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Progress of Medical Science.

TREATMENT OF CATARRHAL JAUNDICE BY ENMATA OF COLD WATER.

We learn from a recent number of *La Presse Médicale* that Dr. Koull, of Gustrow, recommends this disease to be treated by injecting cold water into the rectum by means of an irrigator. The operation should be practiced once in the twenty-four hours. The quantity of water used should depend upon the susceptibility of the individual. The temperature of the water should commence at 12° Reaumur, to be decreased to 3°, as the bowel will not well bear the contact of the water when the temperature remains the same. Seven injections have been sufficient to effect a cure in the practice of Dr. Koull. This treatment removes the feeling of oppression at the epigastrium, the headache, anorexia, etc. In the majority of cases, after the second injection, the feces are colored with bile, and the color of the urine becomes more natural. In the opinion of the author, the cold water excites the peristaltic movement of the bowels, as well as the secretion of bile, the collection of which in the biliary passage is the chief obstacle to its free evacuation.—*Med. Press and Circular.*

ROTUNDA LYING-IN HOSPITAL.

Three Cases of Puerperal Convulsions. With Abstract of Clinical Lecture.

By LOMBE ATTEHILL, M.D.,
Master of the Hospital.

Reported by J. C. CAMERON, M.D.

CASE I.—E. J., æt. 30 years, a patient in the extern maternity department, in her first pregnancy, was suddenly seized on the 30 Nov., 1877, with convulsions; after being in labour for five hours. Assistance was immediately sent for, and Dr. Smyly, Assistant Physician to the Hospital, and Mr. Horne, Clinical Clerk, were shortly in attendance. Meanwhile she had had two more convulsions, and had become quite unconscious. On examination the os was found to be fully dilated, and the head in the second position well down, with a large caput succedaneum formed. The pupils were dilated, the teeth clenched, the respiration and pulse rapid. Chloroform was immediately administered; and without delay, Dr. Smyly applied forceps and delivered a healthy male child. The placenta was expelled in twenty-five minutes. Some post-partem hæmorrhage occurred, but was easily controlled by ergot and injections of cold water into the uterus. No convulsions occurred after delivery, and the patient awoke from the chloroform quite conscious. The urine was carefully examined; no albumen was found, but abundance of lithates, and a few small hyaline casts, evidently of very recent origin.

CASE II.—F. D., æt. 19, admitted into the lying-in ward at 2.45 p.m., on Tuesday, November 20th, 1877.

On admission she was quite unconscious, in violent clonic spasms, face flushed, pupils widely dilated, pulse 130, respiration 30, temperature 101.4°; the os was about two-thirds dilated, the head presenting in the first position and well down in the cavity.

Previous History.—She had always enjoyed excellent health; had never noticed any puffing of the face, or of the upper or lower extremities. She has been married for fifteen months, and has had one abortion at the third month. Labour commenced at about 11 p.m., on Monday the 19th; the next morning, shortly after 7 o'clock, she complained of dizziness and inability to see objects in the room, and became quite unconscious, and at 7.30 the first convulsion came on. She was seen by one of the pupils of the hospital at 10.30, and was then in her fourth convulsion, and perfectly unconscious; the os was at that time dilated to about the size of a sixpence. She now passed rapidly from one convulsion into another till she was brought to hospital.

Treatment and History.—The administration of chloroform was begun at 3 p.m., the patient being in a severe tonic spasm. After a few deep inspirations the rigidity began to relax, and in a few minutes she was completely under the influence of chloroform. Contraction of the voluntary muscles did not return as long as she remained under chloroform, but at intervals of every four or five minutes until after the extraction of the child a peculiar gasp or sneeze, or rather a succession of short sneezes occurred, due probably to spasms (?) of the diaphragm; these sneezes disappeared as soon as the child was delivered.

At 3.20 a catheter was passed, but no urine was found in the bladder. Dr. Smyly then applied the forceps, and at 3.40 delivered her of a living female child. During extraction the pulse rose to 160 and became very feeble; but immediately after the birth of the child it fell to 110 and improved in volume. A hypodermic injection of liq. ergot. mxx. was administered when the head was distending the perineum, and at 3.50 the placenta came away. Chloroform was stopped, and in ten minutes a slight convulsion occurred; chloroform was re-administered immediately, and two hypodermic injections of chloral, grs. v. each, were given at intervals of ten minutes. On admission, ol. tig. gt. i. followed by calomel grs. v. had been given, but without effect; half an hour after extraction a turpentine enema was administered, and produced a tolerably free liquid evacuation. The pupils had now become quite contracted. At 4.18 a slight convulsion came on, but it was easily controlled by chloroform. The temp. was then 102.6°, pulse 84, resp. 26; another slight convulsion at 4.26, and a more severe one at 4.45, provoked by the nurse disturbing her to ascertain whether any bleeding had taken place. At 5.15 another severe convulsion was brought on by the application of a hot tin to her feet. Slight spasms occurred at 6, 6.20, 7.10, 7.28. At 7.55 she became somewhat restless, and moaned and

tossed herself about; as she could be made to swallow, a mixture containing potas. bromid. chloral hyd. $\bar{a}\bar{a}$, grs. x. in each dose, was ordered to be given every half hour, and was continued for three hours until she had taken one drachm of each salt.

