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THE

BRITISH AMERICAN JOURNAL

OF

MEDICAL & PHYSICAL SCIENCE.

EDITED BY

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VOL. V.] OCTOBER, 1849. [No. 6.

CONTENTS.

Communications on Scientific subjects and Books, &c., for review, to be addressed to the Editor: on all other matters connected with the Journal, to the Publisher: in either case, Post-paid—No communications for insertion in the succeeding number will be received after the fifteenth of the month.—From this rule there will be, in future, no departure.

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MDCCCXLIX.

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Midwifery and Diseases of Women and Children,	by M. M'Culloch, M. D.; 8, A.M.
Materia Medica and Pharmacy,	" A. Hall, M. D.; 9, A.M.
Institutes of Medicine,	" R. L. Macdonnell, M. D.; 10, A.M.
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Clinical Medicine and Surgery,	" J. Crawford, M. D.; 1, P.M.
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N. B.—The tickets of this University being recognized by the Universities and Colleges of Great Britain, students who purpose completing their professional education in the mother country, will obtain an important advantage by having attended its Courses.

A. F. HOLMES, M.D. & P.,
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THE

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VOL. V.] MONTREAL, OCTOBER, 1849. [No. 6

ART. XXIX.—ON BLOOD-LETTING IN CHOLERA.

By W. MARSDEN, M. D., Quebec.

Of all the diseases that have afflicted the human race, there is perhaps none that has so completely baffled the skill of the Physician, and set at nought all the known laws of Physiology and Pathology, as Cholera. We find among men of the highest professional character and standing, opinions and facts of the most opposite and contradictory natures and characters enunciated; and the most adverse plans of treatment alternately advocated and denounced with a degree of confidence and pertinacity that must give non-medical readers a very doubtful opinion of our therapeutic skill; but the contagious principle of this disease seems to be made up of more contraries than any other. This latter subject I have already touched upon superficially during the prevalence of the late *so called* epidemic, in the newspapers of this city, over the signatures of "Delta" and "Epsilon," but, being unwilling to provoke a controversy on a purely professional subject in a non-professional journal, I abstained from following up the subject through that channel, and from noticing some articles in reply to mine, not merely from the want of courtesy, truth, and fairness, that pervaded them, but because I preferred giving "facts," on so important and vital a matter, a less ephemeral existence than they could have had through a newspaper devoted to general subjects, which is for the most part laid aside as soon as read, and not again referred to; besides having attained my principal object at the time, viz., the arousing the local board of health, to a sense of the vital importance of its functions. I therefore promised to renew the subject through your columns, and as I shall be expected to do so, I take this opportunity, with your kind permission, of announcing my intention, as I purpose confining myself in my present paper chiefly to the abstract point of BLOOD-LETTING IN THE TREATMENT OF CHOLERA. By Cholera, I mean that disease in its most extended sense, which is described by medical writers by the various names o Cholera Morbus, Cholera Spasmodica, Cholera Asphyxia, Cholera Indica, Cholera Epidemica, Cholera Sporadica, Cholera Oriental is, Cholera Asiatica, Malignant Cholera, Pestilential Cholera, Contagious Cholera, &c.

Blood-letting as a therapeutic means in Cholera, like every other, has had its advocates and its antagonists' and each has seemed at times to obtain the advantage; but although both parties may occasionally be wrong and both right, I think each has arrived at erroneous conclusions from an indiscriminate adoption or avoidance of the practice. I must confess my own predilection is in its favor. As practice constantly puts theory to the blush, I will state the result of a portion of mine during the prevalence of Cholera in this city in 1832, to which circumstances of a painful nature called the public attention at the time. My practice then was *bleeding, whenever blood could* be obtained, even in collapse, and I am not sure that any better practice could be adopted now in very many cases. However, the circumstances that called for an investigation of the results of blood-letting in my practice, were as follows:—I had been called to attend a most promising and rising member of the Quebec bar, who had been an old friend and school fellow. I had bled him, as was my wont, in similar cases, before the arrival of another physician (since deceased) who was the family attendant of another branch of the connexion, and who most ungenerously and cruelly censured my practice in the presence and hearing of both the patient and his friends. The effects upon the former, whose unbounded confidence I had hitherto possessed, need scarce be told;—he died. The relatives immediately circulated a rumour that my friend and patient "had been killed by bleeding," in which assertion they were backed by the declaration of the Consulting Physician. My position and prospects, as well as my age in the profession at the time, demanded some exculpation, and I was constrained to retain the professional assistance of a member of the bar, now a judge, to carry me over my difficulty. *A Post Mortem* examination took place, which resulted in the usual appearances, and an investigation of the issue of forty consecutive cases of Cholera of similar character *in my private practice* (as I was connected with the Cholera Hospitals both in 1832 and 1834), including my friend's, was as follows:—Of thirty-two who had been bled, thirty recovered, and two died. Of eight who had not been bled, seven died, and only one recovered.*

* The names, residences, and all the details of these cases are on record; and many of the persons are still living and among us.

much effect. I then punctured the temporal artery, which bled tolerably full. After a few ounces had escaped, the circulation had so far recovered, that the blood began to flow from the jugular vein, and by placing the ligature again on the arm, the fluid came from it also, in a full stream. The pulse always rises under the loss of blood, and the heat returns to the extremities as the circulation returns."

This latter remark of Surgeon Loudon's is perfectly correct. Having had occasion to make the observation two or three times to medical acquaintances who have objected to the abstraction of blood on account of the smallness of the pulse, My remark has always been "It will rise under depletion as it does in enteritis."

Frederick Conleyn, Surgeon, again writing to the Bombay Board from the camp at Eritch, Nov. 26th, 1817, says, "In the treatment of Europeans, however, I strongly recommend copious blood-letting, &c,' 'although he adds further on, "Bleeding, it should be remarked, is not adapted to old persons, who are weak, or worn down by disease."

Surgeon Wallace, in writing from Peroov, in July, 1818, says, "When the medicine was obstinately rejected in every shape, the patient has been placed in a hot bath, and bled with evident advantage. The blood should be permitted to flow until the contractions of the muscles are subdued. At this period the stomach will retain the medicine, and a favorable effect may succeed to its use before the recurrence of spasms. Should these symptoms return, the bath must be tried again. A second bleeding also, is sometimes required."

R. Outon, Surgeon, says at page 103 of Kennedy, writing from Betlary, Oct. 8th, 1818, "I am extremely happy to have it in my power to bear testimony, in the strongest terms, to the efficacy of blood-letting in the treatment of cholera. In four cases it failed, but in all of these the severe symptoms had been established from five to thirteen hours before admission. In thirty-two others I have seen bleeding followed by rapid cures, though in fifteen of these the second stage had commenced. In none has it been unsuccessful when applied before or soon after the commencement of that stage."

Surgeon W. Train, writing to the Medical Board from Shooty, February, 1820, says, after describing the disease, at page 109 of Kennedy, "The practice I have followed has been bleeding in every case where blood could be procured. Most patients recover from whom a quantity of blood can be obtained. Frequently, however, on opening a vein, the fluid comes away only in drops, and even the most powerful stimulants fail in exciting the circulation."

J. Chalmers, Surgeon, writes to the Board from Tinnevelly, May 20th, 1820. "His opportunities of treating and observing cholera were very extensive, and he seems to have made the best use of his position. His remarks are practical, and he has arranged his plan of treatment under ten distinct heads, commencing: 1. I bleed freely if possible," &c.

Sir S. Senestre, K. I. Surgeon, writing the 25th of the Indian Reports, dated Madras, 25th Dec., 1818, commences, "If I were to act discretionally, in the event of a second visitation of cholera, I would use the lancet in very many instances, and the subsequent treatment would be guided according to the degree of spasm or other urgent symptoms. Immediately after bleeding, the patient should be placed in the vapour bath."

A. Connel, Staff Surgeon, Lecunderabad, writing to the Board under date of the 20th May, 1819, says, "The most effectual treatment, with Europeans, was immediate and copious blood-letting, and then calomel and laudanum."

Surgeon Provan, in the 34th Bengal Report, writes from Travancove, Nov. 5th, 1819, as follows, "In the limited number of patients treated here, blood-letting was resorted to; and where the blood could be procured in a full stream and large quantity, the cases uniformly recovered. One of my servants presented a rather remarkable instance. Previous to the attack, he had been much exposed to the rain at Nagricoil, and had also attended the sick. The disease was very severe, and he was bled to the extent of twenty-four ounces, which came away in a full stream. The usual dose of calomel and laudanum was administered, and soon after he was reported 'fast asleep'. In the course of two hours, however, the disease had returned, with increased violence. When I saw him, the pulse could barely be felt vibrating occasionally. Veins were opened in both arms, and the blood came away, sometimes in drops, sometimes at intervals, and sometimes in a stream for a few seconds. By persevering in this way *during upwards of an hour, it came at last in a full stream,* and about sixteen ounces were taken. After a severe struggle he recovered. and is now only suffering from the effects of an acid blister."

E. Chapman, Surgeon, writing the 36th of the Indian Reports, says, "In the early stage of the disease, and while the pulse is little diminished in strength, nothing should forego the use of blood-letting. The extent to which bleeding should be carried, must necessarily be regulated by the effect it produces on the system generally, and the circulation in particular. The operation should be performed without delay, as in a short time the

sinking of the pulse will shew that the period *for the use of the only efficient remedy has passed.* I have ventured to denominate blood-letting the only efficient remedy; and if this observation be not supported, certain it is, that no other remedy can be said to be efficient. In the treatment of cholera, I shall ever consider the other remedies adapted as auxiliaries at most; for it is the height of folly to suppose, that the mere extrication of a little bile from the liver, or perspiration from the skin, are the indications of cure in this rapid and fatal disease. While the malady continues, the patient passes nothing bearing the appearance of bile; it has therefore been inferred that an evacuation of bile, if procured, would be the means or cause of the patient's recovery; whereas, the evacuation is merely an effect. It is not that a patient recovers, because he has passed a little bile; but that bile has passed, because he has recovered."

I will now make a few short extracts from one of the highest and most esteemed French works, "Nonneaux Elements de Pathologie Medico-Chirurgicale, edited by S. Ch. Roche, L. J. Sanson, and A. Lanoir, who advocate bleeding among the important means in the treatment of Cholera. In the 4th edition of their works Paris, 1844, vol. 5. page 581, under the head of "Le traitment de la *premiere periode*," they say, "Mais pour peu que les symptômes aient quelque intensité, il faut avoir recours à la saignée du bras, surtout si le sujet est jeune et pléthorique, sinon aux applications de sangsues à l'anus, à l'épigastre,, ou sur le trajet du colon." And at page 582, he says, "Cette thérapeutique convient encore dans la *seconde période* du choléra; mais, en raison de la plus grande intensité des accidents, on doit de prime abord recourir à la saignée du bras et insister d'avantage sur les applications de sangsues, &c." He further adds, "dans la *troisième période*, on peut encore comme dans les périodes précédentes, avoir recours à la saignée du bras; mais son emploi commence a devenir plus chanceux. S'il reste encore chez le malade assez de puissance de réaction, la saignée soulage, en débarrassant le sang," &c.

Finally, Mr. Editor, in the number of your journal for this month, it is stated at page 133, under the head of Medical Jurisprudence, and extracted from the *Lancet*, that at a meeting of the Academy of Medicine of Paris on the 24th of July last, a letter was read from a Dr. Tourette, of Chamblis (Seire et Oise,) who mentions, "that in a population of 1400 souls, more than a hundred cases of cholera have occurred in a short time." He adds, "that the persons who had been lately bled for other affections, escaped the choleraic attacks," and immediately concludes, "that venesection is a preservative of cholera."'

The great length of this communication already prevents my adding much, and I think I have said enough to shew that bleeding might be useful in cholera, much oftener than it is resorted to among us.

The plethoric, robust and otherwise healthy, whether the European in India, or the same classes in the more temperate and northern regions, may generally be benefitted by blood-letting at the commencement of an attack of cholera. We still find the same diversity of opinion existing here, that seems to have prevailed everywhere else that cholera has prevailed regarding its progress and treatment, and we find one party advocating the universal utility of stimulants, wine, brandy, opium, &c., another emetics, another calomel, another bleeding, and each claiming a similar amount of success. There are reasons for these conclusions which I cannot possibly touch on at present, but I withhold the remark, that if either plan of treatment was resorted to indiscriminately, it would often be productive of the most fatal consequences. I hope, however, that I have said enough on this subject to call the most serious attention of my professional brethren to it, and perhaps to induce some of them to favor us, through your kind means, with the results of their experience.

Quebec, 21st Sept., 1849.

PRACTICE OF MEDICINE AND PATHOLOGY.

On Influenza and Ozone.—By Dr. Spengler, of Elville.—Dr. Spengler remarks, on the incomplete state of our knowledge of the etiology of epidemic diseases, that the present crude theories of their dependence upon certain indefinite degrees of heat or cold in the weather will no longer be admitted; but that, by following up the discovery of ozone by Schonbein, we shall, having a tangible point whence to start, arrive at the clearness of truth, instead of the darkness which has hitherto hung over the subject.

He states, that in the village of Roggendorf, in Mecklenburgh, towards the close of 1846, slight catarrhal affections became prevalent, that but a slight trace of ozone was then to be detected in the air. With the opening of the following year, however, these catarrhal affections assumed the severest forms of tracheal and bronchial disease, and hooping-cough became common, both among children and adults; then re-agents detected a great increase of ozone in the atmosphere, and, at the same time, influenza spread over the district. On the 9th of January the *ozonometer* showed a still further increase in the proportion of ozone dresent in the air. On the same day two persons died of influenza and gradually the influenza spread more extensively, until the 21st scarcely an individual had escaped. Thus there seemed a decided connection between the presence of ozone in the air and the spread of the epidemic.

Ozone is formed in the air by the decomposition of its water through disturbances of its electrical equilibrium; hence the peculiar pungent sulphurous and phosphoric odor. The nature and composition remains as yet uncertain. Sulphuric, probably also telluric and selenic acids, and phosphoric acid destroy it. A very small proportion of the vapors of ether or alcohol, or of olefiant gas, will also prevent its development.

Its best test is iodide of potassium, which will detect its presence in infinitely small quantities in the air. A piece of paper moistened with a mixture of starch and solution of iodide of potassium forms an *ozonometer* far exceeding in delicacy the most accurate galvanometer, or the most sensitive nose. The smallest quantity of free ozone (even only in the proportion of a hundred-thousandth) when neither galvanometer nor eudiometer show any change in the air, will be rendered manifest by the discoloration produced by the free iodine.

At the beginning of the epidemic we have noticed that there was but slight discoloration: it gradually became darker, till at last the ozonometer exhibited a blackish-brown color.

As the presence of ozone in the air is due to its electrical decomposition, it is necessarily influenced by its electrical tension.

If the prevalence of influenza and epidemic catarrh be owing to ozone, the vapors of sulphur, or sulphurous gases must be protective against it. This is confirmed by (while it explains the immunity of) those engaged in or living near sulphur works.

Dr. Spengler has been induced to publish his observations with the hope of inducing others to make further investigations into the existence and nature of ozone.—*Med. Gaz. from Henle's Zeitschrift.*

Ozone, and its Connection with Epidemic Diseases.—Ozone, to which influenza is ascribed by Schonbein, and cholera by some of our western brethren, has been variously described and defined. It has been imagined to be a combination of nitrogen and oxygen in some new proportion; or a new combination of oxygen and hydrogen. Spengler is quoted in the *Lon. Med. Gaz.* for Nov. 1848, as saying that it is "formed in the air, by the decomposition of its water through disturbance of its electrical equilibrium." Professor Draper, of the New York University, regards it as the active state of oxygen, or oxygen rendered active by electricity: This opinion which is clear and intelligible, seems to be proved to be true, also, by the experiment of passing a current of electric fluid through pure oxygen; ozone is thus obtained, having a sulphurous odor, setting fire to phosphorus, and irritating the nostril, as in catarrh.

The test of its presence is a bit of paper dipped in a solution of iodide of potassium, and then in one of starch. The oxygen of common air acts slowly on it, and produces gradual change, and coloration. Ozone and ozonized air will occasion them to act promptly on each other, producing a dark blue color.

The description given by Spengler of its mode of production is not easily understood; he goes on as vaguely to add:—"Hence its peculiar pungent sulphurous, phosphorus odor." Whence? From the electrical decomposition of water. This gives us nothing that we know of but oxygen and hydrogen, which in their ordinary states, have no such odor. He goes on to say, that "sulphuric, probably telluric, selenic, and phosphoric acids destroys it. Vapors of ether, or alcohol, or olefiant gas prevent its development."

Mr. Moffat,* from the results of his experiments and observations, comes to the conclusion that the presence of ozone in large quantities in the atmosphere is invariably attended with catarrh and mucous diarrhœa. Dr. Golding Bird,† at a meeting of the Medical Society of London, held in October last, while the subject of cholera was under discussion, said that he had remarked and noticed it as a somewhat curious fact, that of late ozone, or peroxide of hydrogen, had been found in the atmosphere. Dr. Parkin, an English physician, residing in Spain, says he has used charcoal with great success in the treatment of cholera; he used it in doses from a tea-spoonful to a table-spoonful in water, every two or three hours. Dr. Spengler, from his observations, has been led to believe that sulphur or sulphurous gases must be an antidote to the poisonous influences of ozone. Dr. Bird and Professor Herrick, of Chicago, have detected the presence of ozone in the atmosphere of Chicago during the present epidemic, and both speak decidedly favorable of three or four grain doses of sulphur combined with charcoal. Professor Herrick says, "that all premonitory symptoms, such as pain, a sense of fulness, unnatural movements, slight diarrhœa, &c. have uniformly yielded to this remedy" (? Ed.) In this city no such success has followed its use. To the pathologist the inquiry into the nature and influence of ozone has, indeed, become truly interesting.—*N. Y. Journal of Medicine.*

* British Association.—Athenæum Report.

† London Med Gaz. for Oct.

Passage of a Tinned Iron Fork through the Alimentary Canal—M. Velpeau communicated to the Academy of Medicine, in the meeting of the 5th of June, an extraordinary fact, the relation of which was placed in his hands by Dr. Chemin of Saints, near Coulommiers, in France. It appears that a farmer, 32 years of age, accidentally swallowed a small veal bone on the 15th of May, 1847; as respiration and deglutition became immediately very difficult and painful, he thrust a tinned iron fork (eight inches long, and one inch broad by the stem and teeth,) into his throat to push down the bone or bring it up again. This contrivance gave rise, first to nausea, and then to such efforts of vomiting, that he lost hold of the fork, which, after a few attempts at deglutition, glided into the stomach. The man, frightened at this occurrence, repaired to Paris, where he consulted M. Velpeau and another practitioner. These gentlemen told him not to be alarmed, and that the fork would probably find its way by the natural outlet without any operation being called for. Having returned home, he placed himself under the care of Dr. Chemin, who watched the case. The patient complained of great pain after taking food or drink: has much nausea and water-brash. The fork lay in the cardiac extremity of the stomach, the teeth turned to the left. There it remained for a fortnight, and was then felt to glide towards the pylorus, where it stayed four months. During all this time there were vomitings of black matter several times a day, and the mouth was continually filled with an aqueous fluid; pain very intense; epigastrium extremely tender; pulse normal; no appetite; food very badly borne, and drink giving great pain. The foreign body at last passed through the pylorus, and took thirteen months to proceed along the small intestines, when it stopped in the right iliac region, on a level with ileo-cœcal valve. The pains were sharp and intermittent during this period; walking, and moving about the trunk, caused pain and pricking. The patient can feel the fork with his hand in pressing on the abdomen: stools very painful. This foreign body, after five months' stay in the iliac region, began to dissolve. The patient then complained of colic, and the stools got black and brick-colored; costiveness; much gurgling, and abdomen tympanitic. For the next eight months there were costiveness and diarrhœa intermittently; colic less violent, and stools blackish. The patient, of his own accord, took to drinking five or six quarts of light wine per diem; and swallowed in the morning an ounce of spirit of aniseed, to get rid of flatulence. The appetite became at this period inordinate; five or six pounds of solid food a day hardly sufficed. The man resumed gradually his farming occupations, and recovered his strength. Towards the 10th of December, 1848, a very severe fit of colic came on, and the symptoms of sinking became very alarming. Two ounces of castor oil produced abundant stools, and the attack passed off. At last, on the 8th of February, 1849, twenty months after having swallowed the fork, the patient felt suddenly a very severe lumber pain, a sort of shaking in the pelvis; weight in the anal region, and a desire to evacuate. The dejections were plentiful, and in them was found a large portion of the fork—namely, that part lying between the end and the teeth. The man is now quite well, and free from all pain. The treatment consisted of linseed tea, poultices, emollient enemata, hip-baths, and laxatives.—*Lancet.*

On Two New Arteries of the Fore-Arm—the Arteria Mediana Antibrachii and Arteria Articularis Media Cubiti.—It must strike every one with surprise, observes Professor Meyer, of Zurich, to see the median nerve taking its course down the fore-arm without any corresponding artery, when the rule is that every nervous trunk is accompanied by an artery running the same course; and that a nerve in its course usually divides with the several divisions of an artery. While investigating the varieties of arteries, Professor Meyer found one regularly occurring, which took the course of the median nerve downwards towards the hand, and to which he gives the name of *arteria mediana*. It is a branch of the A. Ulnaris, or of the A. Interossea, or arises from the angle of division of both. In one case the A. Interossea Ex-

tern., and the A. Inteross. Int., and the A. Mediana, were all seen arising from the A. Ulnaris.

