second to none in Canada. The building has a frontage of about 50 feet and

a depth of over 100 feet. It is three storeys high with a basement.

All the latest and best forms of apparatus necessary for the preparation of high-class pharmaceuticals, viz : vacuum stills, tablet compressing machines, percolators, etc., have been installed and are at work turning out the many preparations of Messes, Jno. Wyeth & Bro., Philadelphia, for whom Messrs. Lyman Sons & Co. have been appointed sole Canadian agents.

The goods of Messrs. Jno. Wyeth & Bro. have always held a high position in Canada, and with the extensive connections of Messrs. Lyman Sons & Co. the sales will be very largely increased.

At the same time Messrs. Lyman Sons & Co. are making extensive alterations in their premises on St. Paul St. The sundries' department will occupy the whole second storey about 15,000 sq. ft., making it one of the largest if not the largest in America. The chemical, glassware and surgical instrument departments will also be extended owing to the great increase of trade in these departments. Two years ago the firm added two storeys to their buildings, but already the space is two small for the rapidly growing business of the leading firm in its line in Canada.

Book Reviews.

The Practical Medicine Series of Year Books, comprising ten volumes on the year's progress in Medicine and Surgery, issued monthly. Editor, Gustavus P. Head, M.D., Professor in Chicago Post-Graduate School. Volume IV., Gynecology. Edited by Emilius C. Dudley, M.D., Professor of Gynecology, Northwestern University, Chicago, and William Healy, M.D., Instructor in Gynecology, Northwestern University, Chicago. March, 1903: Chicago. The Year Book Publishers, 40 Dearborn street, Chicago.

This volume is a careful *resumé* of the best practical literature of Gynecology up to the 1st of February of this year, in which,

however, not anything of import has occurred. Some valuable contributions on Cystoscopy have, however, appeared, and these are noted. The various volumes of this series are extremely handy in size, and may be relied upon as being thoroughly up-to date.

F. W. C.

The Physician's Wife and Things that Pertain to her Life. By Ellen M. Firebaugh, illustrated with forty-four photo-engravings of sketches from life. The F. A. Davis Company, Philadelphia, New York and Chicago, publishers.

We have been favoured by the publishers with a copy of this book, which has already run through several editions, and will, we feel sure, run through many more. It is entertaining, thoroughly so, from the first page to the last. Indeed, when one makes a beginning at reading it, it is difficult to lay it down till the last page is reached. This can be accomplished in a sitting of a little less than three hours. Not only is it most interesting, but a moral can be drawn from many of the incidents recorded. Every physician's wife ought to read it, and every doctor who reads this notice will be doing a good thing for himself and his wife by presenting her with a copy.

F. W. C.

Obstetrics—A Text-Book for the Use of Students and Practitioners. By J. Whitbridge Williams, Professor of Obstetrics, John Hopkins University; Obstetrician-in-Chief to the Johns Hopkins Hospital; Gynæcologist to the Union Protestant Infirmary, Baltimore, Md., with eight coloured plates and six hundred and thirty illustrations in the text. Published by D. Appleton & Co., New York and London, 1903.

"To the making of books there is no end," and, indeed, it is a good thing for the profession it is so; otherwise this most excellent work would not have perhaps been written. The author in his preface states that his aim has been to make the work thorough and scientific as well as practical. It is illustrated with a large number of new cuts, and every chapter has the bibliography pertaining to it following it. We think that it is a great mistake to take up 144 pages on Embryology which should, if desired by the profession, be printed in a separate book or left where it really belongs, in the Physiology text-books. It would be almost impossible to select any one chapter or subject for their excellence, for, as a whole, it stands to-day as one of the very first text-books. It has been added to the list of text-books of Bishop's College.

H. L. R.

PUBLISHERS DEPARTMENT

SANMETTO IN FREQUENT INCONTINENCE IN THE AGED, IN ENURESIS NOCTURNA IN CHILDREN AND IN PRE-SENILITY.

I have had good results from the use of Sanmetto in nocturnal enuresis of children; also have prescribed it in cases of frequent micturition in old people, with marked benefit; also find it beneficial in pre-senility. I think it is a good medicine in all cases where anything of its nature is indicated.

S. W. BADGER, M. D.

Athens, Pa.

SANMETTO IN CHRONIC CYSTITIS, CHRONIC URETHRITIS AND PRE-SENILE IMPOTENCE.

To whom it may concern:

This is to certify that I have used Sanmetto extensively in my practice and can recommend it in chronic cystitis and chronic urethritis. I have used it in pre-senile impotence with remarkable and brilliant results. I regard the remedy, after making crucial clinical, tests in the above named diseases, as the *sine qua non* of all the remedies in these diseases.

THOMAS M. BROWN, M. D.

Oakland City, Ind.

SANMETTO FOR ENLARGED PROSTATE IN THE AGED AND ENURESIS NOCTURNA IN CHILDREN.

My experience with Sanmetto has been most gratifying. I consider it the greatest remedy I ever used in cases of aged men with enlarged prostate. I am now using it in two cases of nocturnal incontinence—both children are improving rapidly.

W. H. LYLE, M. D.

Olpe, Kans.

SANMETTO FOR KIDNEY, BLADDER AND PROSTATIC TROUBLES IN THE OLD WAR VETERANS.

I ordered a bottle of Sanmetto to use in a case of prostatitis, aet. seventy-six years, a veteran of the Civil War and an old pensioner. He has used two bottles besides the one first ordered *and he has now completely recovered.* His statement of these facts in a G. A. R. Post meeting excited an intense interest among Grand Army men and has resulted in several letters of inquiry to myself regarding the treatment of his case. I take pleasure in giving this testimonial of the good Sanmetto will accomplish in these difficult cases of prostatitis, gravel and kidney trouble among Grand Army men. I unhesitatingly prescribe Sanmetto in every case indicated.

J. A. MEAD, M.D.

Worcester, Mass.