Last Spasm was at 8.30, and was very slight. After this she drank milk freely and took her medicine nicely. At 10.30 a catheter was passed and about 1 oz. of urine was drawn off; on examination this was found to contain about half its bulk of albumen, and a large number of small hyaline casts, some of them containing granular matter; the casts were from the smaller tubes entirely; neither granular nor epithelial casts nor epithelium could be found.

At 10.45, temp. 100.6, pulse 110, resp. 24; two drops of croton oil were administered in mucilage, and during the night she had several copious, thin, watery motions. A hot linseed and mustard poultice was applied to the loins and renewed at intervals.

Nov. 21st.—She slept well all night and did not awake till 6.40 a.m., when a draught of pot. bromid. chloral. hyd. $\bar{a}\bar{a}$ grs. xx. was given, and she dropped off to sleep at once. At 7.45 the temp. had fallen to 98.6, pulse 90, resp. 24. At nine the pulse rose to 132. A catheter was passed, and about a pint and a half of urine was drawn off, which upon examination was found to contain only about one-fourth its bulk of albumen and casts as before. At 10.30 she seemed for the first time to notice objects and persons, and answered correctly in monosyllables when questioned, and thenceforth her faculties seemed gradually to brighten. During the day her bowels were moved several times, but her urine required still to be drawn; her pulse varied greatly in rapidity and volume; her face kept flushing up rapidly, and then as rapidly turning pale, remaining, however, more constantly flushed than pale; her breathing at times became very laboured. During the evening the vagina was thoroughly syringed out with tepid water.

22nd.—Passed a good night; temperature 98.6, pulse 108, consciousness has quite returned. The urine drawn off in the morning was found to contain only a trace of albumen and casts as before. During the day symptoms of cystitis began to appear, and at night she was so restless that a draught of chloral hyd. grs. x., pot. bromid. grs. xv., was administered.

23rd.—She passed a good night. The urine has to be drawn about every three hours. It now contains no albumen, a very few casts, and a few pus cells.

25th.—Commenced to pass water herself; neither albumen casts nor pus cells.

On the 27th she sat up, and on the 29th left hospital.

In this case the memory was very slow to return, so that even on the eighth day after her confinement she could recollect but very few circumstances which had occurred in her own house for several days before labour began.

Child.—The child, when born, was very puny and feeble, and very great difficulty was experienced in establishing respiration. Every expedient usually resorted to was faithfully and perseveringly employed, and at the end of two hours an occasional slight gasp was the only sign of life. Artificial respiration was kept up continuously for nearly five hours before natural respiration was fairly established. The child lived for about twenty hours, and died on its way back to the hospital from the church where it had been taken to be christened.

The following table shows at a glance the variations in the temperature, pulse, and respiration throughout the case; the pulse and respirations were always taken while the patient was asleep or under chloroform, so as to avoid error as far as possible; no other observations are recorded in this table.

| DATE. | | TEMP. | PULSE. | RESP. |
|----------|--------------|--------|--------|-------|
| Nov. 20. | P.M. 3. | 101.2° | 130 | 30 |
| " | 3.30 | — | 160 | — |
| " | 3.45 | — | 110 | — |
| " | 4.18 | 102.6° | 84 | 26 |
| " | 10.45 | 100.6° | 110 | 24 |
| Nov. 21. | A.M. 2.15 | 99.4° | 120 | 22 |
| " | 7.45 | 98.6° | 90 | 24 |
| " | 12 | 99.0° | 114 | — |
| " | P.M. 3. | 99.6° | 124 | — |
| " | 5. | 99.6° | 118 | 24 |
| " | 12. | 99.8° | 122 | 22 |
| Nov. 22. | A.M. 9. | 98.6° | 108 | 20 |

Table of Convulsions.

Nov. 20, 7.30 a.m.—First epileptiform; severe.
 10.30 a.m.—Fourth; severe. Seen by a pupil of the hospital for the first time. A succession of convulsions.
 11.30 a.m.—Severe. A succession of convulsions.
 2.45 p.m.—Severe. Admitted to hospital. One convulsion passing into another until chloroform was begun at
 3 p.m.—Series of gasps under chloroform.
 4 p.m.—Slight.
 4.18 p.m.—Slight.
 4.26 p.m.—Slight.
 4.45 p.m.—More severe; provoked by nurse examining for post-partum hemorrhage.
 5.15 p.m.—Severe; provoked by applying hot tin to the feet.
 6 p.m.—Severe.
 6.20 p.m.—Very slight.
 7.10 p.m.—Very slight.
 7.28 p.m.—Very slight.
 8.30 p.m.—The last, hardly amounting to a convulsion.

CASE III.—C. McG., $\bar{a}\bar{t}$. 19, unmarried, probably a prostitute, was admitted into hospital about 11.30 a.m., on 3rd December, 1877, apparently suffering from extreme intoxication. A strong ethe-

real odour was very evident on her breath; her face was flushed and bloated, she behaved in a very violent, abusive manner, and was with the very greatest difficulty undressed and put to bed. She was partially sensible, and answered questions about herself when she pleased. Her friends having said nothing about her having had a convulsion, and the most natural conclusion being that she was drunk, she was allowed to remain quiet, and was disturbed as little as possible.