M. Meyer attaches importance to this artery, on the one hand, from its accompanying the median nerve in its course, and on the other, from its mode of termination in the hand. In most instances this artery is not large, and until it arrives at the wrist joint, is imbedded in muscular fibres, sending off low down only small nutritive branches to the nerve. In many cases it is much larger, and sends branches to the hand and fingers. When it takes the continued course to the hand, it passes under the lower border of the M. pronator. teres, on the radial border of the median nerve, or through a slit in this on its volar side; it lies therefore at the wrist more superficially than the median nerve, and passes with the latter beneath the annular ligament: here, in a few cases, according to Krause, it is in this way separated from the continuation of the A. inteross. superfic., which he says passes over the annular ligament.

Its distribution directly or indirectly among the fingers, after entering the hand, has been noticed by Professor Meyer in thirty arms. The course and distribution of this artery was for the most part the same in both arms of the same body. The regularity of this distribution is much greater than that of the connection of the volar radial branch with the superficial ulnar, and the artery has therefore a greater claim to recognition.

The normal divisions of the median artery are these: it gives off the first and second common digital (counting from the thumb), while the superficial branch of the ulnar furnishes the third and fourth digital. These arteries either terminate unconnectedly, or the median, near the wrist, joins an anastomotic twig from the A. uln. superf. Their branches communicate between the thumb and index finger, and middle finger, with the termination of the interosseal and the greater dorsal and common digital.

The varieties of this artery which Professor Meyer has found, are:—

1. Anastomosing with the superficial branch of the ulnar, and giving off only the first digital branch, the valor.

2. Anastomosing directly with the superficial ulnar; the latter giving off the second, third, and fourth digital branches, while the first came from the radial artery.

3. Uniting with a very small radial volar branch; then this vessel passing towards the interosseal space between the thumb and fore-finger, joins the superficial radial.

4. The following is a common arrangement of the arteries of the hand which Professor Meyer has found in injected preparations, the superficial ulnar giving off the third and fourth common digital:—the median, without any junction with the ulnar, becoming the second common digital; the radial dividing itself at the wrist into three large branches, of which the middle takes the ordinary course to contribute to form the deep palmar arch; the anterior giving off a superficial palmar branch, and terminating in the first common digital; the posterior, the common dorsal of the ring and middle fingers, and ending in anastomosis with the median to be distributed between these fingers.

Arteria articularis cubiti media.

Professor Meyer has also observed in eight cases an artery going to the articulation of the radius and ulna, corresponding with posterior articular artery of the knee joint. This artery, the existence of which might be inferred from the analogy of the two joints, he has named as above. It rises as a thickish trunk from the bracheal, ulnar, or interosseous; passes into the space before the radio-ulnar articulation; then returns backwards and divides at the lower border of the radial annular ligament into an anterior and posterior branch. The anterior supplies the capsular and annular ligament, the posterior passes backwards to supply the synovial membrane of the semilunar notch of the ulna.—*Henle's Zeitschrift*, vol. viii., Part 2.

May not the first of these two arteries be the variety thus spoken of by Dr. Quain? *Anatomy*, p. 470.

"A superficial interosseous artery sometimes exists which arises from one or two of the arteries over the elbow joint, and takes the course of the median nerve to the palm of the hand, where it terminates by inosculation with the palmar arch." We find no mention of a branch corresponding to Professor Meyer's second, in any of our anatomical works, unless it be a recurrent or muscular branch from the interosseous.

Mr. Quain (On the Arteries, folio plates) has found an artery given off at the elbow joint, and accompanying the median nerve in its course to the palm, where it inosculates with the palmar arch, in only twenty-nine out of two hundred and three bodies. Out of two hundred and ninety-three bodies no artery corresponding to the articularis cubiti media has been found, except it be one of the branches commonly called muscular, which are given off by the interosseal arteries.—*London Medical Gazette.*

MIDWIFERY.

The Climacteric Disease in Women; a Paroxysmal Affection occurring at the Decline of the Catamenia.—By W. Tyler Smith, M.D., Lond., Lecturer on Midwifery and the Diseases of Women in the Hunterian School of Medicine.—The climacteric disease has received much attention, since the appearance of the valuable essay on the subject by Sir Henry Halford, in the fourth volume of the Transactions of the College of Physicians. The climacteric disorder there described, consists of a sudden decline of the vital or biotic powers in advanced life, and is chiefly met with, in the male sex, from the age of 65, and upwards, the female being comparatively exempt from its attacks.

Periodicity is, however, more indelibly marked upon the female than upon the male constitution; and periodic tendencies are as distinctly seen in the diseases, as in the functions, of the female economy. With reference to the sex, the most important climacteric or periodic epoch, is that of the decline of the catamenia. This epoch is generally a time of anxiety, both to patients and professional men; and much care has been bestowed on the study of the access and exacerbations of organic diseases, especially of the uterine system, at this time. Still, it appears to me, *the special disorder* of this period, from which a variety of secondary disorders arise, has never been noticed with sufficient accuracy, either for the purposes of diagnosis or of practice. The climacteric disease of this epoch, though of considerable importance, has not been admitted into any nosology.

When we consider the importance of ovulation to the ovaria, and of the catamenial secretion to the uterus, both which functions are carried on in healthy women with unvarying regularity, except during gestation and lactation, for the space of thirty or more years, we cannot wonder that the revolution produced in the economy by their cessation, should be attended by various disordered actions. This death of the reproductive faculty is accompanied, as it were, by struggles, which implicate every organ and every function of the body, but especially the nervous system in all its divisions,—cerebral, spinal, and ganglionic. This disturbance of the nervous system, though it has escaped methodical observation, takes a certain definite form, without the clear detection of which, its treatment must necessarily be ill-directed and unsatisfactory.

As soon as irregularity in the appearance of the catamenia is observed, certain nervous symptoms, more or less intense, are almost always present. The most common and marked of these are "heats and chills" of the surface of the body; but these heats and chills are not merely disordered sensations,—they are in reality part of a paroxysmal disorder, which a close observation readily makes out. During the whole period of the catamenial decline, whether the process of the arrest of the generative function be spread over a few months, or two or three years, a state of general hyperæsthesia is present. But the paroxysmal disorder I have referred to, is quite distinct from the general hyperæsthetic condition. In the present day, owing to the excessive stimulus of education, the rapid transaction of business, and numerous forms of social excitement, unknown to former times, hyperæsthesia has reach a pitch which has never been hitherto observed. We might, indeed, consider hyperæsthesia as a disease almost as distinct as paralysis of motion and sensation, or spasm. At the catamenial decline, hyperæsthesia is often most distressing.

The simplest form of the paroxysmal attack to which I wish to direct attention, consists of a sudden sensation of cold over the entire surface of the body, which is in a few moments followed by a sense of heat of skin, of an intense character, with the sensation or choking of pharyngismus. These are in turn followed by a cold perspiration, which renders the skin cold and clammy, and sometimes also by a free secretion of urine. At the commence-

ment of the attack, the face is pale, and there is slight headache; but when the heat of surface begins, there are flashings before the eyes, ringings in the ears, and frequently nausea, or even vomiting; the face is flushed, there is considerable distension of the veins of the neck and face, and throbbing of the carotids and cerebral arteries. There are, in fact, in many cases, all the symptoms of the *petit mal* in epilepsy. Or the seizures may be compared to a brief ague fit, of which the cold, hot, and sweating stages follow in quick succession. As the condition of the ovaria and the uterus is the cause of this disorder of the nervous system, we might almost be tempted to call it an ovarian or uterine intermittent. The paroxysms are very irregular, and obey no particular times; but they are more frequent at the dates when the catamenia are flowing, either in the scanty or profuse manner so common to the decline of menstruation, or when an ovarian period is passing over, as it frequently does, without any uterine secretion. The brief attack is brought on by taking food or drink, especially stimulating drinks, or by any sudden mental emotion or surprise. The most trivial event, a sudden noise, speaking to a stranger, or waking from sleep, induces an attack. The seizure leaves the patient after a minute or two, bathed in cold perspiration. It is followed also by a sense of great feebleness and languor, much irritability of temper, and some confusion of ideas and memory. Nervous symptoms, during the decline of the catamenia, have often been referred to by writers on the diseases of women, and every practical man must have noticed the heats and chills of this period; but until I did so, no one had pointed out that these are not vague symptoms, but a succession of definite and peculiar paroxysms.

In the severer paroxysms, all the symptoms I have described are present; and at the height of the attack, there is a brief insensibility or delirium, the paroxysm lasting, altogether, several minutes. The patient sometimes falls down, as if in a slight epileptic or apoplectic seizure. In some of the worst cases I have seen, the attacks have occurred with the greatest violence during sleep, the patient waking in affright at the commencement of the paroxysm. Violent tremors follow, in severe cases, the perspiration in which the attack usually terminates.

As regards the essential nature of these climacteric paroxysms, in my work on Parturition and Obstetrics, in which I first referred to this affection, I have dwelt at some length on the reciprocal physiological actions which are constantly going on between the ovaria, the mammæ, and the uterus; actions which produce in regular series the successive ovulations occupying the time between puberty and the catamenial decline. When the cessation of the catamenia arrives, the mammæ and the uterus are no longer stimulated by the ovaria to their wonted actions, but the ovaria are not at once reduced to post-menstrual inactivity; before they subside, they produce the uterine disturbance, and the erethism of the nervous system, in which the paroxysmal disorder I have been describing has its rise. Besides the strictly ovarian stimulus to the nervous system, the vascular plethora, resulting from the non-secretion of the catamenia, no doubt increases the nervous excitability; and to this we must probably add the toxæmic effect of retention of the menstrual fluid, as suggested by Dr. Cormack, in his observations on convulsions arising from suppression.

Another very important point, perhaps the most important point, in the pathology of this affection, is the condition of the uterus. At the change of life, this organ is liable to greater congestion than at any other time. This is well known to be the date of the origin of many of the most dangerous and fatal of the structural diseases of the uterus. When there is not irregular menorrhagia, there is constantly recurring uterine congestion, caused by the irregular and inefficient ovarian stimulus. In all cases, in which the paroxysmal disorder is severe, the uterus is found upon examination to be turgid and swollen. In fact, if we refer the general conditions, and the paroxysmal disorder, to any one cause, it must be to the uterine congestion, caused by the special arrest of the ordinary uterine functions, and the irregular ovarian stimulus, which continues, but ineffectually, to goad the uterus to action. This view of the pathology of the affection leads to the most rational and successful method of treatment. It is curious that some other irritations of the pelvic region will produce paroxysmal attacks similar to the ague. This has been frequently noticed in cases of irritation and suppuration in the perinæal region.

Symptoms resembling in many respects those of the climacteric paroxysm, sometimes occur in nervous patients suffering from suppression of the catamenia, or from suppression alternating with menorrhagia, and particularly in those cases of irregularity of the catamenial function which occur in widows or in married women living separate from their husbands. But the genuine attack seldom occurs except at the decline of menstruation. Whenever widowhood or separation takes place at the change of life, all the distressing symptoms, and the ovario-uterine excitement, are considerably aggravated.

The proper recognition of this paroxysmal affection of the climacteric is of great importance in practice. The paroxysm itself forms the basis of many of the severe affections of the nervous system; while the states of the uterus and ovaria, which produce it, give rise in turn to many of the organic diseases which follow the cessation of menstruation. The climacteric paroxysm is the first distinct step in the nervous pathology of this important period. This affection is untimely connected with hysteria, epilepsy, paralysis, apoplexy, and even mania, and may terminate in any one of these maladies; it is only by a due recognition and judicious treatment of the preliminary disorder, that these grave complications can be successfully met or prevented.

I proceed to refer briefly to the most prominent complications arising out of the climacteric disease.

Climacteric Hysteria.—I have seen the paroxysm pass into a violent hysterical attack, all the visceral spasmodic actions which mark the hysteric fit being present,—such, for instance, as painful and spasmodic action of the cardia, or cardiasmus; painful contractions of the pharynx, or pharyngismus; tenesmus of the rectum and bladder, &c. In hysterical subjects, the disorder is always aggravated by the decline of menstruation; though, after that period has passed, the hysterical tendency diminishes. The climacteric paroxysm may produce, besides the hysteric fit, a variety of anomalous hysterical symptoms, such as fainting, insensibility, violent weeping, &c.

Climacteric Epilepsy.—I have also known the paroxysms of the climacteric disease become more and more severe, the insensibility more prolonged, and attended by convulsions, until, in fact, genuine epilepsy has been produced. I have seen several cases of epilepsy in which the disease appeared for the first time during the decline of the catamenia, and grew out of the peculiar paroxysmal disorder I have attempted to describe. The climacteric paroxysm itself disappears when the constitution is established after the completion of the catamenial change; but unfortunately, when epilepsy becomes grafted upon it, the more serious disease remains after the change of life has passed.

Climacteric Apoplexy.—I have known cases in which, during the severe climacteric paroxysm, the patients have had an attack of hemiplegia or apoplexy. Cases of sudden death, or paralysis occurring at the change of life, are, I have little doubt, to be attributed to these paroxysms. The paroxysm itself produced the cerebral distension, and the danger of this is increased by the greater fulness of the circulation which generally exist at this epoch. In some constitutions, a very slight paroxysmal seizure may produce disastrous results.

Climacteric Mania.—Insanity frequently occurs at the change of constitution. I have no doubt that it is often owing to the climacteric paroxysms. Each paroxysm is a distinct shock to the brain, leaving behind it peevishness, irritability of temper, and eccentricity. While writing these pages, I was consulted by a lady, aged 45, who has suffered for two or three years from what women invariably term heats and chills. Her disposition towards her husband and family has completely altered. She is morose and passionate on the slightest provocation, yet having a full sense of her improper explosions of temper, which at times she deplores most earnestly. Her nervousness is very great; she cannot listen to the same noises, or occupy herself with the same needle-work long together, without a frantic feeling of delirium and loss of self control. In this case the paroxysmal disorder is the evident cause of her mental distress. When the attack is severe, there is, as I have said, transient delirium at each visitation. When the attacks are frequent, great cerebral irritability is induced, and the patient may become maniacal. In considering the relations of epilepsy, paralysis, apoplexy, and mania, to the climacteric disorder, we must not judge of the results by the shortness of the climacteric seizure. We know that in other states of the constitution, a momentary paroxysm of no great severity may produce the most serious cerebral disease.

In a note to his chapter, on the "Disorders attendant on the

Decline of Menstruation," Dr. Ashwell refers to the insanity of this period, and his observations are so interesting with reference to this subject, that I quote them entire. He says:—"I have lately attended several cases of decided insanity, consequent on the use of wine and spirits during the period of the catamenial decline. In one, which I saw in consultation with Dr. Holland, when these stimulants had been employed with the hope that they would relieve the langour and depression, the affection assumed all the characters of violent mania, eventually, however, subsiding into what was feared would be incurable madness. Nevertheless, the patient entirely recovered in two years: the efficient remedy being frequent leechings of the cervix uteri, moderate purgatives, nutritious diet with malt liquors and light wines, and extreme tranquility in the country. In two other but less severe examples, similar means have ended in a cure. I cannot forbear to mention how superior have been, in these cases, the beneficial and almost unvarying immediate good effects of uterine bleeding, over every other kind of depletion."

Now I have no doubt whatever, and I believe Dr. Ashwell will join with me in the opinion, that such cases are examples of the affection I have been describing, aggravated by the improper use of stimulating drinks. I have observed, that in the intervals of the slight attacks, there is great mental depression and a craving for mental and physical stimulus, indulgence in which of course only aggravates the maladv. Cases of mania having this origin ought to be placed in a different category from insanity from ordinary causes, as the subjects of it, under judicious treatment, generally recover; and I have no doubt that many such cases might be prevented from proceeding to more serious disease, by the detection and treatment of the climacteric paroxysm, as the first link in the pathological chain.

The treatment of the climacteric disorder should have reference chiefly to—

I. The Cerebral Symptoms.
II. The Ovario-Uterine Disorder.
III. The General Hyperæsthesia.

I. The Cerebral Symptoms.—Our first care should be to prevent the paroxysms as far as possible. The peculiar cerebral attack being brought on or exaggerated, in the special condition of the nervous system at this time, by any local irritation, great attention should be bestowed upon the stomach, bowels, and uterus respectively. In its exaggeration by local causes of irritation, the disorder very closely resembles epilepsy. The diet should be regulated, the bowels kept free from irritation and constipation, and the uterus should be treated after the manner to be referred to, when I come to the special management of this important organ.

All violent mental emotion should be carefully avoided. Great watchfulness should be observed on this point, as in consequence of the condition of the ovario and the uterus, and the nervous synergies excited by these organs, the mind is excessively prone to irritability. Sources of mental irritation should be prevented as much as possible. Stimulating diet and stimulating drinks should be used only with the utmost caution. At this period, women should be treated with great consideration by those in intimate relation with them. There is no time, not even during pregnancy, when greater mildness and forbearance towards them is necessary. The sexual stimulus should be used with moderation, as either excessive intercourse, or ungratified desires, are equally provocative of the general excitability and the cerebral paroxysms. Many women, during the change of life,—even those of the most irreproachable morals and conduct,—are subject to attacks of ovario uterine excitement approaching to nymphomania. This is a consideration of the gravest importance; for, without doubt, some of the errors committed by women at this time, are more the result of bodily disease than of moral failing; and, as such, might be prevented by judicious treatment. Every care should be taken to control the mental emotions, and to soothe the physical causes of their excitement. It should ever be borne in mind, that, at this epoch, all the emotions connected with sex are undergoing a great revolution, and that before their subsidence into the calm of post-menstrual life, sudden ebullitions are very prone to occur.

If the cerebral disorder be treated as an independent affection, it will often seem, from its violence, to require active depletory treatment. This would be a mistake, and would be likely to produce great mischief. Patients may be rendered anæmic, without curing the disorder; in fact, it will often increase in severity under active depletion. Still, it becomes necessary in some cases, where the headache is severe, or when the delirium or insensibility are very marked, to apply leeches to the temples, or to employ cupping to the nape of the neck, from time to time. Otherwise the cerebral congestion, inseparable from the paroxysmal attacks, may produce serious lesions of the nervous centres. The state of the brain should be especially watched during the true catamenial dates, or at those irregular times when there are indications of a catamenial crisis, such as pain in the back, thighs, and hypogastrium, but without the flow of any uterine secretion. It is at these times that the sudden cerebral mischief is most likely to happen.

I do not enter into the treatment of the epileptic, hysteric, paralytic, and apoplectic seizures, which arise out of the climacteric paroxysm, my present purpose being chiefly to point out the prevention of these serious affections.

Regulation of sleep is of considerable consequence. Early hours and early rising should be recommended. Heavy and prolonged sleep, particularly in the morning, exerts a marked influence in increasing the severity and frequency of the paroxysms. The indisposition to exertion should be conquered as far as possible. At no time of the female constitution is exercise so important as at this. Patients should be as much as possible in the open air. Indeed, in the erethism of the climacteric, the open air is almost as important as in the *erethismus mercurialis*.

II. The Ovario-Uterine Disorder.—The treatment of the ovario and uterus is the most important point in the management of the female climacteric. The cerebral symptoms are only the *results*, while the conditions of the sexual organs are the *causes* of the more remote maladies. Any disorder of the uterus or ovario, beyond that actually incident to the catamenial change, should be carefully treated. Irritation or abrasion of the os uteri, or displacement of the womb, or congestive enlargement of the organ, increases the severity of the constitutional symptoms.—The most natural and effective remedy for all the uterine disturbances of this period, is moderate depletion from the *labia uteri*. The blood may be drawn by incisions into the os uteri, just as in scarification of the gums. I have often used a gum-lancet with great good effect. Or if the depletion be required to be more considerable, three or four leeches should be applied, by the aid of the speculum, to the os uteri. Leeches draw blood more suddenly from the vascular os uteri than from any other part of the body to which they are commonly applied, and often produce prompt and immense relief,—all the relief, in fact, of the catamenial secretion, without any of its inconveniences. The suddenness with which leeches applied to this part fill themselves, considerably increases the good effects of their application, and for some hours after their removal there is an oozing of blood from the leech-bites. Even in cases where hæmorrhagic symptoms accompany the change of life, the application of leeches before the coming on of each uterine flow diminishes the menorrhagia, by diminishing the uterine congestion. Occasional local depletion, besides its importance to the climacteric disorder, tends more than anything else which can be devised, to prevent the structural diseases which frequently set in or exacerbate at this epoch. The effects of uterine depletion in mitigating the most distressing head-symptoms, is often almost marvellous. This form of depletion ought to be resorted to from time to time, during the change of life, according to the extent of the uterine congestion, in all women who suffer materially from this alteration of constitution. We often see indications of the treatment which is required in sanguineous effusion from vaginal or rectal varices, or from hæmorrhoidal tumours, or even from the stomach and lungs. It is of course still better if the depletion be made from the uterus itself. The effect of uterine depletion is not confined to the uterus, but extends to the other parts of the sexual system, the Fallopian tubes, the ovaria, and even the mammæ. Occasional uterine depletion appears to me of the first consequence, not only as a method of cure, but as a means of preventing organic disease of the uterine organs, and of those organs affected by the uterine synergies. Many of these disorders, occurring at the change of life, appear to be aberrations of the formative power which, during the whole reproductive era, has expended itself upon ovulation, gestation,

and lactation; but which, being now turned from these physiological processes, takes a pathological direction, and runs into disease. Thus, then, local depletion is of still more importance as a palliative and preventive of uterine and other diseases of this period, than as a means of removing more remote symptoms. In treating diseases of the reproductive organs, the special reproductive power inherent in these organs, and manifested even in their diseases, should never be lost sight of.

The local application of cold is an important auxiliary to depletion, at the female climacteric. Cold hip-baths, or douche baths to the loins, cold water injections into the rectum, the injection of cold water, or iced water, or the introduction of small pieces of ice, into the vagina, are the modes in which cold can best be applied. Injections of any other kind than of simple or iced water, generally produce irritation at this period; and sometimes the vagina is so irritable, that even cold water will not be borne. In cases where occasional returns of the catamenia assume a hæmorrhagic or dysmenorrhagic form, warm and anodyne injections, both into the rectum and vagina, are useful, acting as internal fomentations. Warm water and laudanum, or the infusion of poppy-heads with laudanum added, allay uterine pain and excitement. When menorrhagia with relaxation is the prevailing symptom, strong alum baths,* in the intervals between the menstrual discharges, tend to repress the profuse uterine secretion, and to remove the relaxation of the uterine and vaginal tissues.

Care must be taken to avoid rectal irritation, as any excitement of the lower bowel is sure to be participated in by the uterus. The bowels should be kept in a lax state by cooling aperients, or enemata; but drastics, and particularly aloes, should be avoided. The habitual use of aloes, either as a purgative or dinner pill, has seemed to me to increase the uterine disturbance of the change of life, when this period arrives. The management of the bowels at this time is often a difficult matter, as the lower bowel participates in the uterine habit, and is at one time irritable and at another confined. To give aloes as an aperient at this period is mischievous; it is still worse to give it as an emmenagogue. All emmenagogue remedies are as distinctly contra-indicated at this epoch as during pregnancy. They are certain to produce mischief. But although the uterine secretion is not to be stimulated, the other important secretions,—hepatic, renal, alvine, and cutaneous,—ought all to be carefully regulated and kept in full play, to compensate for the important secretion which is about to become extinguished.

III. The General Hyperæsthesia.—The hyperæsthesia and the peculiar æsthetic paroxysms, to the study of which it has been my main object to draw attention, without doubt depend upon the erethism or excitability of the nervous system, induced by the irritable condition of the uterine organs, and upon the partial suppression of the catamenial secretion. All the treatment which has been mentioned contributes to the relief of the hyperæsthetic symptoms. I would, however, insist on the importance of regulating the diet of patients undergoing the catamenial change. From the tendency to plethora and *embonpoint* at this period, a light, nutritious, but not full, diet, with little wine, and no malt liquors, should be prescribed. Owing to the distressing sensations common to this time, small quantities of spirits are sometimes ordered, and are always gladly taken by patients. There is often a diseased craving for stimulants at this time, which, in several instances, I have seen pass into a decided habit of spirit drinking. Spirits ought only to be allowed with the greatest caution at this time of the constitution, as their good effect is only temporary, while their permanent influence is most mischievous. I know of nothing equal to moderate doses of sulphuric ether and valerian, for the relief of the depressing hyperæsthesia, and also of the paroxysms, when these are slight. They often act like a charm in soothing the sensations of the surface of the body; and, given as a medicine, they beget no such habit as the permission to take small quantities of spirits frequently does. In the climacteric state of the female constitution, sulphuric ether is a more decided sedative than either morphia, the preparations of opium, or even hyoscyamus. In the height of the hyperæsthesia, an ether-draught will often procure sleep when the brain refuses to be soothed by narcotics. Throughout the whole period of the change, great attention should be paid to the skin. The clothing should be carefully attended to, and, during winter, flannel jackets and drawers should be worn. Tepid bathing, with subsequent friction, are of great use in diminishing the excessive sensibility of the skin.

The time during which women are subject to the climacteric paroxysm, and the other affections at the decline of the catamenia, varies in different habits. Some women pass through it in a few months; in others, it extends over three, four, or five years, rendering the patient miserable during the whole time. The great majority of women suffer more or less until the cessation be finally accomplished; but there are a few to whom this time of life is a great blessing, giving them greater strength and comfort than they had ever enjoyed during the childbearing epoch. But these cases are the exceptions.

I have thus attempted briefly to sketch the special paroxysmal affection of the female climacteric, and its relation to other disordered conditions incident to the change of life. I am well aware how imperfectly this has been done. Indeed, within the limits of a paper, it would be impossible to do it justice, as the subject is one of sufficient importance to exhaust a treatise. I trust, however, I shall have the satisfaction of directing other observers to a very curious malady, and one which certainly, when I first drew attention to it, had not been distinctly recognized or described.—*London Journal of Medicine.*

* I use the formula recommended by Dr. Ashwell—viz., ℥xvi of alum to each gallon of water; the temperature to be at 98 deg.

MATERIA MEDICA AND CHEMISTRY.

A New Test for Albumen. By M. E. Million.—The highly acid liquid obtained by dissolving mercury in its own weight of nitric acid, constitutes an extremely delicate reagent for albumen and albuminous compounds.

This mercurial solution communicates to albuminous substances an intensely red color, by means of which a very minute proportion of albumen in water may be detected.

To give an idea of the delicacy of this reagent, and to show its applicability to the study of vegetable organization, it may be stated that starch and gum acquire by its action a very distinct rose tint. Urine almost always becomes colored of a rose tint after the nitro-mercurial solution has been mixed with it, and the mixture has been warmed. The albumen of the blood, that of serous effusions, of plants and fibrine, casein, gluten, legumin, silk, wool, feathers, horn, epidermis, gelatin, chondrin, and protein, are equally affected.

Protein rendered soluble by the prolonged action of an alkaline ley, or by sulphuric acid, is also colored red, but no precipitate is thrown down.

This mercurial solution is most readily prepared by dissolving mercury in its weight of nitric acid (1.4) in the cold. When reaction has ceased, a gentle heat may be applied to facilitate the solution of metal. When the solution is complete, the liquid is to be diluted with two parts of distilled water by measure. After some hours the liquid is to be decanted from any mixed crystals of nitrite and nitrate of mercury, which may subside.

This reagent acts on albuminous substances at low temperatures, but not so completely as at a temperature of from 140° to 150° Fah. It is even preferable to continue the application of heat to the boiling point. The prolonged action of the reagent in excess does not alter the red matter, as has been ascertained by the contact of albumen with the nitro-mercurial liquid for upwards of one year.

According to M. Million, this singular property of giving a pink or red color to albuminous substances resides neither in the nitrate nor in the nitrite of mercury, nor in their mixture. It is necessary that there should be hyponitrous acid in the solution which contains the two salts. The pure pernitrate of mercury, saturated with hyponitrous acid, forms a delicate reagent, but inferior to that of a saturated solution of the mixed salts.

One or two drops of the test liquid are sufficient for the detection of albumen. Albumen has thus been detected in the liquid of cholera, when nitric acid and heat have failed to demonstrate its presence.—*Comptes Rendus*, Janvier 1849.

MEDICAL JURISPRUDENCE.

Discovery of Arsenic in a Body after Eight Years' Interment.—Westbury, Wilts.—In consequence of the recent inquest here, at which a verdict of "wilful murder" was returned against Rebecca Smith for procuring the death of her infant child by the administration of poison, it was deemed advisable to exhume some of the bodies of the nine other children, who have all died in infancy. Accordingly, on the 11th inst., two bodies were disinterred from the burying-ground of the Baptist chapel at Bratton, in this parish, under the superintendence of Mr. Shorland, surgeon of Westbury, by whom the remains were taken to Mr. Herapath, of Bristol, for analysation. A coroner's inquest sat on that day, which was adjourned till this day, after taking evidence of the identity of the exhumed bodies.

At the resumed sitting Mr. Shorland described the state in which he forwarded the bodies to Mr. Herapath, after which that gentleman gave the following evidence:—"On the 12th inst., on my return from Exeter, I found at my laboratory a large square shallow box, on which the cover was sealed down with a crest similar to that on Mr. Shorland's seal. This seal was perfect. The box was divided into three compartments by two divisions: in one of which was a portion of soil tied up in a handkerchief. In the next compartment I found a mass of earth and the remains of a coffin exceedingly decomposed and penetrated in all directions by the roots of a tree. There was a label in Mr. Shorland's handwriting on the top of this, to this effect—'Sarah Smith, born July 18, 1841; died August 7, 1841; aged 20 days.' Upon carefully removing portions of the soil, I found the remains of an infant, evidently very young, as there were no teeth in the sockets of the jaw, with the exception of one toothbud on the front of the lower jaw. The texture of the body was entirely gone, and the bones were all separated from each other. I took some of the bones and subjected them to analysis, when I found in them traces of arsenic. I then took some of the black mould from the interior of the skull, and in that I also found traces of arsenic. I then sought for some of the black mould between the ribs, and nearer the region of the stomach, and there I found arsenic in greator quantity; specimens of which I produce." Mr. Herapath then exhibited tubes containing arsenious acid, metallic arsenic, Scheele's green, and orpiment, produced by various tests, and continued:—"This, I believe, is the first instance on record of arsenic being discovered after an interment of eight years; and I wish it to be circulated throughout the country that years have no effect in removing traces of arsenic. In the third compartment I found also the remains of an infant, with a label in Mr. Shorland's handwriting, as follows:—'Edward Smith, born June 14, 1844; Died June 29, 1844; aged 15 days.' This body and coffin were nearly in the same state as the others; the bones below the knees were wanting. The roots of trees as large as my little finger had passed through the head and skeleton, and had followed the bones in all directions. Treating this skeleton as I did the other, I found arsenic in the bones, in the black mould under the head, and a greater quantity in the black mould under the ribs. I produce specimens of metallic arsenic, and the other tests, which are even more distinct than those in the last case; this is after an interment of five years and one month."

The Coroner.—From the statement you have made, and from your analysis, have you any doubt that arsenic was administered during life?

Mr. Herapath.—I have never found arsenic in a body which was in a natural state; and I mention this to correct the ridiculous notions which have gone abroad, owing to some sayings which have been attributed to the French chemists. Raspail, for instance, is reported to have said that he could produce arsenic from the legs of chairs, and Orfila that he could do so from the common soil. I have made experiments on hundreds of bodies of human beings and brutes, but have never discovered arsenic unless it had been administered medicinally or for a criminal purpose. I have also made many experiments on soils, and I believe the statement of Orfila to be a mistaken one. My opinion is, that arsenic was administered to both these children during life, and that it was the cause of death; it existed in too great a quantity to have been administered for a medicinal purpose.

The Jury, without hesitation, returned a verdict "That the deceased children died from the effects of arsenic, but how or by whom administered there is no evidence to show."

The discovery of arsenic in the bones is very unusual, as it is not deposited in these organs by absorption. A case was recently reported in the last volume of the *London Medical Gazette*, page 894, in which arsenic was detected in the remains of a body after an interment of fourteen years.—*London Medical Gazette.*

The Plea of Insanity in Criminal Cases—The Case of John Gleeson Wilson.—The case of Wilson, recently convicted of murder at the Liverpool Assizes, presents many points of interest in relation to the plea of insanity in criminal cases. The following graphic summary of the facts proved on the trial is taken from the *London Times*, Saturday, August 25:—

"Mary Henrichson, was the wife of a respectable merchant captain residing in Liverpool, but absent, at the time we speak of, on the high seas. She lived, with a single servant and her two sons, of the ages of five and three years respectively, in a small but decent dwelling-house, a portion of which she was in the habit of letting off to increase a somewhat scanty income, and satisfy with more facility the claims of her landlord. In the afternoon of the 27th of March last, a man named John Gleeson Wilson called to look at the apartments, and presently agreed to take them on the terms proposed. This was on a Tuesday, and that evening at ten o'clock, he took up his quarters in the room, and slept there. Next morning he went out, and returned again about eleven o'clock, just as Mrs. Henrichson was going on her usual errands to the market. What follows we may now tell straightforward, for if ever a case was indisputably proved in all its details, it is certainly this. As soon as the poor woman had quitted the house Wilson went into the front parlor, which was not one of the rooms he had taken for himself, and there found the servant polishing the grate, with the two children playing about her. These he drove out of the room in a jocular manner, and then, taking up the tongs from the grate, inquired the price for which such a set of fire-irons could be obtained. Before the girl could answer he struck her a violent blow upon the skull, which left her senseless on the floor. The noise attracted the eldest boy to the spot, who was instantly butchered with the same weapon. The murderer then went into the scullery, where the younger boy was trying to hide himself, caught him, and with a carving knife which he found there, severed his head from his body all but a slight strip of skin. Three lives had thus been taken in little more than as many minutes; but the tragedy was not complete. In a short time, as the assassin knew, Mrs. Henrichson was to return from market. He planted himself in the lobby, and as she entered struck her down with the poker and beat her skull to atoms. He then went up stairs, ransacked the drawers, and quitted the house with all the valuables it contained in less than one hour from the time of the first blow, and in less than twelve from his first acquaintance with the family."

"Quick, however, as had been the butchery, the discovery and the retribution were scarcely slower. Before the clock had struck twelve the deed had been detected, and the officers of justice were upon the spot. Fortunately the poor servant girl still breathed, and lingered long enough in her agony to supply, by her dying depositions, not, indeed, a link which was wanting in the evidence of the murderer's guilt, but an irresistable and conclusive confirmation of the testimony which a most extraordinary concatenation of circumstances had combined to furnish. At twelve o'clock the assassin was seen walking away in a direction leading naturally from the scene of his crimes; and it is not a little remarkable that though he carried no obvious vestiges of his bloody business about him, yet something in his manner seems to have so rivetted the attention of all persons whom he successively met, that his identity was sworn to without the smallest hesitation. At half-past 12 he was again seen, in a field near the town, washing his boots and trousers in a pit, and on this spot were found his handkerchief and the envelope of a letter which was sworn to have been in his possession that morning. Half an hour afterwards he offered Mrs. Henrichson's gold watch for sale at a pawnbroker's, and 15 minutes after this he purchased a new pair of trousers, and exchanged them in the shop for those he had on. This brings him nearly to 1 o'clock. Between 2 and 3 he entered another shop and bought a pair of

new boots, which, as in the case of the trousers, he immediately put on. At half-past 3 he returned to some lodgings which he had been for some time occupying, and which he had not given up when he made the pretext of taking those of Mrs. Henrichson. Here his change of dress was noticed, as also a gold chain and a purse of money sworn to have belonged to the murdered woman. After borrowing of his real landlady a clean shirt, and leaving in its place one stained with blood, he went at 6 in the evening to a hairdresser's, and, under pretence of being shaved, asked for a wig. That night he passed with his wife, whom he had not visited for a considerable time. The next day, having bought a new cap, he went into a Jewish shop to effect if possible the sale of the watch. Here his demeanor was so suspicious, that the owner of the establishment, speaking to his son in Hebrew, directed him to procure the services of a policeman, and he was speedily placed in custody, though not, as yet, for the murders. As the crime, however, and the description of the presumed criminal, were now notorious, he was soon identified as the man for whom pursuit was at that moment being made."

The atrocity of the crime, and the absence of what some call a *sufficient* motive, constitute the only grounds upon which a plea of insanity could be raised with any plausibility in this remarkable case. The counsel for the prisoner appears to have relied upon the former point, although he must have considered it a hopeless line of defence. He endeavored to persuade the jury that the whole of the circumstances of the case showed that "whoever committed the murder was not an accountable being. The savage manner in which the children had been treated, the number of blows which had been inflicted upon the servant girl, when so much less violence would have been sufficient for the purpose of the murderer, tended to show that the person who inflicted them was not an accountable being."

This line of argument, as well as that derived from the sufficiency or insufficiency of motive, was well disposed of by the learned judge who tried the case. In his summing up his lordship said with great energy:—

"I do not think there is the slightest possible evidence of insanity. I am obliged to state so openly, because really, if on account of the ferocity and brutality of the offence, a jury was to be told to presume a man to be insane, you might as well have no law or justice in society at all. This was really frightful; and I believe this is the first instance in which insanity was ever attempted to be set up from the brutality and ferocity that characterized the deed. There must be something to satisfy the minds of the jury that the prisoner was insane. But what was there here? There was nothing at all in particular, excepting the mere ferocity of it, from which I do not think that any one would draw the conclusion that the man did not know right from wrong. As to his not having such a motive as would induce a reasonable man to commit such a horrible murder—why, a reasonable man would not commit a murder at all. It was not a question whether a man had his right senses or reason in the sense that he could not control his passion. A man might commit a murder whilst laboring under a sudden fit of passion, or to gratify revenge; but it was not for that reason that a jury was to say that a man was insane. A reasonable and well-judging man would not strike at all; and if we see from the evidence of a case that a man was really out of his mind, and did not know whether he was doing wrong or not; that his mind was entirely beyond his control; that he was not aware that what he did was wrong in the sight of God or man; then, in considering your verdict, such a man would not be answerable for his actions; but this really is the first time I have ever heard this sort of defence carried to the extravagant extent that, because the thing is so very ferocious, the man who committed it must be insane."

The Jury returned a verdict of Guilty.

In this case it will be perceived that there were the *premeditation* and *precaution* in the perpetration of this horrible series of murder, which indicate that the perpetrator must have been well aware of the nature of his acts and their consequences. The attempts at concealment on the part of the accused in endeavoring to wash the stains of blood from his clothes, and his subsequently giving them to a person whom he casually met in the street, as well as the fact that the murders were followed by robbery, are circumstances entirely adverse to the admission of the plea of homicidal insanity. They are acts clearly indicative of a crafty murderer, carrying out his purpose with a certain object in view, and endeavoring to baffle the efforts of justice. With the clearest evidence of this kind against him, it would have been preposterous to have allowed this criminal to escape on a plea of insanity, merely because the acts of violence were more than sufficient for the purpose of murder, and the motive for the perpetration of these acts was not sufficient to induce a reasonable man to commit such horrible crimes. If a plea of this sort were once received in a Court of Justice, it would be impossible to convict of murder any criminal who had used more violence than was physiologically sufficient to account for death, or for whose acts a *normal* motive was not apparent! As the learned judge truly observed, we might, under these circumstances, just as well have no law or justice in society at all.—*London Medical Gazette.*

MISCELLANEOUS.

Queries in Medical Ethics.—By W. Fraser, Esquire, M.R.C.S.E. (Read before the Medico-Chirurgical Society of Aberdeen, 5th April, 1849.)—The following queries, which bear reference to certain points of a practical character in medical ethics, were noted down at different times, as the circumstances giving rise to them occurred. These circumstances, which were such as must have frequently happened to every member of the Society, have in no instance left any unfriendly personal feeling in my mind, but rather the reverse. I am far from thinking that I have in every case given the proper solution to the queries, or satisfactorily set at rest the difficulties that have been stated: indeed, I fear that in many instances I have done little beyond opening up the subject for discussion. They are brought forward chiefly for the sake of eliciting information, and of directing attention (more particularly that of the younger brethren) to the consideration of those principles by which our conduct towards each other, as well as to our patients and the public, should be governed.

With your permission, I shall first read the queries, and then, when the opinions of the Society upon the different topics have been expressed, the answers which I have ventured to offer for your consideration.*

Query 1.—If a patient wishes you to call into consultation a medical man, of whose qualifications in the circumstances of the case you may have an unfavorable opinion, is it proper or honorable to decline doing so, or to endeavor to alter the opinion of your patient?

Ans.—If your patient expresses a very decided wish to have a particular person called in, you ought to acquiesce, provided there be no professional stain on his character sufficient to warrant you to decline doing so. His being junior to yourself, either in age or professional capacity, is certainly no sufficient reason.

Query 2.—If, on being sent for by a patient, you find that he has been under the charge of another, who, from some reason or another, has discontinued his attendance, although it was still desired by the patient, is it proper in you to take charge of the case, or ought you previously to communicate with the other medical attendant?

Ans.—You should advise the patient to let his former attendant understand that he wishes his services continued, and if the latter decline to continue them, there is nothing to prevent you from taking charge of the case.

* Although the answers given in this paper were not, of course, endorsed as correct by the Society as a body, yet it may be stated with perfect truth that they expressed as nearly as possible the views that seemed, in general, to be entertained on the points to which they refer.