History.—She is a powerful, well-developed, stout, short-necked girl, of rather a bloated appearance. Has never borne children. Judging from her own appearance, from that of her relatives, and from the condition of the home in which she lived, she must have been addicted to the use of liquor. Her friends, when questioned afterwards, stated that labor began about 6 a.m., and that she had "a fit" at that time, and another in the cab on her way to hospital. Nothing could be elicited from them as to her general health, or as to the existence of œdema, etc., before labor began.

On examination the os was found to be the size of a shilling.

Shortly after admission, an emetic and a dose of ol. tig. had been given; both acted satisfactorily.

At 1.45 p.m. a severe convulsion came on. She passed rapidly from clonic to tonic spasms, she became perfectly livid, and the peculiar hissing respiration so characteristic in these cases was specially well marked. The administration of chloroform was at once begun; the respiration became less and less hissing, but at the same time more rapid and shallow, the lividity extended from the face to the neck, breasts, and upper extremities, the pulse became quite imperceptible, and respiration ceased suddenly, three minutes after the inhalations chloroform had commenced. Artificial respiration was immediately begun, Nélaton's method being used, and breathing was partially restored; venesection was also tried, but in spite of every effort the breathing gradually ceased, the heart became inaudible, the pupils dilated, and she was gone. As soon as Mr. Smyly and those assisting him were satisfied that life was extinct, he made an incision in the middle line, opened up the uterus, and extracted the child without delay; the placenta was attached in front. In spite of every effort to establish respiration, the child, which was a full-sized, healthy-looking male, never breathed, although after the ligature had been applied, the cord feebly pulsated for some minutes; but the impulse became gradually feebler and feebler, and finally ceased.

Shortly before death, about an ounce of urine was drawn from the bladder, and upon examination was found to contain rather more than half its bulk of albumen, a few granular casts, a large number of sanguineous casts, and hyaline casts with granular matter imbedded in them. The cast evidently came from the larger tubes, and pointed to not very recent Bright's disease.

Remarks.—These three cases are interesting as presenting three totally different phases of a terrible

disease; at the same time they possess some points of resemblance which makes their comparison a matter of considerable interest. All the patients were primiparæ; in the first two the convulsions came on during labor; in the third they appeared about the time that labor was commencing. The first case is an example of the mildest variety, the second was severe, while the third was desperate. In all, the urine gave evidence of more or less kidney trouble. In the first case there was no albumen, but the presence of a few small hyaline casts proved the existence of recent congestion; in the second there was a large amount of albumen at first, which decreased with amazing rapidity after delivery and after the secretions had been thoroughly re-established. The casts were in this case more numerous, but were still hyaline and from the smaller tubes, and persisted for some days after the albumen had disappeared; the congestion must have been more severe and must have lasted longer. In the third case there was still more albumen, the casts were more numerous, and of a more advanced type; several moderate-sized granular casts were found. The trouble in the kidneys must in this case have been of somewhat longer standing. Was the kidney affection in these cases the cause or the effect of the eclampsia? It might have been the effect in the first and second cases, but it certainly could not have been in the third.

In his clinical lecture upon these cases, Dr. Atthill, after giving the different theories most commonly held, and commenting upon the great uncertainty in which the pathology of the disease is still involved, drew particular attention to the fact that in cases of convulsions, albuminuria is almost invariably present, and that œdema of the face and extremities is the most constant and reliable premonitory symptom. He pointed out that although theoretically it was not definitely settled whether nephritis was the cause or effect, or a mere accidental accompaniment of convulsions; yet, practically, it was fully proved that if the presence of nephritis is detected in time, a judicious course of treatment is almost certain to ward off the attack, or, at least, moderate materially its severity.

After differentiating between an ordinary epileptic fit and a true puerperal convulsion, Dr. Atthill showed that chloroform owes its great value in these cases to its power in relaxing arterial tension, which is so greatly increased in convulsions.

To ward off an attack, the treatment is two-fold: 1. To remove or improve the nephritis by *purgation* and *counter-irritation*. No purgative is better than pulv. jalap. Co. Counter-irritation should be applied over the kidneys by cupping, or the application of hot linseed meal and mustard poultices over the loins, and diaphoresis encouraged. A Turkish bath might in some cases be of great value. 2. The diet should be absolutely unstimulating. Animal food should be withdrawn; milk and farinaceous foods are the most suitable. Outdoor exercise should be taken freely.

When convulsions have begun, the treatment con-

sists in: 1. Protecting the patient from injuring herself, by placing something between her teeth. 2. Trying to avert or modify the convulsions. The remedies most efficient for this purpose are:—

Chloroform, which is equally safe and efficacious. In one case Dr. Atthill kept a patient under chloroform for eight hours without a convulsion occurring; but as soon as chloroform was withdrawn, the convulsions returned in a modified form. By this means you are often enabled to tide the patient over until delivery has been effected, and the cause of irritation removed from the uterus.

Chloral is now largely used. To be effectual it must be given in large doses of grs. xxx or grs. xl. If the patient cannot swallow, it does very well administered *per rectum*: or it may be given hypodermically; but is very irritating, and is apt to set up cellulitis at the point where it is injected.

Counter-irritation over the loins is invaluable. *Purging* must be resorted to in order to relieve as far as possible the renal congestion. One or two doses of croton oil, which can in general be got down without much difficulty, answers best in such cases.