Query 3.—Is it right in public medical teachers, and more particularly professors, and others paid from the public funds, to enter into contracts to give their professional services to public bodies at a reduced rate—in fact, to undersell those who buy their medical knowledge from them? To compare their conduct with a strictly analogous case in common business: when a wholesale merchant begins to retail the articles in which he deals at a lower rate than the dealers he supplies can afford to sell them at, what is thought of his conduct, and how is it generally met by his brethren in trade?

Ans.—The terms in which this query is couched render any answer almost unnecessary.

Query 4.—When a medical man is called into consultation by another, and supposing they entertain a difference of opinion as to the nature of the case,—a difference, however, which does not prevent them from co-operating in its future management,—is either of them justified in giving an unfavorable impression of the practice of the other to the patient or his friends, or to any other person?

Ans.—No.

Query 5.—When a medical man's advice is asked by a person whom he knows or suspects to be at the time attended by another, what is the proper course for him to pursue?

Ans.—He should do as he would be done by, and not encourage any such application; but rather by his answer endeavor to strengthen the person's confidence in his medical attendant.

Query 6.—When a medical man has a near relative residing at a distance dangerously ill, and when friends have written to him describing the condition of the patient and treatment pursued, and wishing his opinion and advice, what course should he adopt? should he address himself to the friends or to the practitioner in attendance?

Ans.—To the latter unquestionably.

Query 7.—If, during your attendance on a case, another medical man should, without your own or the patient's consent being asked, be called in, and that not by the party who employed you in the first instance, what is the proper conduct to pursue?

Ans.—I think to decline meeting with him till the wish of your patient and employer be ascertained.

Query 8.—When a medical man called, during the progress of a case, into consultation with another practitioner, persists, without any expressed wish on the part of the patient or friends, in continuing his services after the danger is over, and when the person first in attendance thinks his further assistance both unnecessary and inconvenient—what is the proper resource for the latter?

Ans.—The most effectual hint would be paying him his fee; but if he declare the case to be still in need of his attendance, you can have no resource without coming to a rupture with him.

Query 9.—When a medical man is called to a case on an emergency, during the absence of the practitioner in attendance—what is the proper etiquette to be observed by the two?

Ans.—The person called in should do what is *necessary* in the urgency of the case, and nothing more; nor should he repeat his visit. He might write a note to the regular attendant, if he thinks it necessary, explaining what has been done. The ordinary attendant, on the other hand, should not neglect to thank the other, either verbally or by letter, for his assistance; and, moreover, if this has been of great consequence, and the patient's circumstances are such as to justify it, he should advise the latter to send him a suitable fee.

Query 10.—When a medical man, on proceeding to a case to which he had been summoned, but had been unable to give prompt attendance, finds that another had been sent for, and had already prescribed—what should be done?

Ans.—Simply make his bow and retire, if the parties should be strangers to him; or, if they are intimate friends, or the case that of a previous patient, and they express a very decided wish to retain his attendance in preference to that of the other,—he should recommend them to settle on friendly terms with the latter, and afterwards send to himself a message to renew his attendance.

Query 11.—When a patient laboring under a complaint tending, if the proper means are not used, to a fatal termination, calmly and deliberately tells you that he does not wish his life protracted—what duty remains for you?

Ans.—To endeavor, in the first place, to bring him to a more hopeful and healthy frame of mind; and, whether you succeed in this or not, to tell him that so long as you continue in attendance, you must and will use the proper means for his recovery. The friends, at the same time, should, with due discrimination, be made aware of the state of matters.

Query 12.—When a patient, feeling that his end is come tells you calmly and decidedly that he wishes to die in peace, and to discontinue any further use of the means of recovery—what course remains for you?

Ans.—Simply to acquiesce, with the concurrence of the friends, and if you believe that the patient's presentiments are well founded. This I believe to be no uncommon occurrence, particularly in the instances of sagacious and strong minded persons. Mr. O'Connell's last illness might be mentioned as an example. The Rev. W. Simeon, of Cambridge, "when he had determined no longer to use any of the means which had been resorted to in the hope of prolonging his life" (feeling they were become profitless,) said to his nurse, "you cannot but say that up to this time I have submitted patiently, willingly, and cheerfully, to every wish of Dr. Haviland; I have not made one objection, have I?" He then added—"I did it all for the Lord's sake; because, if it had been his will to prolong my life, I was willing to use any means; but now I feel (and he said this with great emphasis) *that the decree is gone forth—from this hour I am a dying man.* I will now wait patiently for my dismission. All that could possibly be done for me, *has* been done: of that I am fully persuaded and satisfied: tell Dr. Haviland so." And after this he took no more medicine. Nearly similar was the conduct of Dr. Johnson on *his* death bed, which was more remarkable, considering that he was all his life time tormented with the fear of death. Boswell describes the circumstances as follows:—"Johnson, with that native fortitude which, amidst all his bodily distress and mental suffering, never forsook him, asked Dr. Brocklesby, as a man in whom he had confidence, to tell him plainly whether he could recover. 'Give me,' said he, 'a direct answer.' The doctor having first asked him if he could bear the whole truth which way soever it might lead, and being answered that he could, declared that in his opinion he could not recover without a miracle. 'Then,' said Johnson, 'I will take no more physic, not even my opiates; for I have prayed that I may render up my soul to God unclouded.' In his resolution he persevered, and at the same time used only the weakest kinds of sustenance. Being pressed by Mr. Windham to take somewhat more generous nourishment, lest too low a diet should have the very effect which he dreaded, by debilitating his mind, he said, 'I will take anything but inebriating sustenance.'"*

* Boswell's Life of Johnson, p. 617.

Query 13.—When a junior member of a family applies to you, and states that he does so in consequence of having lost confidence in the family medical attendant—what is your proper course?

Ans.—If the applicant be arrived at years of discretion, and if the complaint be such as not to confine him to the house, or to obtrude itself upon the notice of the rest of the family, you should prescribe, and do what is necessary in the circumstances. If the patient has not come to the years of discretion, or if the complaint be such that it must of necessity, or may by probability, confine him to the house, or come to the knowledge of his family, you should decline taking charge of the case till he has communicated with his parents or guardian, and obtained their sanction for your attendance. Before undertaking the case, however, you should endeavor to reconcile the patient to his ordinary attendant, by removing any prejudice or misconception he may be laboring under; although, when the objection is simply a decided want of confidence, no arguments that you can use will probably be of much avail.

Query 14.—Is a medical man to consider himself bound in honor to conceal from the demands of justice, information that has come to his knowledge through the necessary and unavoidable divulgements of professional intercourse, when such testimony might prove detrimental to his patient?

Ans.—He is bound by law to forward the ends of justice, and as an honest man and a good citizen he cannot and will not try to do otherwise. However, he should use his own discretion in cautioning his patient and the friends against imparting or exposing anything that could be turned to the party's disadvantage, and he should show no inquisitiveness beyond what is absolutely necessary towards the proper discharge of his professional duties. The Roman Catholic priest enjoys in this respect, by the established law of custom I suppose, an advantage over the medical man; and very properly, for otherwise one of the most important rites of that religion would be rendered perfectly nugatory.

Query 15.—Is it proper in a medical man to attend his own wife in her confinement?

Ans.—Perfectly proper, provided he is accustomed to this branch of the profession, and she and her friends have confidence in him; but if there be anything unnatural and difficult in the case, he should at once take assistance; or, if his feelings interfere with the proper treatment of it, he should leave it entirely in the hands of another. Such a course will, in the event of a fatal termination, prevent malicious remarks, or even judicial interference, and save the practitioner and the friends from subsequent regrets.

Query 16.—When sent for, in an emergency, to a midwifery case, in the absence of the practitioner whose attendance had been pre-engaged; and supposing him at last to arrive when the case is occupying your most serious attention, or even receiving your manual or mechanical interference—what is the proper etiquette to be followed?

Ans.—To resign the case at once into his hands—or, at all events, as soon as safely practicable, after explaining the state of matters to him, and obtaining, or taking for granted, the patient's consent to the transference. If your further assistance is wished by the practitioner who was pre-engaged, or by the patient with his consent, which it would probably be if the case were one of difficulty or danger, then you ought to remain. As to the remuneration, the answer would be as in Query 9.

Query 17.—Do the prescriptions of a medical man belong to the patient or to the prescriber?

Ans.—The prescriptions written by a medical man are the property of his patients; and I do not think that the former is justified, under any circumstances, in taking away or destroying them. If he should do so, patients will be apt to suspect some sinister motive,—most probably a wish to conceal his malpraxis, or else to deprive them of the means of treating themselves in any subsequent similar attack. If you find that a patient is at a loss to distinguish between one prescription and another, and is apt to make mistakes in sending to the druggist for his medicines, you might, with perfect propriety, select from among his recipes the old and disused ones, and tell him to lay these aside, or destroy them, in order to prevent mistakes; but you have no right, even in the case of a gratuitous patient, to recal or destroy a single prescription that has once passed your hand and been used by the patient. I would much rather run the risk of having my practice criticised by my brethren (believing, as I do, that no honorable man, or one who could have much influence with a well principled patient, would take any unfair advantage), than give my client or his friends any reason to suspect that I wished to conceal or misrepresent the treatment that had been pursued. I have known instances of persons venting the most bitter, though, I believe, undeserved reflections, on a medical man's treatment of their deceased relative, simply because he had asked for and destroyed the prescriptions after his patient's death.

Query 18.—In the case of an accident involving responsibility on the part of any one, whether has the sufferer, or the person whose responsibility is compromised, the right to appoint the medical attendant?

Ans.—The patient himself or his friends, I think, have the prior right (whether they choose to exercise it in the first instance or not), as no consideration can be held to outweigh a man's interest in his own life and health; but the other likewise has a right to satisfy himself as to the competency of the attendance and skill which are bestowed on the case; and, whether he has any doubts on these points or not, may, for his own satisfaction, associate another along with the patient's own medical attendant: and of course it is the duty and policy of both the gentlemen to act in harmony for their patient's recovery, and, at the same time, to look after their respective client's interests. In the question of remuneration, there is more of law than of medical ethics involved. Of course, if the party whose responsibility is at stake appoint a medical man to attend, it falls to him to pay the latter under any circumstances. In a case where the responsibility or liability is disputed, either in whole or in part, this only affects the principals concerned in the dispute, which, if they cannot compromise it, must be settled by a legal tribunal; but, whatever be the issue, the medical man cannot be cut out of his fee if the party who employed him is able to pay it. A medical man chosen by the patient to treat this particular case, even though his own ordinary attendant, if he undertakes it without the concurrence and authority of the party supposed to be responsible, can have no direct recourse against that party, nor against any one except the patient or person who employed him. The latter is bound to pay in the first instance, having his action against the party presumed to be responsible for the amount of the medical man's charge.

Query 19.—To what extent has the medical man the right to interfere in the selection of a druggist to supply the medicines he prescribes?

Ans.—Under ordinary circumstances, he has no right to dictate to his patients as to the druggist they should employ; but in justice to them, as well as to his own reputation, he is bound to see that the quality of the medicines they get is good; and when he is not in the knowledge that they employ a druggist in whom he has reason to place confidence, and more particularly if he find that the indication he had in view has not been fulfilled by the medicine prescribed, he should ask for the bottle, &c., on which, of course, the druggist's name is labelled, the contents of which he should taste or examine, though not with any appearance of suspicion, but simply as a matter of course. If he find good reason to

suspect any mistake in the dispensing, or anything improper in the quality of the medicine, the more prudent course is to call on the druggist, who cannot, if treated with proper courtesy and delicacy, object to afford any explanation that may be necessary, or to submit any part of his stock of drugs to the practitioner's examination that he may wish. When asked to whom the prescriptions are to be sent, which he will frequently be, the practitioner should say, "to any respectable druggist;" or he may mention the names of a few that he knows to be trustworthy, leaving the patient to make his choice. But if the practitioner is convinced by experience that any druggist does not keep his medicines of the standard strength, or otherwise does injustice to those who employ him, he is warranted—nay, he is bound, both in justice to himself and to his patients—to see that the latter do not put themselves within such a person's power.

Query 20.—In cases where, from confirmed structural change of organs, or from other causes, he may have reason to suspect that no *remedial* treatment will be successful,—what is the proper course for the medical man who may be called in to pursue?

Ans.—An honest and straightforward one in this, as in every other instance. His prognosis, of course, if the circumstances demand it, should be guarded, and perhaps even not hazarded without further medical consultation; and although his conduct must, to some extent, be guided by the character and views of his patient and friends, he should much rather sacrifice his own employment in the case than be induced to add to the evil that has already come upon his patient by injudicious attempts at restoration, where palliation only may be practicable. Writing on the medical treatment of old age, Dr. Holland says—"The first practical conclusion which the prudent physician will draw from his knowledge here is, in some sort, a negative one, viz—not to interfere, or, if at all, with care and limitation—in those cases where changes irretrievable in their nature have occurred in any organ or function of the body. To urge medical treatment in face of distinct proof to this effect, is to sacrifice at once the good faith and usefulness of the profession. This is a point the most needful to be kept in mind, as the patient himself and those around him are rarely able or willing to recognize it. It is often an exceedingly nice question of conscience, as well as of opinion, to define the extent to which practice may rightly proceed in such instances; always admitting, as must be done, that something is due to the feelings of the patient,—something also to the uncertainty of our own judgment, antecedently to actual experience. This question in medical morals, like so many others, cannot be treated as a general principle only. The integrity and discretion of the practitioner must ever be appealed to for guidance in the endless variety of particular cases. In some, concession to a certain extent is safe, or even justified by indirect advantage to the patient. In others, mischief alone can arise from this meddling with the course of nature, and bad faith or bad judgment are involved in every such act of practice." *

Query 21.—If it should come to the knowledge of a medical man that a case under the management of some other person is evidently misunderstood, and must soon terminate fatally if the proper treatment is not adopted—is he at all justified in interfering; and if so, in what manner and to what extent?

Ans.—In this delicate and disagreeable position in which the medical man may by possibility find himself placed, the utmost caution and good faith are necessary. As a general rule, he should altogether discountenance what is a too common practice among the ill-informed and lower classes,—that gossiping criticism to which the practice of medical men is subjected; especially knowing, as he must do, the difficulty that even a medical man has of forming an opinion from secondhand information: but there may be circumstances in which he cannot avoid listening to the appeals that may be made to him. "When artful ignorance," says Dr. Percival, "grossly imposes on credulity; when neglect puts to hazard an important life, or rashness threatens it with still more imminent danger,—a medical neighbor, friend, or relative, apprised of such facts will justly regard his interference as a duty. But he ought to be careful that the information on which he acts is well founded; that his motives are pure and honorable; and that his judgment of the measures pursued is built on experience and practical knowledge,—not on speculative or theoretical differences of opinion. The particular circumstances of the case will suggest the most proper mode of conduct. In general, however, a personal and confidential application to the gentleman of the faculty concerned should be the first step taken, and afterwards, *if necessary*, the transaction may be communicated to the patient or his family." * In opposition to this view of Dr. Percival's, a friend to whom I yesterday showed these Queries remarks—"I really cannot see the propriety of assuming that, in any instance whatever, where he is not professionally consulted by friend or legal authority,—and that on distinct grounds, and for a special purpose, such as shall free him from censure as a meddler,—a practitioner may or ought to give judgment regarding the treatment pursued (however bad or dangerous) by another member of the profession, as to which treatment he must be (*ex hypothesi*) imperfectly informed. Observe for a moment: he goes on hearsay only, no sufficient evidence being afforded to warrant an opinion; moreover, though the *reporters* may be conscientious, and mean well, they may at the same time be either ignorant or mistaken, and so unwittingly lead astray. In my view, a physician, *as such*, has no more title to become a public censor or reformer than what may be claimed by any other member of society; and that office, if assumed by him spontaneously, will almost infallibly be regarded with a suspicion of self-conceit, which (except under very peculiar circumstances) a right minded man would avoid, as calculated to injure his character and impair his usefulness."

Query 22.—Is it proper—and if so, under what circumstances—in a medical man to visit a patient or acquaintance who has taken the benefit of an hospital or other public medical institution, and is under the treatment of its officers?

Ans.—Of course not as his medical adviser; but he is not, from the fact of belonging to the profession, to forego the privilege of visiting his friend or acquaintance, or former patient, when such visit had been desired or requested by the latter, or perhaps even made a condition of his going to the institution. Out of courtesy, however, to the medical attendants of the institution, if he cannot find it convenient to go while they are there, he ought to call on the resident surgeon, and request him to visit the patient along with him; and he should scrupulously abstain from any remarks calculated to diminish the patient's confidence in the professional attendance and general treatment he receives. The medical attendant of the institution cannot object to such a visit if he should become aware of it, when made at the wish of the patient or those interested in him; and although he is not bound to consult with the previous attendant, common courtesy, and a desire to gratify his patient's wishes, and to promote his recovery, which is of course the main object of the institution, should induce him, particularly in a case of difficulty or danger, rather to encourage than avoid an interchange of views and information on the

* Notes and Reflections p. 75.

* Medical Ethics, p. 32.

subject with the former attendant. The gentleman I before alluded to, in reference to this query, in which he seems rather to have mistaken my drift, remarks:—"This is all *plane sailing*—the term meaning that the earth is supposed to be so, which it is not, as every body knows; and this leads me to remark, that perhaps the answer supposes too much—namely, that the visiting practitioner will reckon it prudent, comfortable, and dignified to look in without not merely permission but express invitation, on the very ground that his aid is held of value by the functionary. I, for one, would not advise taking the chance of those inequalities and asperities by which this medical world of ours is characterised; although, when in charge of a public hospital myself, I manifested what I felt—great pleasure in receiving visitors of the kind, and taking advantage of all the help they could give." The query, though put in general terms, alludes more particularly to an occasional occurrence which we must have all met with. A poor patient that you are called to see is placed in such circumstances that his removal to the hospital offers the only prospect of his obtaining the means that are essential to his cure—in fact, affords the only chance of his recovery. He refuses to go to it, probably from some preconceived prejudice, and is perhaps in such a state as to be inaccessible to argument. But he at last gives his consent on the condition that *you will call and see him after he is put in.* There are few medical men, I think, who would not comply with the request under these circumstances, and who would not also honorably keep their promise by making at least one call under the restrictions and conditions previously described.

(*To be Continued.*)

Letter from California—Climate and Diseases of the Country—Gold digging—The Cholera.—To the Editor of the Boston Med. and Sur. Journal.—As the U. S. Mail Steamer will leave this place for Panama in a few days, I improve the present moment in writing you.

Our voyage from Panama was completed in twenty-one days, which includes some five days' detention at the different towns of Acapulco, San Blas, San Diego and Monterey. At some of these towns there was no physician, so that medical services were in great demand. At San Blas many were suffering from fevers and the venereal disease, without any kind of treatment. They were not only eager to get our advice, but, what is not always the case, patients were *willing* to pay us *liberally*. San Blas is an unhealthy town. It is situated on low ground, surrounded by a marshy country—in many respects resembling Chagres.

During the first week we suffered from the extreme heat of the climate and the crowded condition of the ship; as soon, however, as we approached the higher latitudes, those who were debilitated by sickness at Panama recovered, and all were rendered more comfortable. To show the changes of temperature of the air and water in our daily progress, I shall insert a table exhibiting those changes, which was carefully kept, and politely furnished me, by Mr. Whiting, Mate of the U. S. Mail Steamship Oregon, during the voyage from Panama to San Francisco, which was made between the 23d day of May and the 13th of June, 1849.

	Temperature of Air.		Temperature of Water.	
May	24	80 deg.	May 24	80 deg.
"	25	80 "	" 25	80 "
"	26	86 "	" 26	82 "
"	27	86 "	" 27	84 "
"	28	88 "	" 28	86 "
"	29	88 "	" 29	86 "
"	30	88 "	" 30	86 "
"	31	88 "	" 31	86 "
June	1	84 "	June 1	83 "
"	2	84 "	" 2	80 "
"	3	84 "	" 3	80 "
"	4	84 "	" 4	78 "
June	5	83 deg.	June 5	76 deg.
"	6	75 "	" 6	70 "
"	7	68 "	" 7	63 "
"	8	68 "	" 8	62 "
"	9	68 "	" 9	60 "
"	10	62 "	" 10	58 "
"	11	59 "	" 11	53 "
"	12	56 "	" 12	50 "
"	13	57 "	" 13	47 "

San Francisco is situated on a bay bearing the same name, in lat. 28, long. 123 or thereabouts; making the difference in time between this and Boston, about three hours and a half. The town is located at the foot of a ridge of mountains, which hug the shore for a distance further than the eye can reach, and as they gradually slope towards the water's edge, the ground becomes nearly level in some places, so that almost any feature is presented, as mountain, hill and dale, as it were embracing each other, in picturesque grandeur—

> "While heard from dale to dale,
> Walking the breeze, resounds the blended voice
> Of happy labor, love, and social glee."

San Francisco contains about 6000 inhabitants, besides a much larger floating population, who live on ship-board and in tents. The people of this place, I mean the *business* portion, are mostly Americans, and possess the national characteristic styled "*go-a-headativeness.*" Everything is conducted upon American principles. The condition of society is better than I expected to find it. There are, as in every other place in the civilized world, any quantity of doctors and apothecaries. Medical fees are very high, and in the majority of cases promptly paid. It is in contemplation to establish a public hospital, and a considerable sum is already subscribed for the object.

The climate of San Francisco is healthy, but cool and unpleasant. The mornings are tolerably warm, but not unfrequently foggy and damp. About 12 o'clock M., the north-west trades commence blowing, and continue till 3 or 4 o'clock the next morning, rendering woollen clothing as necessary as in New England in the months of March and April. During the winter months it is said to rain nearly every day; but the land breeze then prevails, and the weather is warmer than in the summer season. Thirty miles from this, in any direction, the climate is mild and agreeable, but not as healthy as in San Francisco—intermitting, remitting and congestive fevers being prevalent.—These fevers, however, are not common, except in marshy districts, and on large streams. Were it not for the influence of marsh miasm, California would be as healthy as any climate in the world. The diseases originating in the immediate vicinity of San Francisco are acute catarrh and diarrhœa. The former complaint is to be attributed to the habitual changes of temperature and the latter to a saline principle contained in the water. The water *probably* contains sulphate of magnesia. I judge from its taste, its aperient properties, and the fact that magnesia is found deposited in the earthy and rocky structures of this region. Crystals resembling Epsom salts are deposited upon bricks where this water has been used in mixing the clay of which they are formed. I have as yet had no opportunity of submitting them or the water to chemical tests. The water evidently contains iron parytes.

Catarrhal complaints do not, as a general thing, require medical treatment. The diseases of the bowels are readily cured by the use of mild opiates, proper diet, and abstinence for a time from the water as a beverage. I have treated quite a number of patients for diarrhœa, and as far as my limited experience enables me to judge, it is a very manageable complaint.

Owing to the constant changes of temperature, the thermometer varying daily as it does, on an average, from 50° to 60° F., and not unfrequently the mercury ranges from 45° to 70° in the course of twelve hours, I supposed that chronic, bronchial and pulmonary diseases were common here; but I see no evidence yet to confirm such an hypothesis.

Fevers do not originate here. The only cases that I have seen are patients who have contracted the disease elsewhere.—Patients are often sent down from the mines for medical aid. These fevers present nothing peculiar. In this atmosphere

fever patients soon get well, with the aid of tonics, and proper care.

Miners and others are very liable to get poisoned. No one has yet been able to satisfy me what the offending material is. It grows all about the outskirts of the town and in the interior. Persons who lay on the ground and travel through the woods are most liable to it. I suppose every one to be so, who comes in contact with the poison. It produces violent inflammation of the skin, the areolar tissue becomes thickened, and pus sometimes forms. It manifests a partiality to parts—thus the eyes, face and scrotum are the most frequent seats of the disease. The best treatment appears to be cathartics, cooling lotions, rest and low diet. It may become *chronic*, and on the whole is an unmanageable complaint.

I have not been at the gold mines, but I have seen many intelligent and respectable men who have spent considerable time among them; and from these and other reliable sources, I learn that the reports which I had heard respecting them before I left the States were not exaggerated. The mines are probably the richest and most extensive in the world. One thing is certain, they far excel any that have heretofore been discovered. History furnishes no parallel, unless the mines of ancient Ophir may be considered as forming an exception. A large portion of the gold actually occurs in "lumps," weighing from ten penny-weights to as many ounces. Occasionally, though rarely, large lumps are found, weighing from one to several pounds. It requires neither experience, skill nor science to obtain the gold; but it does require *immense labor* and *great exposure*, to pursue this business successfully. The diggers stand in the water, the mercury ranging from 90° to 100°, exposed to the malaria of

"Swampy fens,
Where putrefaction into life ferments,
And breathes destructive myriads; or from woods
Impenetrable shades, recesses foul,
In vapors rank and blue corruption wrapp'd,
Whose gloomy horrors yet no desperate foot
Has ever dared to pierce; then, wasteful, forth
Walks the dire power of pestilent disease."

The complaints most common in the mining districts are congestive, intermittent and remittent fevers, and disorders of the bowels.

But taking California as a country, it is remarkable for the salubrity of its climate, the fertility of its soil, as well as the unequalled wealth of its mines.

"Rich is thy soil, and merciful thy clime;
Thy streams unfailing in the summer's drought;
Unmatched thy guardian oaks; thy valleys float
With golden waves; and on thy mountains flocks
Bleat numberless."

You have doubtless received my communication dated at Panama, wherein I make mention of the occurrence of the cholera on board the Propeller Col. Staunton, on her trip from New Orleans to Chagres, in April last. I mentioned the cases that occurred on the way from the latter place to Panama, those in Panama, &c. There was one other fatal case that I was not advised of at the time of writing; the patient was a passenger in the Staunton, who undoubtedly received the infection on board. The disease extended no farther. (See p. 455, last vol.)

I also assumed that malignant cholera had never prevailed on the Pacific shores of the American continent, but did not attempt an explanation of the question why it did not, it having been often introduced. I cannot ascertain that the cholera ever prevailed as an epidemic at Valparaiso, Panama, Acapulco, San Blas, San Diego, Mazatlan, or Monterey. The fact is certainly a very curious one, and conflicts somewhat with the doctrines of "*contagion*" and "*electric influence*." It conflicts with the first because it did not extend to the physicians, nurses, and others who came in contact with the sick. Dr. ———, who had the cholera on board the Staunton, and attended one patient at Panama, was a fellow passenger with me in the Oregon. He says it did not appear to him to be contagious. The woman who washed the clothes that he had on at the time of his sickness, was in good health when he left Panama, a month afterwards. The trunks, baggage and effects of those who died at sea were sold at auction, but experience has proved that they were destitute of *fomites*. It had the same bearing upon the second doctrine because the circumstances to which the advocates of this theory attribute the origin of the malady would be just as effective on *this* as on the *Atlantic* side of the continent.

To what cause shall we attribute the origin and progress of this devastating and fearful pestilence, if not to that unknown one, *epidemic influence*?

I remain very truly yours,
J. P. Leonard.

San Francisco, June 30, 1849.

REPORT OF THE GENERAL BOARD OF HEALTH.

FIRST PROCEEDINGS.

May it please your Majesty,—

As the Public Health Act and the Epidemic Diseases prevention Act, which we, the members of the General Board of Health, were appointed to administer, constituted a new and untrodden field of legislation, we have felt it our duty to render an account of our first proceedings, and of the grounds on which we have asked for amended statutory provisions to carry out the views of the legislature.

In presenting the following report we beg leave to express our regret that the pressure of incidental and irregular demands and emergencies for the direction of measures to arrest the spread of Asiatic cholera, have prevented our submitting it earlier for practical consideration during the present session of parliament. For this delay, and for unavoidable incompleteness in the report, which may not be supplied by our published notifications, and for any imperfections in the first exercise of the powers with which we are charged, we would bespeak a gracious consideration.

We deemed it our duty, in carrying into operation the Nuisances Removal and Diseases Prevention Act, to follow out the conclusions to which the metropolitan sanitary commissioners had previously arrived respecting the mode of propagation, the localising condition, and the means of checking the spread of epidemic diseases—conclusions derived from the largest experience of such diseases at home and abroad, and which were generally acquiesced in. With reference especially to the pestilence which seemed at that time to be impending, it appeared to us to be established by the evidence which they had presented in their first and second reports, that Asiatic cholera differs in no respect from other epidemic diseases, either in the circumstances which favor its localisation and extension, or in the classes that are peculiarly predisposed to it, and consequently that the means which experience has proved to be effectual in preventing the origin and spread of the most formidable of these common epidemics, typhus fever, would in the same manner be found effectual in the prevention of cholera.

The evidence also appeared conclusive that the character which, on its first appearance in Europe, was generally thought to be peculiar to cholera, and which gave it its chief terror—the absolute suddenness of its attack—was not true to the extent supposed; but that, on the contrary, with very few exceptions, and those chiefly on its first outbreak in a new locality, it gives distinct warning of its approach in time for the adoption of remedies capable of arresting its progress.

RE-APPEARANCE OF CHOLERA.

Though, when we entered on our office, cholera had not as yet broken out in any part of the United Kingdom, it appeared to be steadily approaching us from the Continent, advancing precisely in its former track.

The results of the experience of the disease which had been collected from so many sources, exhibiting its progress among populations in different climates and under widely

different social conditions, indicated important practical measures of prevention: but it appeared to us to be desirable, before the adoption of any systematic plan of prevention, to ascertain whether the disease presented the same characters as on its former visitation, or, should it have undergone any change, in what respects it had become modified. In order to obtain authentic information on this point, we decided on sending our two medical inspectors to Hamburgh and Berlin, the nearest cities on the Continent in which the pestilence was at that time prevailing. They were on their way to Hamburgh, when they were stopped by an outbreak of cholera at Hull, which took place among a Prussian crew who had passed through Hamburgh on their way to England, whither they were coming to navigate a vessel which had been detained in the port of Hull owing to the Danish blockade. It appeared that these sailors had come from a healthy port in the Baltic, and that they had passed only a single night near the town of Hamburgh, where cholera had been for some time epidemic. The appearance of cholera in the port of Hull excited considerable apprehension, which seemed to be justified by the position of the town on the east coast, in which cholera, in the year 1831, first broke out—namely at Sunderland. The event appeared to us to be of so threatening a nature as to require a careful inquiry into the circumstances of the case as well as into the state of the town. This was undertaken by Dr. Sutherland and Mr. Grainger, who reported that the general sanitary condition of Hull at that time, as compared to former periods, was favorable; and they gave it as their opinion that, apart from the position of the town, it was in no particular danger of an outbreak of cholera; the correctness of which conclusion was confirmed by the fact that these imported cases did not spread, and that they were not followed by any appearance of the disease among the townpeople.

EVILS OF QUARANTINE.

While engaged with the authorities of the town in advising on such provisions as seemed practicable for preventing the extension of the disease, if fresh cases of it should occur, the attention of the inspectors was called to the subject of quarantine, and particularly to the cruel position in which certain quarantine regulations, as enforced at Hull, placed passengers and crews coming from infected ports; instances being brought under their notice in which experience had proved that it was impossible to afford to vessels under quarantine medical assistance until all hope of relief had passed away. The peril in which considerable numbers of persons were thus placed, and the loss of life which had actually occurred, induced us to address a special report on this subject to the Privy Council.

Having, as above stated, suggested what precautions seemed available for the town of Hull, the inspectors were on the point of embarking for Hamburgh, when we received information that an outbreak of cholera had occurred at Sunderland. This circumstance induced us to direct Dr. Sutherland to proceed to that town and Mr. Grainger to go on to Hamburgh. Dr. Sutherland was prevented from joining Mr. Grainger on the Continent, his presence, after his visit at Sunderland, being urgently required at Edinburgh, and subsequently at other towns in Scotland, where his labors have continued up to a recent period.

BAD SANITARY CONDITION OF MERCHANT SHIPS.

Meanwhile, on arriving at Hamburgh, one of the first circumstances which attracted Mr. Grainger's notice was the great severity of the epidemic among the crews of numerous vessels lying in the harbor, a large proportion of the ships being English. He found that the number of English seamen amounted to upwards of 800, among whom, being in a foreign port, and often unable to obtain assistance until they were in a hopeless condition, the mortality was excessive. In order to afford what assistance seemed available, we requested Mr. Grainger to consult with the naval officers, and, with their advice, to draw up instructions for the guidance of the masters and crews of the English traders, to cause proper medicines to be provided at convenient stations in Hamburgh, and to circulate notices of this among the brokers and others connected with shipping, as well as to the captains themselves.

These instructions were widely circulated among merchant seamen in different parts of the United Kingdom by authorities and companies connected with shipping, and, with the sanction of Lord Palmerston, among seamen in foreign ports.

It appeared, in the course of the investigation into the state of the colliers and other English vessels at Hamburgh, that they were in a most defective condition as to health; that the forecastle, where the sailors sleep, was unprovided with any means of ventilation, and in fact that the men were, in those wretched berths, exposed to all the evils resulting on shore from filthy, crowded, and ill-ventilated dwellings; and in the instructions issued as above stated, especial attention was directed to the necessity of cleansing and ventilating these vessels, as constituting a much better security against the progress of the epidemic than any quarantine regulations. The evidence as to the greater efficiency of such measures of precaution and prevention have been fully set forth in our report on quarantine.

From the observations made on the earlier groups of cases of the disease that occurred on its re-appearance in this country, and still more from the information communicated in the reports of Mr. Grainger, as to its character and progress in Hamburgh (see report in appendix), it appeared that no essential change had taken place in the nature of the epidemic; but, on the contrary, the further and more recent experience of it afforded decisive confirmation of the views promulgated in the metropolitan sanitary reports, as to the condition which favor its localisation and spread, and as to the general existence of premonitory diarrhœa.

INTENTION OF THE LEGISLATURE.

Seeing that, when the mortality from the developed cases of this disease that have occurred in any country comes to be summed up, it is proved to be similar in all climates, and under all modes of treatment, we arrived at the conclusion that it was our duty to regard the impending epidemic less as a disease to be cured by medicine, than as a pestilence to be checked by measures of prevention. But the whole tenor of the evidence presented under the metropolitan sanitary commission corroborated by that subsequently received by us, led to the conviction that the same measures of prevention were applicable to cholera as to other epidemics, which, though less dreaded, increase the absolute mortality in a higher degree, and are regarded with less terror only because they are slower in their progress, and more constant in their presence. In order, therefore, to carry out what appeared to us to be the intention of the legislature, we endeavored to embody in our regulations and orders the results of the most extensive experience with reference to the entire class of epidemic diseases, and to found upon that experience practical measures of prevention. Among the most available and needful measures of this description, were those of cleansing. We therefore called the earnest attention of the boards of guardians, the authorities principally charged with the execution of the Nuisances Act, to this subject. In our first notification, bearing date October 5, 1848, we represented to them that experience having shown that preventive measures against cholera are also preventive against typhus and other epidemic and endemic diseases, it would be the duty of the guardians to carry into immediate effect all practical measures of external and internal cleansing, especially in the ill conditioned districts; and by an

order dated Nov. 9, 1848, we issued to the parochial boards of Scotland regulations requiring the immediate performance of such cleansings, and prescribing the mode in which they should be carried out. (See regulations of the General Board of Health, from 1 to 8).

LISTS OF PLACES WHERE EPIDEMIC DISEASES PREVAIL.

The seats and subjects of cholera and the seats and subjects of typhus being the same, we issued on the 3d of November, 1848, among other regulations, a special order to the boards of guardians (see regulations 9, 10 and 11), requiring them to desire their clerks to make out from the register of deaths, or from the district medical relief books, and from any public books or other sources, from which information might be obtained within the union or parish, a list of places where epidemic, endemic, and contagious diseases had of late been frequent. We further requested the guardians to cause their medical officers forthwith to visit and examine the localities contained in such list, and to certify in writing all such places as they might find in a state dangerous to health, or which needed frequent and effectual cleansing, together with all such nuisances and matters injurious to health as ought to be abated, cleansed, and removed.

This appeared to be an essential preventive regulation, experience having shown that unless express obligations of the nature stated are enforced, extended and effectual cleansings, or other sanitary improvements in the power of the local authorities to effect, are rarely carried into operation. We believed that by the observance of this order the medical officers would be guided at once to the worst conditioned places, where the inhabitants would be found to be in the greatest danger. This expectation has been realised, for wherever this order has been obeyed, the local authorities have been made cognisant of the most dangerous and filthy localities in their respective districts, and the medical officers have been directed where to search for the diseases which usually precede an outbreak of cholera, and for the premonitory stage of cholera itself.

We apprehend that this was an order founded upon such an extent of experience that no private medical practitioners and no lay persons would be justified in neglecting it, even if it were a simple recommendation. Yet upon the visits of the inspectors to the places in which cholera broke out—which we have shown commonly first came back to the same streets, and even to the same houses, as on its former invasion—it was found that these localities were still in the most filthy condition; that in general no lists had been made out, and that no inspections had taken place. In several conspicuous instances the owners of the ill-conditioned houses, the occupiers of which were the first victims of the disease, were members of the local boards by which these defaults were committed.

ORGANISATION FOR DETECTING PREMONITORY STAGE.

While directing the attention of the guardians to the most available means of prevention, we endeavored to prepare them for the measures which would be necessary if they should unhappily experience a visitation of the disease. Of these we regarded the organisation of the means for detecting the existence of the disease in its premonitory stage as among the most important. This stage being in general of short duration, in some instances not exceeding a few hours, and the symptoms which denote its commencement being commonly so slight as to appear trivial to those who are ignorant of their signification—an impression favored by the general absence of pain—no dependence could be placed on the information and prompt action of the individuals most in danger. It was necessary that the disease should be sought out in the localities in which it might be present and actively developing itself, though even its existence might be unperceived and unsuspected. The whole tenor of the evidence presented to us showed that if the medical practitioner waited until the individuals affected applied of their own accord for assistance, in large numbers of instances, and especially before the extension and fatality of the disease had excited considerable alarm, his services would not be called for until they could be of no avail. Acting on this experience, we represented to the local authorities in our first notification, that in case of an outbreak of cholera it would be incumbent on them immediately to provide a sufficient medical staff to enable a daily house to house examination to be made of the infected locality.

But former experience, particularly at Edinburgh, where the expedient was first tried during the epidemic of 1832, had shown, that in some of the worst localities and in the most filthy and overcrowded houses in which cholera was actually prevailing, the removal of the inhabitants from their wretched abodes was absolutely necessary, the probability being, that if allowed to remain there they would become the next victims. The opening of houses of refuge for the temporary reception of such persons appeared therefore to be a highly-important auxiliary measure of prevention.

EXPERIENCE OF DUMFRIES.

The agency for carrying out an efficient system of house to house visitation necessarily involved some expense and trouble; but we came to the conclusion that it would be our duty to enforce the adoption of this system in any case in which it might seem to be required. The first place in which we were called upon to issue an order to this effect was in the town of Dumfries. Dumfries had suffered more severely from this pestilence, on its invasion in 1832, perhaps than any other town in Great Britain, and knowing that little sanitary improvement had been effected in the interval, and consequently that the inhabitants must be in as great danger as before, we called the attention of the authorities to the special regulations of the board. To our recommendations the parochial board paid no regard. The disease, meanwhile, went on committing its former ravages. Thus within the first 29 days after its outbreak, there occurred 269 deaths out of a population of 10,000. No efforts being made on the part of the local authorities to check this great mortality, it appeared to us that this was a case requiring a stringent enforcement of the regulations of the board, and we sent one of our medical inspectors (Dr. Sutherland) to organise a plan of house to house visitation, to open dispensaries for affording medical assistance by night as well as by day, and to provide houses of refuge for the temporary reception of persons living in filthy and overcrowded rooms where the disease was prevailing, and who, though not yet attacked, were likely to be the next victims. The result of the adoption of these measures was, that on the second day after they were brought into operation the attacks fell from 27, 38, and 23 daily, to 11; on the fifth day they diminished to 8; on the ninth day no new case occurred, and in another week the disease nearly disappeared.

That this remarkable and rapid cessation of the disease was not the consequence of the natural exhaustion and termination of the epidemic is proved by the fact that the premonitory diarrhœa did not diminish proportionally with the diminution of cholera, but that, on the contrary, while cholera steadily decreased diarrhœa went on and even increased, thus showing the continued action of the epidemic poison upon the system; while the true cause of the diminution of cholera was, that the visitors detected it in its diarrhœal stage, and at once arrested its further progress.

EXPERIENCE OF NORDELF.

A similar but still more rapid suppression of the disease was effected at the small village of Nordelf, in Norfolk, where out of a population of 150 souls, there occurred no less than 50 cases of cholera. When Mr. Bowie, whom we

requested to go to the assistance of these poor people, arrived at the village, he found it in a state of filth almost unexampled, the people in consternation, the sick without nurses, and the single medical attendant nearly exhausted with fatigue. Mr. Bowie immediately arranged a plan for the daily visitation of every house ; obtained additional nurses and medical aid, carried out extensive cleansings, caused the removal of nuisances, and suggested improved means of ventilating the sick chambers. From the time that these measures were brought into operation only four new cases of cholera occurred ; but here also the premonitory diarrhœa went on ; every case, however, being promptly attended to was prevented from passing into the developed stage, and hence the rapid disappearance of cholera.

HOUSE TO HOUSE VISITATION FOR GLASGOW.