As the fœtus is the great cause of irritation, delivery must be effected as soon as possible, either by *forceps*, if the os be well dilated, and the head below the brim; or by *turning*, if the head be above the brim, and the os not well dilated.

That operation should be selected which, under the circumstances, will require the least handling, and will cause the least degree of irritation to the irritable uterus.—*Dublin Med. Press and Circular*.

THE VOMITING OF PREGNANCY AND ITS TREATMENT.

By M. O. JONES, M.D., of Chicago. With notes of a case by J. MARION SIMS, M.D.

Although a secondary or reflex manifestation, the vomiting of pregnancy is of such frequent occurrence, and often obstinate persistence, as to have acquired a name and a place in medical literature.

We know that pregnancy, in perhaps a large majority of cases, if, indeed, there is an exception, gives rise to morbid conditions of some organ or organs, continuing during a part, and sometimes the whole term, of gestation. There is a susceptibility of the system to excitement during pregnancy that does not exist at other periods, owing, no doubt, to the intimate connection of the organs of generation with the cerebro-spinal and the ganglionic systems of nerves. The functions of the brain, those of respiration, circulation, secretion, digestion and nutrition, may one or all be disturbed by conception and the development of a new life within the old.

The stomach is usually the first organ to sympathize, and it is generally independent of any noticeable change of temperature or disturbance of circulation. This sympathy of the stomach is of various degrees of intensity, from a fasti-

dious taste and appetite to nausea and vomiting. The period after conception at which this disturbance commences, and the length of time it continues, vary in different individuals as well as in the same subject in succeeding pregnancies. While in some persons the nausea, or morning sickness, as it is sometimes called, commences almost immediately after conception, with the majority it does not begin until from the third to the fourth or sixth week of gestation, and usually terminates at about the fourth month. It sometimes continues more or less severe until the termination of gestation. There are others in whom this reflex disturbance is not severe: the fifth, sixth, or seventh month of utero-gestation, and yet others who are free from this sickness throughout the whole period of pregnancy.

The violence and frequency of the vomiting are sometimes so intense and persistent as to destroy the life of the patient. Cases have been reported where, from the inability of the stomach to retain the least particle of nourishment, death has resulted from starvation. Dr. Marshall Hall speaks of a case which occurred under his notice, but not in his care, in which "the vomiting continued in spite of every remedy which intelligence could suggest, and which terminated fatally at the seventh month." The reported cases are numerous where death was averted either by spontaneous or induced labor.

A case is reported in the *Lancet* for 1838, of a lady who soon after her marriage ceased to menstruate, and became affected with morning sickness, which soon became so violent that nothing could be retained by the stomach. In this case, the report says, "the disorder was strangely attributed to disease of the pylorus. The sickness and extreme emaciation were the only symptoms present; after death no morbid appearances were found in any part of the body; a fœtus about four months old was in the uterus." This patient, it would seem from the foregoing statement, was literally starved to death. Dr. Davis, in his "Obstetric Medicine," relates similar cases. Dr. Dance, of Paris, reports a case that, "during the second month after the arrest of the catamenia, was harassed with almost constant vomiting, rejecting everything she took, whether liquid or solid, rapid emaciation following. Tongue clean and moist, no febrile symptoms present, no tenderness of the epigastrium on pressure, sleep interrupted, habitual constipation, vomiting both night and day. The matter ejected was of a greenish or limpid character, and small in quantity. The patient did not think herself pregnant, and there was no enlargement of the hypogastric region. All remedial measures were used without benefit: ice internally and externally, leeches, blisters, anti-emetic draughts, opium internally and externally, and twenty other remedies, without having the slightest effect in checking the vomiting. Emaciation in this patient by the end of May had made great progress; and

now the hypogastrium began to be prominent, and pregnancy was not until then ascertained to exist, which was fully four and a half months. On the 2nd of June she died." I have quoted thus fully from this report, because it furnishes a very good type of the inveterate cases of vomiting during pregnancy. In this case the patient suffered almost from the beginning, vomiting continuing with increasing severity until death; almost five months pregnant. The report upon the post-mortem examination says: "No lesion could be detected in the stomach; except a slight reddish tint of the mucous lining, the whole intestinal tube was sound. The uterus rose a few inches above the pubes, and its parietes were preternaturally soft and flabby, but without any other appreciable change of structure. The membranes of the fœtus were transparent throughout, but between these and the uterus were false membranes forming a layer some lines in thickness, exactly resembling those found between the pleura after inflammation; the same was found between the placenta and uterus, but more of a purulent character."

Another case, reported by M. Dance, did not reveal any products of inflammation between the uterus and membranes. Was not the uterine inflammation in the first case rather in consequence of, than the cause of, the violent and protracted vomiting? Would not inflammation producing such grave symptoms end in abortion or death before the expiration of four and a half months?

Pathologists (many, at least) attribute this reflex manifestation to the distension and development of the dense uterine structure after conception.

Dr. Graily Hewitt, however, in a paper read before the London Obstetrical Society in 1872, attributes the sickness and vomiting in pregnancy, in a majority of cases, to the irritation caused by flexion of the uterus, either ante or retroflexion. Owing to the flexion the uterine fibres and nerves at that point are compressed, and this compression is increased up to a certain period by the constant increasing development of the gravid uterus; and when pregnancy advances to the fourth month or more, the flexion is more or less corrected by the natural rising of the uterus from the pelvic cavity, after which, he says, the sickness and vomiting generally subside. He believes this to be the "almost universal cause of vomiting in pregnancy." That the tissues of the uterus resist expansion is, he says, unquestionably the case, "but this is not enough, apart from the conjoined flexion of the organ, to account for more than a small number of cases. Dr. Hewitt says he has not had an opportunity of examining cases of vomiting in pregnancy after the fourth month, and is not sure how often vomiting is noticed in this degree after that period, and therefore cannot pronounce any opinion derived from actual obser-

vation as to the state of the uterus under such circumstances. He, however, admits that "there are probably a small number of cases in which the vomiting persists even after the flexion has been remedied by the gradual development of the gravid uterus." So far, he says, "as the pathology of this affection is concerned, the ordinary cases, where the vomiting is very slight, and hardly calls for medical attention, is due (in his opinion) to a temporary evanescent flexion of the uterus." M. Brian attributes the reflex irritation to anteversion or retroversion of the uterus. It is probable that these abnormal positions of the gravid uterus may aggravate the sickness which is almost a concomitant of pregnancy, but are not the causes of it. Conception, perhaps, rarely occurs without being followed sooner or later by a sympathetic manifestation of some kind in some organ; no doubt, in many persons, in so slight a degree as to escape special notice, but in a large majority sympathetic or reflex phenomena of various kinds, such as an undefinable sinking sensation about the epigastrium, a slight fullness of the head, dizziness, palpitation of the heart, oppression in breathing, loathing of food, heartburn, eructation (sometimes acid, sometimes not), nausea, vomiting, constipation, diuresis, headache, etc., etc. And there are some women who know to a surety, by being troubled with some one or more of these manifestations, that they are pregnant. Disturbance of the stomach is, however, the most frequent reflex affliction of pregnancy. Several members of the London Obstetrical Society took exception to Dr. Hewitt's paper as to the cause of vomiting stated therein, saying they had known flexion and pregnancy co-existing without sickness, and, on the other hand, had frequently met with nausea and vomiting without flexion.

As to the treatment, we know how unsatisfactory have been our efforts to relieve this affection by the exhibition of drugs. I do not allude to the mild cases which require but little or no attention, but the excessive and persistent cases of vomiting, where the patient, in spite of all remedies, continues to grow day by day more feeble and emaciated. It is wonderful the number of remedies which have been suggested by different authors and contributors. Purgatives, emetics, anti-emetics, vegetables and mineral acids, alkalies and ant-acids of various kinds, anti-spasmodics, narcotics of every variety, internally, externally, and hypodermically administered; tincture of iodine in minute doses, oxalate of cerium, effervescent nitrate of cerium, aconite, various effervescent draughts, bismuth, strychnia, etc., etc., to the end, with varying success, sometimes with no success at all. Believing that the vomiting of pregnancy is a reflex phenomenon, is it not strange that nearly all our efforts to relieve it have been mainly directed to the stomach, the helpless sufferer from

the fault of another organ? Why not direct our curative or corrective measures directly to the source of mischief? Impressed with the correctness of this idea, I decided to put it in practice in the first case that might come under my care.

It has been now six years since my first opportunity of testing this idea, and within that time I have treated five cases, and in each case a very gratifying result ensued. I thought by exciting an irritation or superficial inflammation of the os and cervix uteri, the reflex nervous phenomena would be concentrated at the point of irritation, and thereby relieve the stomach.

To the first patient I applied the solid nitrate of silver to the os uteri only. The benefit was very noticeable within twenty-four hours. Being somewhat apprehensive, I applied the caustic rather sparingly, and in a few days applied it again, obtaining still greater relief. I used it a third time, but suspected the third application was really unnecessary. The patient remained free from sickness or vomiting to the end of gestation. To the second case the caustic was applied twice only. Improvement followed the first, and complete relief the second application. The third patient required but one application; it was used more freely than the preceding cases, and applied to the os and a portion of the cervix uteri. The fourth patient needed but one application, and this was one of the most harassing and persistent cases of vomiting that ever came under my care. The stomach rejected everything taken into it, and the patient grew feeble and became so emaciated that she was scarcely able to leave her bed. The caustic in this case was very freely applied to the os and vaginal cervix. The relief obtained was beyond my expectation, for it was almost immediate. She vomited only twice or thrice in the thirty-six hours following, and no more after that time. She was able to retain food; assimilation was good, and she gained rapidly in health, strength, and flesh. The fifth case was one in which the vomiting was not so frequent, but quite as persistent. In this case, in addition to the vomiting, the abdomen was quite tender—as I supposed, from the violent retching. The caustic in this case was applied twice before entire relief was obtained.

In all of these cases, before resorting to the caustic, I had faithfully tried, and for some time, remedies which are usually resorted to in such cases, without any benefit whatever in the fourth and fifth cases, and only temporary improvement in the others. These were all cases of first pregnancy, except the second one. In the first and second there was slight erosion of the mucous lining around the os; in the others none whatever, all three being perfectly healthy in appearance.

NOTES OF A CASE, BY DR. MARION SIMS.