The success which thus attends these measures when applied to small populations within the control of a moderate visiting staff, led to their adoption at Glasgow. But here the difficulty was much greater. For the purpose of ordinary medical relief, Glasgow city parish being subdivided into 17 districts, and the barony parish into six districts, it was deemed expedient to base the preventive measures on the existing system of medical relief rather than to lose time in organising another machinery. The entire population of the 17 districts of the city parish is, in round numbers, 152,000, and of the six districts of the barony parish about 127,000. The task was, to arrange an easy and effectual system of daily house to house visitation over the whole of the affected localities containing this large and, in the most susceptible districts shifting and migratory population. The details of the plan will be found in Dr. Sutherland's report. It was briefly this :—

" The existing districts being preserved, each district surgeon, in addition to his ordinary duties, was required to undertake the office of superintendent within his district. There were thus in the two parishes 23 district superintendents, and under each of these officers were placed a few advanced medical students, or qualified practitioners, to visit from house to house. These visitors were provided with medicines to administer on the spot to all persons suffering from premonitory symptoms, a practice which had been found most beneficial in Dumfries and Nordelf. Advantage, as has just been stated, was taken of the circumstance that Glasgow is a university city, to select qualified young men from the more advanced medical students as visitors. The entire working out of the system was placed in the hands of a general superintendent for each parish. General instructions, giving all needful details of the plan, were printed and circulated among the superintendents and visitors. For the city parish there were 40 visitors, and for the barony parish 28, in all 68 visitors. Dispensaries were opened night and day for all necessitous applicants, and a cholera hospital and houses of refuge were provided. A system of sanitary inspection was likewise introduced into the large manufactories, by the aid of the Secretary of State for the Home Department, through Mr. Stuart, the inspector of factories in Scotland, with the view of detecting and treating immediately all premonitory cases that might occur among the workpeople ; and in one district in the barony parish a body of lay visitors at 2s. 6d. per diem was employed with success."

Dr. Sutherland concludes his account of the arrangements which were made for meeting this outbreak in the following words :—

" I cannot conclude this part of the report without expressing my high sense of the great ability and energy with which the visitation system was carried out by the medical officers of the parochial boards ; and I think it only an act of justice at the same time to express my conviction, that whether we consider the extent of the machinery employed during the late fearful epidemic, or the zeal with which it was sustained by the most active members of both boards, or the expense cheerfully incurred by them during a period of great pecuniary difficulty in parochial affairs, no provision more munificent was ever made for the relief of a great public calamity, than that carried out by the humane and enlightened citizens of Glasgow."

At the time when these arrangements were completed, the epidemic had attained its height. On carrying them into operation, the first result obtained was the discovery of a number of corpses of persons who had died of cholera without having received any medical aid whatsoever ; the number discovered amounted to 50 ; but there is reason to fear that such deaths were still more frequent at an earlier period of the epidemic.

The second result was, the discovery of a great number of cases of fully developed cholera, which were going on wholly without medical assistance. Some of the visitors found as many as 12 of these each day for some days after the visitation commenced, and the visitors concur in stating their belief that in these instances, neither the individuals nor their friends would have applied for medical relief.

The third result was the discovery of great numbers of premonitory cases in various stages of progress, not only without the application of any means to arrest them, but without the slightest consciousness on the part of the affected persons of the danger they were in. The first return showed the existence of 273 cases of diarrhœa to 60 of cholera ; and of these diarrhœal cases, 35 had the peculiar rice-water appearance which marks the close approach to the fully developed stage ; but as the working of the visitation became more complete, the proportion of the premonitory to the developed cases daily increased. The tables of general returns, reports Dr. Sutherland—

" Show, that throughout the entire districts under visitation, the proportion of the premonitory to the developed cases amounted to nearly 600 per cent. ; in the city districts it was 504 per cent., and in the barony districts 685 per cent.; but when the districts are taken individually, the proportions are still more striking. They vary from under 200 per cent., to about 2000 per cent., and in one instance (barony district, No. 1), the premonitory cases amounted to the enormous cypher of 2379 per cent. of the cholera cases. During particular days in the course of the epidemic a much larger proportion of diarrhœa and other premonitory cases were discovered than during others. This partly arose from the greater comparative success of the visitation, and also partly from the course which the disease happened to take at the particular period. The per-centage of premonitory cases on these occasions rose as high as 2000, 2800, 3700, and on one day in the barony parish it was 3850 per cent. of the cholera cases.

" The total number of premonitory cases treated during the continuance of the house to house visitation, from Dec. 31, 1848, to Feb. 26, 1849, inclusive, was no less than 13,089, and if to this be added the number of unreported cases already alluded to, it is not improbable that about 15,000 such cases were brought under treatment by the parochial medical officers and visitors. During the height of the epidemic, indeed, all Glasgow appears to have been affected. The number of cases treated by private practitioners also was very large. One gentleman prescribed for about 1100 such cases in the denser parts of the city, and many cases of diarrhœa occurring in the better parts of the town, were found to be extremely obstinate in their character. It is to be feared that among the richer classes not a few lives were lost by delay in applying for medical aid."

Dr. Sutherland adds—

" Tables compiled from the returns of Dr. Miller, and the

reports of Dr. A. M. Adams and Dr. J. M. Adams, give some interesting and valuable particulars in regard to a large number of these cases. They form, as it were, a chart of the disease throughout its entire stages, and exhibit at the same time, in a very satisfactory manner, the results of the treatment pursued. The total number of premonitory cases in these tables amounts to 1445, and the total number of cholera cases to 392. Under the former class, examples will be found of nearly every progressive stage of the disease,—from simple diarrhœa without complication to developed cholera,—the cases passing in their progress through important changes by the addition of symptoms increasing in danger, while the mortality is also found to increase in a corresponding ratio. Thus, in 1,113 cases of simple diarrhœa, the deaths were 6, or 0·538 per cent. In 49 cases of bilious purging without vomiting or cramps, there were no deaths, the number no doubt being too small to give such a result. In bilious purging, with vomiting and cramps the cases were 43, and the deaths 3, or about 7 per cent.; of rice-water purging there were 280 cases, and 12 deaths, or about 4 per cent. The addition of other symptoms in this peculiar stage of the disease appears to be attended with a great increase of danger. Out of 108 cases, in which the serous character of the stools was accompanied by vomiting there were no fewer than 42 deaths or nearly 39 per cent., and the addition of cramps to the other symptoms, which occurred in 281 cases, raised the mortality to 149, or 53 per cent. Perhaps no clearer proof could be given of the unity of the disease and its progressive danger.

"The column in the schedules showing the cases that passed from diarrhœa into cholera was not in use from the commencement of the reporting, therefore the exact number cannot be given, but an approximate result has been obtained, and allowing every reasonable latitude for inaccuracies, it is certainly a remarkable fact, and conclusive as to the value of the house to house visitation, that out of 13,089 premonitory cases, reported as having been placed under treatment, only 80 are stated to have passed into cholera."

In one district of Glasgow, out of 596 cases of premonitory diarrhœa which came under treatment, 183 were so far advanced as to have rice-water purging, yet of this whole number only two passed into cholera; or 1 in 298.

Another result of the visitation was to induce great numbers of individuals to apply to the dispensaries that were opened in the several districts for the relief of bowel complaints; 6119 applications are recorded, but there is reason to believe that this number is much below the truth.

RAPID REDUCTION OF THE FATALITY OF THE EPIDEMIC.

Another most important result was, that the numbers in the column for developed cases progressively diminished while those in the column for premonitory cases continued steadily to go on, and sometimes even increased. This was exemplified, perhaps, in a more striking manner in the smaller towns in Scotland; but it was not the less real in the large population of Glasgow. At Coatbridge, for example, containing a population of 4000 souls, 3314 were found affected with premonitory diarrhœa, 665 of which had advanced so near the developed stage as to be affected with rice-water purging, vomiting, and cramps, while the total number of cholera cases amounted only to 164, so that the whole population of this place, with the exception of 686 persons, exhibited unequivocal symptoms of being under the influence of the epidemic, and the numbers discovered in the premonitory stage were upwards of 20 times greater than those that ultimately passed into the developed stage; so few having passed into this stage because prompt treatment arrested the progress of the malady, and succeeded in stopping by far the greater part even of the 665 cases that were already so far advanced as to have rice-water purging, vomiting, and cramps. A similar result was obtained at Cambrae, a village near Coatbridge, consisting of a population of 1200 souls, where the entire village, with the exception of 100 persons, was affected; where, out of 60 cases of diarrhœa discovered by the first visitation, 55 were found to have rice-water stools, and where, out of this small population, 71 persons died within the first fortnight. In Dumfries, the visitors on the first days of their inspection were overwhelmed with cholera cases; next they discovered the cholera cases early, and treated them promptly; then instead of cholera they found rice-water diarrhœa, and in a few days the cholera cases, as has been stated, fell from 38 to none; while at the same time from 20 to 30 new choleraic affections continued to occur. Dr. Sutherland calls attention to the important fact that this change was found to take place in the districts visited, while in those that were unvisited developed cholera went on, and in a large proportion. A similar occurrence was observed in the district of Charlestown, in the town of Paisley. Here a circumscribed population was placed under the visitation system, when the cholera cases amounted to 23 daily; in the course of four days after the visitation was in operation the cases dropped to three, and in a few days more the epidemic disappeared, whilst it went on in other districts.

"Had it been possible," says Dr. Sutherland, "to place the whole population of Glasgow under preventive measures, as was done in the affected districts of Dumfries and Paisley, as speedy a change might have been observed in the statistics of the epidemic. The regulations of the General Board of Health were specially directed against the disease, as occurred among the necessitous classes, but cholera prevailed almost universally over the whole city, and assumed a character more purely epidemic and less local than it has done in any other part of the country. It selected its victims from all classes, the wealthiest as well as the poorest, and it carried off not a few of the better portion of the working-classes whose cases were treated by their own medical advisers.

"As, therefore, the visitation could be extended only to a comparatively small portion of the affected population, no rapid transference from the cholera to the premonitory column of the schedule could be expected. Persons in the receipt of wages, and not requiring casual aid, could not, with justice, be made chargeable on the parochial authorities any more than the richer portion of the population, although it was generally understood that the line of demarkation should not be rigidly drawn, always bearing in view the fact that the object was to save life.

"In those districts, however, where the population was most under control, as in barony district, No. 1 (Parkhead), the result of the preventive measures was most striking. The enormous amount already adverted to of premonitory cases discovered and treated in this district, proves the efficacy of the inspection under which it was placed, and the result on the cholera was the complete breaking up of the disease, leaving entire days during which all the cases appeared in the premonitory schedule only, to which it was, indeed confined with only a few exceptions during the whole month of February.

"Upon the whole, then, though from the nature of the case the exact amount of good effected by the preventive methods adopted in Glasgow cannot be ascertained, no mind open to the reception of evidence can doubt that much suffering was prevented, and a large amount of human life preserved."

TESTIMONIES AS TO EFFICACY OF VISITATION SYSTEM.

Examples are given in the appendix of the testimony borne by the medical superintendents of the several districts, from their own personal observation, as to the efficacy of this

system ; but it may suffice to quote here the statement of Dr. Dempster, the general superintendent of the barony parish. Having served in India for a period of 23 years, where the troops under his charge frequently suffered from visitations of cholera, Dr. Dempster had had ample opportunities of becoming acquainted with the disease. He states, the military authorities in India were so well aware of the general prevalence of premonitory diarrhœa, and of the great importance of early attention to this symptom, that besides other stringent measures adopted by them to detect its very first appearance, it was their custom to place sentries over the privies, whose duty it was immediately to report any individual seen to visit them oftener than once during the day.

" The result of this practice," says Dr. Dempster, " was most satisfactory ; and that the measures above stated are absolutely necessary I feel perfectly convinced from having had so frequently to lament the infatuated carelessness of soldiers, and the lower orders in civil life, on several occasions for days together neglecting the premonitory diarrhœa, and not applying for medical aid until the urgent symptoms of cholera had made their appearance, and then only at a period of the disease when treatment proved of little avail.

" My experience of cholera as it occurred in the barony parish, during the late epidemic, has only tended to confirm my belief already expressed, that to be of service in cholera medical aid must be directed against the premonitory stage ; and I feel convinced that the only mode of obtaining this favorable end is by the system of house to house visitation, as lately introduced in Glasgow. By its means numberless cases of diarrhœa which would otherwise have been totally neglected were detected, and by suitable treatment promptly arrested ; and in the district where the system of medical or lay visitation was most energetically carried out, and the sanitary measures strictly enforced, the good effects were at once manifested in the daily reports by a great increase of diarrhœa cases with a proportionate decrease of those of cholera, whilst at the same time the proportion of deaths in the latter underwent a considerable diminution, evidently from the visitation system having brought the cases sooner under treatment."

GENERAL RESULT OF EXPERIENCE IN SCOTLAND.

While, however, the preventive measures when carried out with intelligence and energy were attended with such results, yet upon a review of the whole experience of the recent outbreak of cholera in Scotland, it appears to us to be requisite to state, that in this part of the kingdom, where the general sanitary condition is lower than in England, and where, indeed, the condition of the laboring population, particularly in the larger towns, such as Edinburgh, Glasgow, and others, is among the lowest in the empire, there was experienced peculiar difficulty in the practical working of preventive measures, and there is no reasonable ground for the expectation that those measures would, as a system, have been spontaneously adopted in a single town. But we are not at present prepared to enter into a particular statement of the difficulties and obstructions experienced.

The success which attended the preventive measures which have been described as carried out in Glasgow and other towns in Scotland during the winter of 1848 and 1849, led to the recommendation and adoption of similar measures in England and Wales where cholera has more recently broken out, and is still prevailing—the result in general being that the impression made upon the disease is prompt and decisive, in proportion to the intelligence, energy, and perseverance with which these measures are carried into effect.

The general result of the adoption of the practical rules, which, after the most careful collection of facts and the widest experience that the time and circumstances permitted, we deemed it our duty to enforce for the attainment of the objects of the legislature, may be thus summed up :—

With reference to the lists directed to be made of the places where cases of fever have been of frequent occurrence —these lists, wherever made out, have guided the guardians and their medical officers both to the worst places in their respective districts, and to the dwellings of the most susceptible subjects, where the danger was the most imminent and where the application of the whole system of preventive measures was the most urgently needed.

SUMMARY OF RESULTS.

With reference to the houses of refuge, the returns hitherto received have not been sufficiently complete to enable a general summary to be given of the numbers that have been admitted into these asylums, and of the proportion of the individuals residing in them that have been attacked with cholera, but the following is the experience of Glasgow :— There were admitted into the two houses of refuge opened in this city, in all 806 persons, out of whom 25 were attacked with cholera, but only seven died. It must be borne in mind, that the whole of these individuals were taken from the most filthy and overcrowded houses and rooms, in which cholera was actually prevailing, and that if they had been allowed to remain there, they would probably have been the next victims. In the houses of refuge they breathed a comparatively pure atmosphere, and they were placed under proper regimen and strict medical inspection ; in the mean time their own houses and rooms, and, as far as practicable, the localities immediately adjoining, were thoroughly cleansed and purified. No instances are recorded of any of these persons being attacked with cholera on their return to their own homes.

With reference to the house to house visitation, taken in conjunction with the district dispensaries, which were open day and night, it may be confidently affirmed, that by these arrangements, the whole of the poor received prompt medical relief ; so that, after these arrangements were completed, no individuals perished without medical assistance. Under the system of house to house visitation the disease was discovered at its very commencement, and the working of this system tends to establish among others the following facts :—

1. That, as far as the experiment has been made, the proportion of the diarrhœal to the developed cases ranged from 600 per cent. to 4000 per cent., this difference arising not so much from any real difference in the prevalence of diarrhœa, as from the greater or less completeness and activity of the visitation, by which the existence of diarrhœa was discovered.

2. That, under this system, the proportion of diarrhœal cases which passed into cholera, ranged from 1 in 160 to 1 in 260, and in one instance it was only 1 in 298.

3. That, under this system, the mortality of the diarrhœal cases did not in general exceed 1 in 185, while in one instance not a single death occurred out of 1380 cases.

4. That, on the other hand, where diarrhœa was so far neglected that it was not brought under treatment until the evacuations had become serous, and were accompanied with vomiting and cramps, 53 persons died out of every 100.

The foregoing facts afford data for estimating the amount of the saving of life that has been effected by measures which discovered diarrhœa, and which promptly arrested it, and prevented it from passing on to more advanced stages.

Without doubt some of these diarrhœal cases, however neglected, would have been checked by the resisting power of the constitution, and would not have passed into cholera ; but experience has taught us that if neglected, great numbers of them do pass into cholera, while, if promptly treated, they are, with few exceptions, arrested at once. The

evidence of this is so decisive, that the gravest responsibility rests on the local authorities of any district in which cholera breaks out, who do not make immediate arrangements for putting into operation the house to house visitation.

But however encouraging the evidence obtained, and of which we have now given examples, of the efficiency of dealing with this disease in its premonitory stages, still we have, as on a due consideration of the subject might have been expected, received evidence that continued exposure to the predisposing and localising causes in a high degree of intensity will in numerous instances frustrate any remedial measures. Overcrowding, or continued residence amidst damp, and in an atmosphere loaded with impurities, will occasionally counteract all means of prevention. There are some localities from which, as the only security, it is necessary to remove the people.

We represented in our first notification, that on account of the intimate connection between the external skin and the internal lining membrane of the bowels—the chief seat of this disorder—the use of warm clothing, and the avoidance of cold and wet, were of much importance during the prevalence of the epidemic—precautions which are as necessary in summer as in winter, it being, indeed, particularly important to guard against the comparative coldness and the occasional dampness of the summer evenings and nights. Our recommendations with respect to diet, founded on the peculiarly irritable state of the mucous membrane of the bowels, so general during the epidemic influence, though at first somewhat questioned by authorities whose opinion is entitled to respect, were yet in accordance with the experience presented to us of all countries where this pestilence has extensively prevailed.

Our views on these particulars, as well as on the mode of propagation of the disease, have, with some exceptions, been concurred in both at home and abroad; and we have the satisfaction of knowing that practical measures of prevention based upon them, where they have been energetically carried out, both in this and in other countries, have produced a manifest effect in checking the progress of the pestilence.

(To be continued.)

The Ozone Hypothesis of the Production of Cholera.—In the mystery which overhangs the production and diffusion of Cholera, any hypothesis which carries with it even a small degree of probability is deserving of our consideration. We elsewhere reprint from a contemporary journal a short paper by Mr. Robert Hunt, on the Probable Causes in Operation to produce Pestilential Cholera. The hypothesis has the merit of great scientific ingenuity: we cannot call it a theory, for the grounds upon which it is based are open to question. It is assumed that the atmosphere has less than its normal proportion of electricity, and that the great oxidizing principle, *ozone*, discovered by Schonbein, is in like manner deficient, the proportion of this being, it is alleged, in a direct ratio to the electrical intensity of the atmosphere. Animal and vegetable matter in a state of decomposition, including the effluvia of drains and sewers, as well as the exhalations of animals, may produce and diffuse through the atmosphere an organic poison capable, when respired or otherwise taken into the system, of producing an attack of cholera. Under ordinary circumstances this poison is not produced, because it is assumed that the ozone naturally existing in the atmosphere oxidizes and destroys it in the nascent state. We may have the foul effluvium which forms the vehicle, but not the choleraic miasm, the existence of which is presumed to be incompatible with the presence of a sufficiency of ozone. The choleraic poison bears, therefore, to animal effluvia the same relation which the vapour of prussic acid bears to that of the essential oil of almonds. The vapour of the oil may conceal that of the acid, and we may remove the poison by chemical agency without necessarily destroying the vehicle.

This chemical hypothesis of the origin of cholera assumes that the choleraic poison woul always exist among and around us as a constituent of the air we breathe, but for the decomposing agency of ozone, which is thus supposed to be an atmospheric antidote provided according to natural laws. When in normal proportion it either acts on animal effluvia by forming other and innocent compounds, and thus preventing the production of the cholera-poison, or it oxidizes and destroys this poison as rapidly as it is formed. The deficiency of ozone is really, therefore, on this view the cause of cholera, just as its excess in the atmosphere, has been assumed to be the cause of influenza.

This hypothesis would account for the local origin of cholera by the assumed local deficiency of ozone; yet why this principle should thus become progressively and successively deficient in the vast tracts of country extending from Central Asia to the shores of the Atlantic, it leaves wholly unexplained. Any hypothesis which professes to account for the production of cholera should also account for its progress: and we do not think that this view of the action of ozone can afford any explanation of the very uncertain and irregular manner in which cities, towns, and districts, have been visited by this malignant disease. Ozone is a product of chemical action as well as of electrical agency; and Mr. Hunt ascribes the escape of Birmingham from the ravages of cholera to the metallic manufacture around it: Manchester, Merthyr Tydvil, and Glasgow, have not escaped, and yet there is as much chemical agency at work in these localities as in Birmingham.