I had the good fortune to meet Dr. Jones, of Chicago, last June, when he incidentally related to me his experience in the treatment of the vomiting of pregnancy. I thought the matter of so much importance that I begged him to write it out for publication. Accordingly he sent me the foregoing paper, which I received just as I was leaving home, and not having time to arrange for its publication there, I now send it to the *Lancet*. I am not in the way of seeing much of this affection, but a case came under my observation a few days ago so strongly confirmatory of Dr. Jones's views that I take the liberty of appending it to his paper.

Madame de C —, aged twenty-two, married, at sixteen, was a very delicate child, but is now a tall, handsome woman, weighing 175 lbs. She has one child four years and a half old. During her pregnancy she suffered from nausea for two months or more, but not enough to cause anxiety about herself, and she was safely delivered at the full term. She did not nurse the child, and conception occurred again a year after its birth. Nausea began with conception, and continued unabated for two months, when she miscarried. This was at Arcachon, in 1874. In 1875 she conceived again. Conception was immediately followed by nausea, which persisted in spite of the usual remedies, and she miscarried again at the end of the second month. This was at Havre. In 1876 she miscarried a third time in New York, at the end of two months from the prostration of nausea, which began, as before, at the time of conception. She had the ablest counsel in New York—namely, Dr. Wm. Jones, Dr. Thos. F. Cock, and Professor Barker. Her life was in great danger with each of these miscarriages; and the distinguished accoucheur, Professor Fordice Barker, told her she would hardly survive another such trial as she had just passed through.

I saw Madame de C — on Oct. 24th, 1877. She gave me the history of her miscarriages, and said she feared she was pregnant again. She had just missed her period, and for the last ten days had felt such nausea and disgust for food that she was sure she was pregnant. I gave her some bismuth to take during the day and some bromide of sodium at night. She returned on the 29th, complaining more than ever of nausea, and I prescribed oxalate of cerium. Four days after this Madame de C — sent for me. She had been confined to her bed for four days, so nauseated that she could not take any nourishment whatever. She did not vomit, but she was completely prostrated by the constant nausea and starvation. She was so changed in appearance since I last saw her that I thought there must be something more the matter with her than the mere nausea of pregnancy. Was it malarial? She had just moved

into a new house. Her little boy had been complaining for several days, and her maid-servant had some malarial symptoms requiring quinine. Madame de C— had lived in malarial regions in America, and she imagined herself worse on alternate days. Thinking there might be a malarial element in her case, I ventured to give her ten grains of quinine in two doses, which unfortunately produced both vomiting and purging, and greatly augmented her prostration. She was now worse than ever. She had had no sleep for two or three nights, and was altogether in a most miserable plight. So I concluded to quiet both stomach and nervous system by bromides, and gave her 120 grains between 5 P. M. and 2 A. M. But she did not sleep, and her condition was now such as to alarm the family. They were evidently as much dissatisfied with my empirical treatment as I was myself. Beginning, at last, to look upon the case as one purely of nausea of pregnancy, I determined to try local treatment.

There was right lateral antelexion. Both lips of the os tincæ were granular, and covered with a profuse glutinous leucorrhœal secretion. It was a case in which Dr. Graily Hewitt's pessary treatment might have been tried, or Dr. Copeman's plan of forcible dilatation of the os and cervix. The os had been considerably lacerated bilaterally during her labor. The anterior lip was everted as well as eroded, and the finger could easily have been carried into the canal. But having previously made up my mind to try Dr. Jones's method, I cleared away the leucorrhœal discharge, and applied a solution of the nitrate of silver (two drachms to one ounce) freely over the whole surface of the cervix till it was well whitened, and I stopped all other medication. On the next day I found Madame de C— sitting up in bed, and as bright and cheerful as possible. The change in her voice and general appearance was marvelous. She had had a good night's sleep, the first for a week. She had taken a liberal breakfast, the first good meal for a fortnight, and altogether she felt herself a new being, compared with what she was the day before. A show of blood followed the application of the nitrate of silver, and she began to hope that it was a real menstruation. At the end of five or six days there was some nausea, but not at all distressing, and I penciled the neck of the womb with pure carbolic acid till it was completely enveloped in a whitish film. On the next day she said she was perfectly well. On November 19th she came to see me, saying that family affairs called her to New York, and she wished to have the carbolic acid applied again as a precautionary measure. She had occasionally nausea, but it amounted to nothing. It did not prevent her from sleeping and did not prevent her from eating. She had never felt so well before during the first two months of any of her pregnancies.

If Dr. Jones's treatment acts as promptly in all other cases as it did in mine, the profession will certainly feel grateful to him for it.—*London Lancet*.

EUCALYPTUS IN MEMBRANOUS CROUP.

Dr. Walcher claims to have had great success in the treatment of membranous croup, both in its primary form and in the form which he regards as secondary to diphtheria of the pharynx. He employs the alcoholic tincture of eucalyptus globulus. Prof. Gulber and Dr. Gimbert of Cannes have shown that eucalyptol, the active principle of the eucalyptus, has a special action on chronic catarrh with muco-purulent secretion, especially when located in the lungs, and that the resinous principle is chiefly eliminated through these organs. Dr. Walcher employed it with benefit in doses of from 2½ to 5 drachms per diem in cases of chronic bronchitis in old people and in a case of pulmonary gangrene that recovered. He then tried it in several cases of croup, and it succeeded beyond his expectations; in one case the cast of the entire trachea and of the first and second bronchial bifurcation was coughed up, and the patient, a child five years of age, recovered. He has now discarded local applications, and orders an ounce of the tincture of eucalyptus with three ounces of syrup, a teaspoonful of the mixture being given every hour. The children take it readily, and, if given slowly, any diseased part in the pharynx will be sufficiently impregnated with the medication. A mild emetic of ipecac is given occasionally, if the patient be strong enough to bear it. Cold drinks are given to relieve thirst; and cold applications are made to the head if there is much congestion. The child's strength is to be kept up by proper nourishment; the alcohol contained in this mixture is serviceable in this connection. Dr. Walcher has given five drachms and more of the tincture of eucalyptus per diem to a child five years of age, and has never known any bad symptom to be produced by it. Dr. Siegen thinks that it is indicated in all febrile affections of the respiratory organs and especially in whooping-cough.—*Gazette Medicale de Strasbourg*.—*New Preparations*.

SCARLET FEVER.

Prof. Hensch bases a communication respecting scarlet fever upon 125 cases which have in any way departed from the normal course of the disease.

Anomalies of the fever: In the ordinary cases free from important complications, the temperature rapidly rises to 40° C. (104° F.) and over, continues high during the existence of the exanthem with slight remissions in the morning (at most 1.8° F.), then it gradually

declines, becoming remittant until the complete disappearance of the eruption, when it sinks to normal. But not rarely is met with—after complete fading of the exanthem, and without existing complications—an intermittant fever with normal morning and exalted evening temperature, continuing for several days.

Among the departures from this course he makes prominent the following: 1. Slow accession of the initial fever. 2. Non-febrile course of the disease after an active initial fever. 3. Fever of an inverse type. 4. Fever with uncommonly insignificant temperature elevation. 5. Abnormally long continuance of the fever, occasioned mostly by complications or sequelæ, as otitis media or externa, diphtheria, pharyngitis, glandular and phlegmonous inflammations beneath the jaw.

Concerning the malignity of the affection, Hensch gives a case evidently malignant in which the patient was in a somnolent or delirious condition from the commencement. These sensorial disturbances are entirely dependant upon the height of the fever and they disappear with its subsidence. The cooling method, as also quinia and salicylate of soda, have been exhibited with success, while the antipyretic agents are always useless if the high fever is the expression of true malignancy, which depends on the virulence of the infection. The latter exercises its influence preferably upon the heart and announces itself particularly in increasing feebleness, irregularity and frequency of the pulse with which there is included coolness of the extremities, deadening of the sensorium, cyanotic coloring of the exanthem and albumen in the urine. These appearances mostly occur during the first days of the disease and the case is almost certainly fatal in which the pulse is enormously quick, 170 per minute and upwards, while at the same time the above mentioned symptoms of collapse continue. A likewise unfavorable prognosis must be given when these symptoms supervene after complete development of the exanthem. From the third to the fifth day of the disease there is a tendency to sclerotic (diphtheritic) inflammation; here also the character of the pulse has prognostic significance. An early occurring diarrhœa which stops of itself is also to be viewed as an unfavorable symptom, which often precedes the manifestation of worse appearances. The angina appears during the first days as a simple follicular inflammation and after the third or fourth day takes on the diphtheritic character. Of very serious import is coryza with an offensive serous secretion. Hoarseness occurring, which often excites great alarm, depends upon the catarrh extending to the vocal cords. Sometimes the diphtheritic process everywhere invades the air passages, although the scarlatinal diphtheria, unlike the true diphtheria, in general only has little tendency to descend from the pharynx to the larynx. Peculiar croupal symp-

toms are almost entirely wanting in scarlatina. The paralyzes characteristic of diphtheria are very rarely seen after scarlet fever. Intense dyspnoea only occurs from enormous swelling of the tonsils or other throat glands, occasioned by coryza. The solid infiltration of the fibrous tissues of the throat known as Angina Ludovici is very doubtful.

During normal scarlatina there is only little inclination to complication from diseases of the respiratory organs, but of the fatal cases in the post-mortem there was commonly found inflammatory affections of the respiratory organs which during life had been obscured by other malignant symptoms. Epistaxis often was observed in the first days of the disease. Bronchial catarrh which occurred in the eruptive stage of the fever, as also broncho and pleuro-pneumonia whilst not favorable, were yet not absolutely unfavorable symptoms. The serous membranes preferably become inflamed. Sometimes there was only pain in the joints without swelling or hindrance to movement. The latter is unfavorable. Sometimes a synovitis may become chronic. Further complications worthy of notice are inflammatory affections of the heart, and the resemblance to acute articular rheumatism is greater since also in scarlet fever chorea may occur under such circumstances. Moreover in scarlatina without participation of the synovial membranes, an endocarditis may develop. Of nervous symptoms, Hensch only exceptionally observed convulsions even in very severe cases. Twice he met with pain at the tips of the fingers mentioned by the older physicians; several times paralysis of the facial nerve, once from pressure of a swollen gland in the neighborhood of the mastoid process, otherwise caused by caries of the temporal bone; twice he saw chorea; once ataxia of the lower extremities, but he never observed paralysis.