Among the questions which are open to discussion before this hypothesis can be admitted, are these:—Is it clearly proved that the electrical intensity of the atmosphere has been really deficient during the prevalence of cholera? We know of no satisfactory observations, on this point in England; and the only respectable continental authority who has supported this view is M. Quételet, of Brussels, who states that he found it last January to be one-half below its ordinary intensity. Has not this diminution existed in former years without the production of cholera? It may be, after all, that the diminution, if it exist, is a mere coincidence, and the proof of the contrary rests with those who work the facts into a theory. Admitting the diminution of electricity, has this been universal? Has it been noted by a Faraday, or any good authority, to keep pace *pari passu* with the diffusion of cholera in this metropolis? Is it proved that ozone has been really deficient? The ordinary method of detecting it, by exposing to the atmosphere iodide of potassium and starch, is not, in our view, satisfactory, * and there is no process by which the proportion can be accurately ascertained. Yet to say that it is deficient, and that such and such results follow, implies that we can determine the normal atmospheric standard, and accurately compare the quantity contained in the atmosphere of a cholera year with that existing in the atmosphere of a year in which cholera was unknown. Besides, as chemical agency is one great source of its production, and this is constantly in operation in this great metropolis, it may happen that the deficiency of ozone from a diminution of electricity (admitting this to be proved) is made up by its greater production from chemical sources. This sort of compensation assuredly exists with respect to oxygen; and it is not yet proved that ozone, if it be a normal constituent of air, is subject to any changes which are not fully compensated by other conditions. For these reasons the ozone hypothesis, although highly ingenious, leaves the origin of cholera still a mystery.—*London Medical Gazette.*

Discovery of a Tribe of Men with Tails.—M. Du Couret has recently communicated to the Academy of Sciences, an account of the existence of a race of men in Central Africa, called the *Ghilanes*, who possess the appendage of a tail, which, according to him, is about four inches in length (one decimetre). He gives the following description of his examination of one of these tailed specimens of the human race:—"The Emir sent for one of his slaves, named Bellal, who was about thirty years of age, who possessed this tail, and who belonged to the race. He spoke Arabic perfectly, and was very intelligent. I examined him and was perfectly convinced. He informed me that his country was beyond Sennaar, and he estimated the number of his race at about thirty or forty thousand. He described them as idolaters and cannibals." M. Du Couret presented a drawing of this slave

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* Nitric acid or chlorine in the atmosphere would produce the same effect.

to the Academy. He concludes his narrative by stating that it would not be difficult to procure some individuals of this race of men, by application to the slave merchants who explore the countries on the borders of the Red Sea.

Mr. Du Couret does not state whether the females of the race are also provided with tails. His suggestion of procuring a specimen is worthy of the notice of some enterprising exhibitor connected with the Egyptian Hall.—*London Medical Gazette.*

[After all, then, it appears that Lord Monboddo was right, and that our caudal appendages must have become obliterated by constantly sitting on them! It follows that there is a closer propinquity between the man and the monkey, than many now-a-days would like to confess.—Ed. *B. A. J.*

Marrying a Cousin.—(Extracted from a Manuscript Work by Enos Stevens, Examining Agent for the Massachusetts Commissioners for the Prevention and Restoration from Idiocy.) When a remarkably healthy couple of married cousins raise children, their children are usually all very healthy. But it very rarely occurs that two such persons are found in the same kindred, who mutually choose to marry each other, and who habitually manifest all their mental and physical powers in the normal proportion. On the contrary, among those who have some weak and some strong mental and physical powers, those of the same kindred would be most likely to have the same peculiarities both by inheritance and by analogous manners and habits of living. If the children of such a couple of cousins inherited the common weaknesses and the common superiorities of both parents, then they would be very eccentric in mind, and the gigantic strength of some of the bodily organs would soon overdo and destroy the others. That is, for example, a strong stomach and digestion might overwhelm weak lungs with arterializing too much blood, and cause one to run down with consumption, or some of the other affections of excessive nourishment. Again, violent exertions of very strong muscular powers may cause the blood to burst their blood-vessels in a delicate skin, and thus cause one either to bleed to death immediately or else throw out the most painful and loathsome humors or eruptions. But among those not related, there will probably be more difference in the peculiar abilities of the parents, which, when mutually modified in their children, will produce equanimity of mind and health of body.

In the seventeen families of married cousins, mentioned in the Massachusetts Report on Idiocy, both parents were very scrofulous, and far from the normal condition of health, and nearly all their children inherited all the common weakness of both parents in a ten-fold worse degree. Moreover, these puny and indiscreet parents grossly mismanaged all their children during their whole infancy and childhood, and especially during their own intemperance. The average number of children born in these seventeen families is five to each family. The average number of idiots in these same families is three in each family; and the other two children to each family were either stillborn, or else deformed, or always very puny and miserably sick and sore.—*Boston Medical Journal.*

Miraculous Blood spots on Human Food.—Under the influence of certain circumstances, of which it is difficult if not impossible now to form any precise idea, there has appeared upon bread and food of other kinds, spots of a vivid red color, closely resembling drops of blood. During the seige of Tyre, Alexander was alarmed by the appearance of bloody spots on the soldiers' bread. At a period nearer our own age, in 1510, similar stains were seen upon the consecrated wafers, and thirty-eight unfortunate Jews were accused of having caused, by their sorceries, this phenomenon, and suffered death by burning for their supposed sacrilege. In 1819, similar kinds of red spots appeared amongst the inhabitants of Padua and its environs. At the commencement of the month of August in that year, a farmer of Segnaro, named Pittarello, was frightened by seeing drops of blood sprinkled upon his porridge, made of the maize which grew in the neighborhood of his village. His alarm was greatly increased, when, for many days following, he saw the same red spots appear on all his food—new bread, rice, veal, fish, and boiled and roast fowls. That *curé* was appealed to, that he might exercise his sacred functions to expel the evil spirit which produced these alarming appearances; but prayers were ineffectual, and the neighbors of the unfortunate Pittarello supposed that he was under a celestial malediction. Incited by curiosity, a large number of persons went to Segnaro, and a Commission was eventually named to investigate the nature and causes of this phenomenon. M. Sette was appointed to this task. On examining under the microscope these miraculous red spots, he discovered that they were formed by myriads of small bodies, which appeared to be *microscopic fungi*, and to which he gave the name of *zaogalactina imetropha*. He succeeded in propagating these minute organic productions, and in a memoir published at Venice in 1824, he gives a detailed history of them. During the year 1848, the same phenomenon appeared at Berlin, and fixed the attention of M. Ehrenberg.—This celebrated micrographer has closely studied these red spots, and he believes them to be, not as M. Sette supposed, microscopic fungi, but animalculæ of inferior degree, a nomade to which he has given the name of *monasprodigiosa*, on account of their extreme smallness. These little beings appear as corpuscles, almost round, of one-three thousandth to one-eight thousandth of a line in length; transparent when separately examined, but in a mass of the color of blood. M. Ehrenburg calculates, that in the space of a cubic inch there are from 46,656,000,000,000 to 884,736,000,000,000 of these nomades.—*Med. News*

Boards of Health.—A pamphlet comprising the rules and orders of the Board of Health of New Orleans, together with the duties and functions of its special servants, has recently been received. The Board is like those of other cities in respect to the power of carrying into effect its own decrees, whether right or wrong. This is proper enough, if the public were always sure of having in such an authoritative, independent organization, men of sound sense, who could appreciate suggestions based on the experience and observations of medical practitioners. Unfortunately, however, some of the most wooden-headed, thick pated, unqualified persons in the whole community, whose only distinguishing trait is a mulish obstinacy and persistence in measures that could neither be sustained by reason nor sanctioned by precedence, are sometimes the master spirits and controllers in boards of health. The merchants of Boston, as well as those of other thrifty mercantile ports, have suffered outrageously through the stupidity, ignorance and mismanagement of some such official dunces. If a board of health, as ordinarily composed, would be influenced at all by the physician, who carries the mandates into execution, abuses would rarely occur. But that would be a degradation to such dignitaries; and, without reference to his views the medical officer is directed to enforce their decrees. When the cholera first appeared in Smyrna, many years since, the Boston Board of Health ordered a cargo of figs, which were in excellent condition, to be landed, in the dead of winter, at Rainsford Island. It was against the advice of the physician, who was convinced that the crew and passengers were in excellent health, and had been during the whole voyage. The owners of the vessel, and those interested in the cargo, made every kind of rational effort to prevent such an absurd procedure, but ineffectually. The Board of Health, in its awful majesty, decided that the figs should be stored in a building on the wharf, for purification! which was accordingly commenced; but when nearly all stored, the floor gave way, and a large mass of drums, in the best condition for market, rolled suddenly into the ocean. Some floated out to sea, and most of those recovered were spoiled. The owners called on the city for the value of the figs—and the price was paid, with as little said about it as possible! Thus the pockets of the citizens were made to suffer unnecessarily, through the fool-hardiness of one or two ignoramuses of the Board of Health.

We have had a long and intimate acquaintance with the entire machinery of a board of health, and it is our intention to show that such boards have been too often composed of men entirely destitute of qualifications, and who have disgraced themselves, and seriously injured individuals in their property.

Boards of health should be exclusively constituted of physicians. When the merchants of Boston unite spiritedly in taking away the power which has been so long lodged with incompetent men, and give to a board of medical practitioners discretionary authority to act according to circumstances, and their best judgment, the quarantine system of Boston will be a model institution. The pl-

tizens of New Orleans begin to appreciate this proposition, for just one half of the whole number of their sanitary board are medical gentlemen. When they finish what they have so well begun, they may expect prompt action without the despotism that too frequently characterises the acts of these miscalled boards of health. The British government is determined to reorganize, on rational principles, their boards, and the merchants will do so in Boston, New York and New Orleans, if they stand upon their rights, which may be secured without injury to the public health.—*Boston Medical and Surgical Journal.*

Deaths of Physicians by Cholera.—The fearful pestilence now raging in different parts of the country, has made sad inroads into the ranks of the medical profession of St. Louis, seventeen practitioners having fallen victims to the disease. The greatly increased amount of labor and anxiety incident to the prevalence of an epidemic disease, it would seem, must render Physicians more susceptible than others to the influence of the special cause; but, frequently, the immunity of this class furnishes occasion for common remark. We know of no especial reasons for their exemption, except, perhaps, greater prudence in matters under their control, and an absence of that apprehension which is so apt to pervade communities afflicted by a pestilence, and which is doubtless one of the most powerful of predisposing causes. In St. Louis, however, the severity of the epidemic, and the extent to which it has prevailed, must have imposed duties upon the medical profession, greatly disproportionate to ordinary powers of endurance, and it is probably to this fact that the mortality among its members is to be attributed. As regards contagion, we make no account of it in this, or any other connection, for reasons which we will not now discuss, but which, in our view, are sufficiently conclusive. Excluding all idea of communicability, the active exercise of medical practice, during the prevalence of pestilential disease, involves peculiar dangers incident to toil, anxiety, loss of sleep, and constant exposure to deleterious influences. But, notwithstanding this, how seldom do medical practitioners flee from the post of duty under such circumstances! Whatever may be the place which the medical profession holds in public estimation, there is much in the character of its worthy members to gratify an honest professional pride, and to excite a noble spirit of emulation!—*Buffalo Medical Journal.*

A Summary of Homœopathy.—"It prescribes," says Dr. Manley, "for sensations, and not for symptons, and the remedies are assorted according to the sensations which they produce; so that the *symptoms of the medicine*, and *not the symptoms of the disease*, guide the practitioners in their treatment. Of all the follies which have ever taken possession of a deluded public—not even excepting that of prescribing for patients without inquiry into the nature of their diseases—this pseudo philosophy, called homœopathy, is entitled to the palm. It sets at naught all the laws of nature; it claims that medicinal agents are remedial in an inverse proportion to the quantities exhibited—that is to say, that an ounce, a drachm, or a grain being remedial, the ten-thousandth, the millionth, the billionth, or decillionth part is much more effective; so that the premises on which the system is founded being granted, all medicine consists in negation; for the doses prescribed are infinitely less than are exhibited day by day in our food and drink for the sustenance of the human body in a state of health."—*Dr. Manley, in Amer. Journal.*

Poisonous Properties of the Tubercle of the Dahlia.—Some persons have recommended the root of the dahlia as an article of food, Monsieur Henri Dalpierre determined to try its effects upon himself. He nearly fell a victim to its temerity, and describes the poisoning as resembling that of acrid narcotics.

Phlebotomy in Ancient Times.—In the early ages some of the Abbeys had a bleeding house called *Phlebotomuria*, in which they had four general quarterly bleedings; and in the order of St. Victor, the brethren had five bleedings per annum. Half a century ago, bleeding was generally in fashion *spring* and *fall*; and surgeons were then never seen without a box of lancets and a red fillet. A fashionable phlebotomizing surgeon has been known to receive above a thousand guineas a year for this operation alone.

THE
British American Journal.

MONTREAL, OCT., 1, 1849.

THE PROGRESS OF THE CHOLERA.

This fell disease has, *pro tempore*, entirely disappeared from this city; no cases having occurred since the 19th, according to the report of the Local Board of Health; although to our knowledge a few straggling cases have occurred since. The same observations apply to Quebec, Toronto, and Kingston; and we may now fairly presume that the epidemic has ceased. We subjoin the daily reports of the Local Board for this city, to the 19th instant; and will give in our next the returns from the various Boards in the Province. As the ravages of the disease in this Province is a matter of considerable interest, not only to ourselves, but to the Profession in the United States, we would particularly request our friends, in the several places where the disease has prevailed, to obtain the required information, and communicate with us on the subject before the 20th of the present month, that the report may be prepared as general as possible in its details.

STATEMENT OF INTERMENTS WITHIN THE CITY LIMITS, FROM THE 31ST AUGUST TO THE 20TH SEPTEMBER, 1849, INCLUSIVE,—WHEN THE BOARD OF HEALTH DISCONTINUED THEIR REPORTS:—

From Noon. 1849.		To Noon. 1849.		Total deaths. Catholics.	Protestants.	Pointe St. Charles.	Total.	From Cholera Catholics.	Protestants.	Pointe St. Charles.	Total.	Total No. of Children.	Died of Cholera.
		Total	..	...	..	..	1171	..	..	..	499		
Aug	31	Sept	1	1	2	0	3	0	1	0	1	1	0
Sept	1	"	2	0	2	0	2	0	0	0	0	2	0
"	2	"	3	11	1	0	12	4	1	0	5	5	0
"	3	"	4	4	4	0	8	1	3	0	4	3	0
"	4	"	5	9	0	0	9	1	0	0	1	4	0
"	5	"	6	6	2	0	8	0	2	0	2	4	0
"	6	"	7	2	3	0	5	0	0	0	0	4	0
"	7	"	8	7	0	0	7	4	0	0	4	3	0
"	8	"	10	13	5	0	18	2	3	0	5	9	0
"	10	"	11	2	0	0	2	1	0	0	1	1	0
"	11	"	12	6	0	0	6	0	0	0	0	5	0
"	12	"	13	3	0	0	3	0	0	0	0	2	0
"	13	"	14	9	1	0	10	2	1	0	3	6	0
"	14	"	15	7	2	0	9	0	0	0	0	6	0
"	15	"	17	7	7	0	14	0	1	0	1	9	1
"	17	"	18	7	1	0	8	1	0	0	1	5	0
"	18	"	19	2	0	0	2	0	0	0	0	1	0
"	19	"	30	1	1	0	2	0	0	0	0	1	0
		Total	...	...	...	...	1999	...	...	...	527		

THE FUTURE PROSPECTS OF THE BRITISH AMERICAN JOURNAL.

In recalling attention to the letter of Dr. Badgley, published in our last number, some observations of our own are necessary. The subject being one of a rather delicate nature, we approach it with diffidence; but sensible of the rectitude of intention, which has proved our guiding star since we undertook the editorial management of the Journal, we have resolved to utter our sentiments with candor. It is foreign to our purpose to enter into all the circumstances which led to the establishment of this Journal; suffice it to say, that when it was undertaken, (without the slightest expectation of pecuniary benefit, an expectation which would have been disappointed had it been entertained,) the Profession of this Province, as a Profession, was in a chaotic condition, and had been so for years; attempts, futile ones, had been made to ameliorate it; and the unflinching advocacy of right, with the frequent and fearless exposure of wrong, succeeded in at last placing the profession of the Lower Province in that position, to which, as an intelligent body, its members were entitled. We flatter ourselves that this journal contributed at least something to this desirable end, and that our own writings, in the editorial columns, proved of some value towards the consummation. What we have succeeded in bringing about as far as the Lower Province was concerned, we have endeavored also to do as relates to the Upper Province, and although circumstances have in the meanwhile retarded the consummation there, yet we think that at no distant day, the wishes of the warmest friends of the Profession in that section will also be fully realized. So much then for the medico-political career of our journal, which has proved itself conservative as far as the Profession was concerned, and duly weighing proposed reforms, has succeeded in consecrating some to use, while it has rejected, and succeeded in the rejection of, all others which would have destroyed its influence as a body, by impairing its future professional attainments.

A word now as to its literary merit. Of this we may not speak beyond the simple narration of the fact, that it has taken a stand among the authoritative medical periodicals of the day; that its pages have been freely quoted from, and that it has received encomiums of no trifling character from contemporaries in Great Britain and on this continent, for which we return them our most sincere thanks. It flows from these remarks, that this journal is no unworthy representative of the opinions, or record of the practice, of the Canadian Medical Profession, and that while it has succeeded in making them known to one another, it has also linked them in a bond of brotherhood with the Profession of other countries and other climes.

Having stated thus much, we now submit to the Profession the following statement of the expenses of the journal, as furnished at our request by the publisher:—

The B. A. Journal, Dr.

To J. C. Becket, Publisher.

To Balance on Vol. III. of B. A. J. . .	£103	8	9
To Printing Vol. IV, ...	163	16	0
To sundries, expenses of collection, &c.	38	0	3
	£305	5	0
Cr.			
By Cash at sundry times	151	11	9
Balance due to J. C. Becket . . .	153	13	3

GENERAL BALANCE OF JOURNAL:

Dr.—Journal to Balance				£153	13	3
Cr.						
By due for Advertising, .	£ 13	1	10			
" " Subscriptions,	181	7	0			
				194	8	10
Balance due to Journal				£ 40	15	7

Among the items charged against the journal is the large sum of £43 5s. 6d., amount paid as commission for collecting the subscriptions to the journal since its establishment. Considering the low rate at which the periodical is charged, viz. $3, this expense might with great propriety have been spared, and assuredly would not have been incurred, had the subscribers duly remitted their subscriptions when due. Examining the statement just submitted, it must be confessed that the journal is by no means in a bad condition; yet we are, nevertheless, saddled with a responsibility which it is manifestly proper we should not be permitted to incur. Dr. Badgley's proposal appears to us destined to secure every purpose, provided that the profession is desirous that the *journal should continue to exist*. The plan is based upon that of the Provincial Medical and Surgical Association of England, which for the small annual subscription of one sovereign, furnishes to each of its members a copy of the *Provincial Medical and Surgical Journal*, which is its organ, and a volume of the transactions of the association whenever they are published. We hope, that after reading these observations, our sub-

scribers who are in arrears will *promptly* forward to the publisher the amounts which are respectively due. Our own labor, gratuitously rendered, should guarantee for ourselves an immunity from all responsibility of a pecuniary character.

AMERICAN GRADUATES OF TEN YEARS' STANDING.

The fifth clause of the "Act to amend the Act of Incorporation of the Profession of Lower Canada," enables American graduates, who have practised in Lower Canada for a period of not less than ten years, to apply for a license, which they may obtain without an examination. They require to afford proof of ten years such practice, to exhibit their diploma, and to produce testimonials of good moral character. This clause of the Act ceases to have force after one year from the passing of the Act. As it is a matter of considerable importance, we recommend to all, who are thus influenced by the Act, to avail themselves of its provisions, at the ensuing meeting of the Board on the 9th instant.

BOOKS, &c., RECEIVED.

Barthe and Rogers' Manual of Aurcultation.

Inaugural Address, delivered 15th May, 1848, by J. Morrin, M.D., President of the Corporation and School of Medicine, Quebec; and Vice-President of College of Physicians and Surgeons of Lower Canada.

Board of Registration and Statistics; Appendix to first Report—1849.

Braithwaite's Retrospect, January to June, 1849.

Our usual Exchanges.

TO CORRESPONDENTS.

Three letters from Dr. Marsden. Dr. M. has our thanks for his interest in the prosperity of our Journal.

The letter of Studens, animadverting upon recent appointments, is inadmissable.

MONTHLY METEOROLOGICAL REGISTER AT MONTREAL FOR AUGUST, 1849.

Date.	Thermometer.				Barometer.				Winds.			Weather.		
	7 A.M.	3 P.M.	10 P.M.	Mean.	7 A.M.	3 P.M.	10 P.M.	Mean	7 A.M.	Noon.	6 P.M.	7 A.M.	3 P.M.	10 P.M.
1,	+62	+78	+66	+70.–	29.78	29.77	29.79	29.78	W	W	W	Fair	Fair	Fair
2,	" 69	" 82	" 70	" 75.5	29.84	29.81	29.78	29.81	S W	S W	S W	Fair	Fair	Fair
3,	" 72	" 87	" 72	" 79.5	29.78	29.72	29.64	29.71	S W	S S W	S S W	Fair	Fair	Fair
4,	" 70	" 83	" 66	" 76.5	29.67	29.69	29.75	29.70	S W	W	W N W	Show's	Fair	Fair
5,	" 64	" 79	" 67	" 71.5	29.84	29.72	29.68	29.75	N	N E	N E	Fair	Fair	Fair
6,	" 73	" 81	" 72	" 77.–	29.52	29.48	29.54	29.51	S E	W by S	W by S	Rain	Rain	Cloudy
7,	" 67	" 80	" 69	" 73.5	29.59	29.63	29.69	29.64	S W	S W	S	Rain	Show's	Fair
8,	" 68	" 83	" 71	" 75.5	29.69	29.68	29.62	29 66	S	S	S	Fair	Fair	Cloudy
9,	" 69	" 81	" 71	" 75.–	29.56	29.46	29.44	29.49	S S E	S S E	S by E	Rain	Show's	Rain
10,	" 70	" 71	" 65	" 70.5	29.46	29.50	29.59	29.52	S by E	S S E	E by S	Rain	Rain	Rain
11,	" 64	" 72	" 64	" 68.–	29.67	29.73	29.78	29.73	S S E	S S E	S S E	Rain	o'erc'st	Cloudy
12,	" 66	" 76	" 67	" 71.–	29.81	29.85	29.81	29.82	S W	S W	W	Show's	Cloudy	Fair
13,	" 68	" 82	" 70	" 75.–	29.80	29.68	29.58	29.69	S W	W	W	Fair	Fair	Fair
14,	" 69	" 69	" 64	" 69.–	29.47	29.43	29 43	29.44	S W	S W	S W	Rain	Rain	Cloudy
15,	" 61	" 70	" 62	" 65.5	29.49	29.53	29.56	29.53	W by N	W by N	W by N	Fair	Fair	Fair
16,	" 64	" 79	" 70	" 71.5	29.63	29.59	29.64	29.62	W	W	W	Fair	Fair	Fair
17,	" 71	" 84	" 70	" 77.5	29.73	29.69	29.70	29.71	W	W	W	Fair	Fair	Fair
18,	" 65	" 77	" 69	" 71.–	29.71	29.68	29.72	29.70	N W	N W	N	Rain	th.&rn.	light'g
19,	" 66	" 83	" 73	" 74.5	29.77	29 73	29.70	29.73	N N E	E	E	Misty	Fair	Fair
20,	" 75	" 85	" 77	" 80.–	29.72	29.68	29.62	29.67	E	S E	S E	Fair	Fair	Cloudy
21,	" 73	" 81	" 71	" 77.–	29.63	29.59	29.63	29.62	S E	S E	S E	Rain	Fair	Rain
22,	" 70	" 82	" 67	" 76.–	29.71	29.68	29.65	29.68	S S W	W	W	Fair	Fair	Fair
23,	" 65	" 84	" 64	" 74.5	29.65	29.60	29.66	29.64	E	S E	S E	Fair	Fair	Fair
24,	" 66	" 82	" 71	" 74.–	29.73	29.71	29.74	29.73	W	N W	W N W	Fair	Fair	Fair
25,	" 64	" 86	" 75	" 75.–	29.77	29.72	29.72	29.74	W	W	W	Foggy	Fair	Fair
26,	" 73	" 90	" 73	" 81.5	29.76	29.77	29.75	29.76	S W	S S W	S	Fair	Fair	Foggy
27,	" 74	" 89	" 74	" 81.5	29.77	29.69	29.73	29.73	S	S	S	Fair	Fair	o'erc'st
28,	" 72	" 76	" 69	" 74.–	29.79	29.78	29.77	29.78	S S E	S S E	E	o'erc'st	Cloudy	o'erc'st
29,	" 70	" 75	" 68	" 72.5	29.76	29.78	29.79	29.78	E N E	E N E	E N E	th.&rn	Rain	Cloudy
30,	" 72	" 79	" 71	" 75.5	29.77	29.70	29.60	29.69	S S E	S S E	S	Rain	Cloudy	th.&rn.
31,	" 68	" 67	" 64	" 67.5	29.54	29.60	29.64	29.59	W S W	W	W	Rain	Fair	Fair

Therm. { Max. Temp., +90° on the 26th
Min. " +61° " 15th
Mean of the Month, 74.08

Barometer, { Maximum, 29.85 In. on the 12th
Minimum, 29.43 " 14th
Mean of Month, 29.676 Inches.

MONTHLY METEOROLOGICAL REGISTER AT H. M. MAGNETICAL OBSERVATORY, TORONTO, C. W.,—AUGUST, 1849.

Latitude 43°. 39′.4. *N. Longitude* 79°. 21′.5. *W. Elevation above Lake Ontario*, 108 *Feet.*—(*For the Brit. Amer. Jour. of Med. and Phys. Science.*)

Day.	Barometer at Temp. of 32°.				Temperature of the Air.				Tension of Vapour.				Humidity of the Air.				Wind.			Inches of Rain.	Weather.
	7 A.M.	3 P.M.	10 P.M.	Mean	7 A.M.	3 P.M.	10P.M.	Mean	7A M	3 P.M	10P.M	Mean	7A.M	3P.M	10P.M	Mean	7 A.M.	3 P.M.	10 P. M.		
1,	29.809	29.754	29.738	29.766	59.0°	71.1°	59.0°	61.7	.379	.419	.406	.395	.77	.57	.83	.75	Calm.	S. S. W.	Calm.	—	Mostly clear; a few detached clouds
2,	29.821	29.767	29.735	29.774	63.2	76.0	61.0	65.1	.453	.532	.475	.471	.80	.61	.90	.79	Calm.	S. S. E.	Calm.	—	Clear save a few clds & lt haze on hor; very faint auroral light 11 p m
3,	29.733	29.640	29.618	29.663	64.4	77.6	68.5	69.6	.595	.583	.481	.506	.84	.64	.71	.74	Calm.	S. S. E.	Calm.	—	Detached clouds gen; clear intervals
4,	29.693	29.682	29.701	29.691	63.6	72.2	60.4	64.7	.457	.547	.387	.464	.80	.72	.76	.77	N.	S S W	Calm.	—	Mostly clear; passing clouds; fine
5,	29.663	29.528	—	—	70.7	71.2	—	—	.567	.562	—	—	.77	.76	—	—	Calm.	E. by S.	——	—	Mostly clear; light detached clouds
6,	29.476	29.518	29.598	29.531	66.1	74.0	62.0	67.3	.533	.151	.463	.483	.85	.55	.85	.76	Calm.	N.W.by W	Calm.	0.060	Cloudy; heavy shower fr 3.40 to 4 pm
7,	29.681	29.669	29.653	29.669	61.0	72.4	59.6	63.2	.434	.490	.444	.442	.83	.63	.88	.79	Calm.	S. S. W.	Calm.	.045	Mostly clear; a few light clds; fine halo round moon at 11 pm
8,	29.650	29.498	29.383	29.496	64.2	71.6	65.2	64.8	.518	.461	.551	.480	.88	.61	.91	.81	Calm.	E.	S. E.	—	Over't; rng fr 6 pm till 1.30 am of the 9th
9,	29.199	29.144	29.241	29.201	68.0	70.6	64.8	67.7	.619	.654	.524	.599	.93	.90	.88	.91	S. S. E.	Calm.	N.W.byN.	.650	Clouded; showers during most of day
10,	29.467	29.578	29.646	29.564	59.4	61.9	61.0	60.6	.405	.415	.366	.394	.82	.76	.69	.76	N. W.	N. by W.	N. by W.	.060	Densely overcast all day
11,	29.775	29.767	29.799	29.773	56.8	70.5	57.3	60.7	.355	.316	.343	.338	.79	.44	.74	.67	N. by E.	N. N. E.	N. by W.	—	Unclouded but hazy; fine
12,	29.801	29.775	—	—	68.1	68.2	—	—	.463	.527	—	—	.69	.79	—	—	S. E. by E.	S. E.	——	—	Am unclouded; pm a few light clouds on horz; aurora from 9 to 11 pm
13,	29.713	29.584	29.525	29.600	58.8	74.3	60.2	64.9	.411	.551	.460	.491	.84	.67	.90	.82	Calm.	S. E.	Calm.	—	Light clouds generally
14,	29.469	29.439	29.551	29.488	60.4	71.8	57.4	62.8	.504	.425	.368	.428	.98	.56	.79	.78	Calm.	N. N. W.	N. W.	.510	Rain from 1.40 to 6 am; pm gen clear
15,	29.623	29.572	29.569	29.587	57.8	70.3	57.0	61.4	.384	.475	.415	.403	.82	.66	.91	.78	N.W.by N	N.W.byN.	Calm.	—	Mostly clear; a few passing clouds
16,	29.615	29.593	29.608	29.602	59.4	71.9	61.0	62.8	.392	.518	.414	.462	.79	.68	.79	.79	Calm.	S. by W.	Calm.	—	Generally overcast with light clouds
17,	29.622	29.588	29.605	29.611	64.4	73.1	61.6	65.4	.511	.649	.508	.551	.91	.82	.95	.90	Calm.	S. S. E.	Calm.	—	Gen overcast; slight spitting rain 2 pm
18,	29.646	29.641	29.644	29.644	66.6	76.0	66.0	68.9	.573	.663	.548	.589	.89	.76	.88	.85	Calm.	S. by W.	Calm.	not ap	Mostly clear; passing clouds; fine
19,	29.661	29.611	—	—	74.8	75.5	—	—	.633	.523	—	—	.76	.61	—	—	S. S. E.	S. E. by E.	——	—	Unclouded; hazy round horizon; fine
20,	29.555	29.541	29.550	29.551	71.6	70.8	63.6	68.4	.650	.686	.514	.606	.86	.95	.89	.89	S. by W.	S.W.byS.	Calm.	—	Densely o'rcast; slight rain from 10 am to 4 pm; very hazy from 6.40 to 7.30
21,	29.608	29.578	29.643	29.614	62.4	78.2	65.0	68.4	.511	.473	.522	.513	.93	.50	.87	.78	Calm.	W. by S.	Calm.	1.045	Clouded and clear alternately
22,	29.700	29.630	29.593	29.635	59.4	73.4	64.5	65.2	.416	.565	.548	.597	.83	.71	.93	.83	Calm.	Calm.	Calm.	—	Overcast; halo round sun at 1 pm; raining from 6 to 10 pm
23,	29.526	29.552	29.618	29.565	63.4	73.0	64.5	67.3	.523	.638	.474	.537	.92	.80	.80	.81	Calm.	S.W.byS.	N N W	.920	Raining from 0.30 to 3.15 am; passing clouds during the day
24,	29.728	29.710	29.706	29.719	63.4	74.0	63.3	66 5	.517	.650	.510	.553	.90	.80	.90	.87	N. N. W.	S. S. W.	Calm.	—	Light clouds dispersed; mostly clear
25,	29.745	29.691	29.691	29.717	63.9	77.5	65.2	68.1	.446	.615	.533	.533	.77	.67	.88	.80	Calm.	S. S. W.	Calm.	—	Mostly clear; a few light clouds; fine
26,	29.741	29.695	—	—	73.4	77.0	—	—	.649	.625	—	—	.81	.69	—	—	S.W. by S.	S. W.	——	—	Generally clouded
27,	29.633	29.650	29.730	29.674	70.1	68.0	60.8	67.2	.663	.536	.494	.585	.93	.80	.95	.90	S. by W.	N.	Calm.	—	O'rc't; r'ng fr 2 pm; th st'm fr 5 to 6 pm
28,	29.782	29.713	29.694	29.732	56.0	65.8	61.4	60.5	.404	.546	.509	.479	.92	.88	.96	.92	N. N. W.	Calm.	Calm.	.640	O'rc't; sh'ers oc'ly; sheet lt 9 to 11 pm
29,	29.687	29.672	29.680	29.685	62.0	74.6	64.9	67.0	.519	.667	.583	.583	.96	.81	.98	.90	N. by E.	Calm.	Calm.	.960	Th'storm; lightning & rain 0.20 to 1.20 am; day cloudy
30,	29.662	29.561	29.486	29.569	65.4	76.8	69.0	70.4	.597	.740	.637	.657	.98	.83	.92	.91	Calm.	S. by W.	W. S. W.	—	Cloudy; rain 8 pm; li'g & th 9 to 11 pm
31,	39.667	29.646	29.673	29.669	53.2	64.6	53.9	56.7	.330	.422	.279	.339	.83	.71	.68	.75	N. W.	S. S. W.	N. N. W.	.080	Light detached clouds generally
Mean	29.640	29.607	29.618	29.6219	62.4	72.3	62.1	65.08	.483	.544	.472	.496	.87	.70	.86	.82	2.6 miles.	5.8 miles.	2.0 miles.	4.970	No thunder or lightning observed till the 27th

Highest Barometer, 29.821 on 2d, at 7 a.m. } Monthly Range 0.681
Lowest do. 29.140 on 9th, at 2 p.m.
Highest Temperature observed, 79°.0 on 3d, at 2 p.m. } Monthly Range 33.3
Lowest do registered, 45°2, on 1st, at a.m.
Mean Max. Therm., 73°.85 } Mean Daily Range, 18°.15
Mean Min. do 55°.70
Extreme Daily Range, 27°.5 from pm of 27th to am of 28th
Mean Temperature, at 6 am, 59.30 } Differ., 13.55
Do do at 2 pm, 72.85

Sums of the Atmospheric Currents in miles resolved into the four Cardinal directions.

North	West	South	East
1157.7	830.4	1016.8	459.4

Mean velocity, 3.76 miles per hour.
Maximum velocity, 14.4 miles from 11 am to noon 14th
Most Windy Day, 9th.—Mean veloc per hour, 8.53 miles
Least do. 3d, " " 1.06
Most Windy Hour, 2 pm; mean veloc, 6.40 miles per hour
Least Windy Hour, 8 pm; " 1.73 " "

Year.	Temperature. Mean.	Max.	Min.	Range.	Rain. No. Days.	Inches.	Wind. Winds.	Calms	Mean force.	Snow. Days.	inch
1840, ..	65.10°	82.4°	47.7°	34.7°	12	2.905				0	—
1841, ..	64.60	84.8	45.7	39.1	9	6.170	157	155	0.19	0	—
1842, ..	65.90	81.8	43.9	37.9	6	2.500	379	269	0.30	0	—
1843, ..	66.49	83.1	41.0	39.1	4	4.850	282	366	0.12	0	—
1844, ..	61.16	86.8	43.5	43.3	17	imperf't	295	333	0.16	0	—
1845, ..	67.86	84.8	41.5	43.3	9	1.725	366	258	0.19	0	—
1846, ..	63.41	86.4	49.5	36.9	9	1.770	293	331	0.17	0	—
1847, ..	63.93	82.6	44.6	38.0	10	2.140	295	329	0.19	0	—
1848, ..	63.34	87.0	43.7	43.3	8	0.855	177	93	0.26	0	—
1849, ..	65.08	79.0	45.2	33.8	10	4.970	203	121	0.19	0	—

The means are deduced from six observations daily, viz., 6, am, and 2 and 10 pm, and 7 am, and 3 and 9 pm.
Further explanatory notes will be found at the foot of all the Registers for 1845 and 1846.
Magnetic Disturbances—none observed during the month.

COLLEGE OF PHYSICIANS AND SURGEONS OF LOWER CANADA.

THE BY-LAWS of the COLLEGE having received the sanction of the Executive, its BOOKS are NOW OPEN for the REGISTRATION of MEMBERS.

It is required of such as desire to register, that they forward to the undersigned (post-paid) their name, legibly written in full, their age, birthplace, date of Provincial License, and the College Fee, viz., Ten Dollars in current money of this city.

All such as signed the Petition to the Legislature for the Act of Incorporation, are entitled to Register forthwith, provided that at the time of their signing they were in possession of a Provincial License to practice Medicine, &c., &c.; and in virtue of the By-Law which refers to Membership, the Books of the College shall be kept open during a period of Six Months from the time of the passing of the said By-Laws, viz., the Tenth day of October, 1848, for the Registration of every Member of the Profession who desires so to do, provided such Member has been in possession of a Provincial License to practice Medicine, &c., &c., Four Years at the time of the passing of the Act of Incorporation, viz., 27th July, 1847.

FRANCIS C. T. ARNOLDI, M. D.

Registrar & Treasurer,
Coll. Ph. & Surg., L. C.

58, CRAIG STREET,
Montreal, 1st Dec., 1848.

MEDICO-CHIRURGICAL SOCIETY.

THE next Monthly Meeting of this Society will be held at the Rooms of the Mechanics' Institute, on Saturday Evening Oct. 6, at 8 o'clock P.M.

HECTOR PELTIER, M.D.,
Secretary

Montreal, Oct. 1, 1849.

COLLEGE OF PHYSICIANS AND SURGEONS OF LOWER CANADA.

THE Regular Semi-Annual Meeting of the Board of Governors of the College of Physicians and Surgeons, for the purpose of Examining Candidates for License, as well as those about to enter upon the study of Medicine, will be held at Montreal, on TUESDAY, 9th day of OCTOBER next, at 10 o'clock a.m. in the Parliament House, Hay's Buildings, Dalhousie Square.

Candidates are required to deposite their credentials with either of the Secretaries at least ten days before the meeting, and to fill up a Schedule of their education, forms for which can be obtained from the Secretaries.

Graduates of Universities in the United States who may have been practising in Lower Canada for a period of not less than ten years, can obtain a license, under certain regulations in accordance with the Act Vict. 12, chap. 52.

By order,

A. H. DAVID, M.D.,
Secretary for the District of Montreal.

Montreal, Sept. 10, 1849.

TO MEDICAL STUDENTS.

ON MONDAY 5th NOVEMBER, a series of EVENING LECTURES and EXAMINATIONS will be commenced on the different branches of Medical Science, for the instruction of Students about to present themselves before the Medical Boards of the Province.

They will be illustrated by drawings, models and preparations, together with the use of the microscope, and every facility will be afforded towards the acquisition of the requisite knowledge.

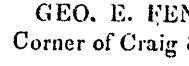
For Terms and other information apply to

G. D. GIBB M.D., L.R.C.S.I.
48 Craig Street,

Or

GEO. E. FENWICK. M.D.
Corner of Craig & Coté Streets.

October 1, 1849.



URQUHART'S

FLUID EXTRACT OF JAMAICA SARSAPARILLA

THE Subscriber begs leave to submit to the Medical Profession and to the public, his preparation of Sarsaparilla which has been extensively used in their practice, by many of the most eminent Medical Gentlemen in the City, and with the most beneficial results, as the following testimonials, with which he has been very politely favored, will satisfactorily show.

For sale only at the Medical Hall, Great St. James Street.

ALEX. URQUHART.

August 2.

THE ANATOMY, PHYSIOLOGY, AND PATHOLOGY OF THE EYE,

BY HENRY HOWARD, M. R. C. S. L.,

Surgeon to the Montreal Eye and Ear Institution.

THE SUBSCRIPTION LIST to the above work is still open; and Members of the Profession desirous of subscribing to the same, are requested to furnish their names without delay. The work will be put to press as soon as one hundred subscribers are obtained, thirty-five being now on the list, to whom the price will be $4—and to non-subscribers $5.

Montreal, September 25, 1849.

SCHOOL OF MEDICINE AND SURGERY.

THE LECTURES at the SCHOOL will commence on Monday, the 1st of November, and will be continued till the last day of April, 1850. During the Session, Lectures on the following Departments of Medical Education will be delivered, viz:—

Anatomy,	Practice of Medicine,
Chemistry,	Midwifery,
Materia Medica,	Institutes of Medicine,
Surgery,	Medical Jurisprudence.

The Lectures are given in the French Language.

Montreal, October 1, 1849.

L. BOYER, M.D.,
Secretary.

MASSACHUSETTS MEDICAL COLLEGE.

THE MEDICAL LECTURES of HARVARD UNIVERSITY will commence at the MASSACHUSETTS MEDICAL COLLEGE in BOSTON, on the first WEDNESDAY in NOVEMBER.

Obstetrics and Medical Jurisprudence by	WALTER CHANNING, M.D.
Materia Medica and Clinical Medicine by	JACOB BIGELOW, M.D.
Theory and Practice of Medicine by	JOHN WARE, M.D.
Chemistry by	JOHN W. WEBSTER, M.D.
Pathological Anatomy by	JOHN B. S. JACKSON, M.D.
Anatomy and Physiology by	OLIVER W. HOLMES, M.D.
Principles and Operations of Surgery by	HENRY J. BIGELOW, M.D.

Clinical lectures at the Hospital three times a week by the professors of Clinical Medicine and of Surgery. Surgical operations are very numerous. The safe and effectual practice of etherization is taught in this School. Practical Anatomy is amply provided for by new and liberal arrangements.

Fees for the whole Course, $80. Marticulation, $3. Dissecting Ticket, $5. Graduation, $20. Hospital and Library gratuitous.

A descriptive pamphlet may be had by application, post paid, to David Clapp, Printer, corner of Washington and Franklin streets, Boston.

July 4, 1849,

TORONTO SCHOOL OF MEDICINE.

THE next session will commence on the LAST MONDAY in OCTOBER, and terminate on the LAST MONDAY in APRIL; under the following Lectures:

On Anatomy and Physiology	Dr. ROLPH.
Midwifery and Diseases of Women and Children	Dr. WORKMAN.
Principles and Practice of Surgery	Dr. PARK.
Theory and Practice of Medicine	Dr. MORRISON.
Practical Anatomy	Dr. AIKEN.
Materia Medica and Therapeutics	Dr. LANGSTAFF.
Chemistry	Mr. HURLBURT, A.M.

This school is recognised by the Faculty of Medicine of the University of McGill College, Montreal, and qualifies for graduation, in accordance with its rules.

Toronto, July 16, 1849.