Respecting the appearance of the external skin great variation in the exanthem was noticed. In a series of cases it was slightly developed and easily overlooked, and the physicians might be in doubt whether scarlatina existed or an ephemeral erythema, which not rarely appears in various febrile diseases of children—pneumonia, angina, etc. The so-called scarlatina variegata was a very frequent variety with which there appeared normal or only slightly reddened skin patches between very red patches. Sometimes there was a papular eruption closely resembling measles. He further noticed that scarlatina variegata was unfavorable while small blood extravasations in the skin appeared without significance. As products of more severe dermatitis were miliary vesicles or large pemphigoid bullæ as well as the sometimes observed true urticaria weals (quaddeln). The upper and lower lip, the chin and the region of the nasolabial folds remained entirely free from implication. The change of the normal red color-

into a dirty livid or cyanotic color is to be viewed as an unfavorable symptom. The author only rarely saw gangrene of the skin, but on the other hand subcutaneous abscesses were proportionately frequent during convalescence. In two cases of scarlatina without exanthem no form of desquamation was noticed, but two cases of true scarlatina recidivous were met with. Desquamation of the epidermis followed these secondary attacks like the first.

In regard to treatment where stimulants were indicated, the author gave preference to wine, brandy, coffee in large doses, camphor and musk. If deglutition is impossible through enormous swelling of the fauces nutritive clysters are employed together with hypodermic injection of camphor, as oil of camphor or in the following form: Camphoræ trit., gr. ix., spirit vin. rect., aq. dist. aa gtt. iv. M. Sig: Inject a syringe full. Where an antipyretic treatment seemed advisable lukewarm baths were employed (24° C. 75° F.) since in consequence of too energetic cold bathing he feared collapse in scarlet fever. He also employed cold sponging, or hydropathic envelopment of the whole body.—*Charité-Annalen*, 3 Jahrg. 1878.—*Deutsch. Ztschr. f. Pract. Med.* No. 23, 1878.—*Allg. Med. Cent. Zeit.*, June 19, 1878.

THE TREATMENT OF DIPHThERIA.

By C. E. BILLINGTON, M.D.,

VISITING PHYSICIAN TO DEMILT DISPENSARY.

In this paper will be presented the method and the results of the treatment of diphtheria in the north district of Demilt Dispensary during the past three years, with some accompanying observations and corroborative facts. This will necessarily include a brief recapitulation of some statements that have previously been published (*Transactions of the New York Academy of Medicine for 1876*, page 286). Except in the form of brief abstracts, they have come into the hands of only a comparatively limited number of the profession. It may, perhaps, be admitted that their practical importance renders them worthy of general consideration.

In 1869 I was appointed (out-door) visiting physician to Demilt Dispensary. I had previously become, by some sad experiences, intensely interested in the problem involved in diphtheria—a problem in regard to which the confusion of the young practitioner could only be “worse confounded” by the chaos of conflicting solutions afforded by the literature of the subject. I therefore eagerly availed myself of the opportunities of studying it which occurred an increasing numbers each year in this service.

I indulge in so much of personal history to show that the beliefs and the practice with which I was prepared to encounter the great epidemic of 1875 were no recently formed conclusions—

bore no relation to any theories of others, “bacterian” or otherwise; but rested on the solid basis of induction from independent, careful, and oft-repeated clinical observations.

The most important of these beliefs was that diphtheria is, to all practical intents at least, primarily a local disease, becoming constitutional only by absorption. Some of my reasons for this belief may be found in the paper above referred to; others, in the *New York Medical Record*, March 3, 1877, page 140, and still others may at some future time be published.

This view suggested the development of an appropriate method of treatment, and was in turn corroborated by its results—as strikingly in cases of failure as in those of success.

I shall first present the method of treatment. Simple as it is, it was the result of many anxious trials of a variety of agents in various combinations through alternate success and failure for several years preceding 1875.

That I had, during this period, ample opportunities to become familiar with the diagnosis of the disease in question, will hardly be disputed.

For the rationale of the employment of these combinations I must refer the reader to my previously published paper.

FORMULÆ.

No. 1. *Iron and Glycerine Mixture.*

R. Tinct. ferri chloridi.....fl. ʒ i.— ʒ iss.
Glycerinæ,
Aquæ.....aa fl. ʒ i.

No. 2. *Chlorate of Potash Mixture.*

R. Potassæ chloratis..... ʒ ss.— ʒ i.
Glycerinæ.....fl. ʒ ss.
Aquæ calcis.....fl. ʒ iʒss.
M.

The weaker strength indicated of both mixtures is the one I generally employ.

I formerly used for a time and published as a substitute for No. 2, a combination of salicylic acid, ℥ i.; sulphite of soda, ʒ i.; glycerine, ʒ ss.; water, ʒ iʒss. As this is less pleasant than No. 2, and probably no more efficacious, I have discontinued its use.

No. 3. *Spray Mixture.*

R. Acidi carbolicum..... ℥ xv.
Aquæ calcis.....fl. ʒ vi.
M.

To be used with a small hand atomizer, which I much prefer to the steam apparatus. Codman & Shurtleff's No. 56 is the most convenient. This mixture is more pleasant and less irritating, and probably more efficacious, than the more complex and stronger ones which have lately been much used. It is of unquestionable utility in

laryngeal implication. Its pleasantness any one can test by throwing it in spray into his own mouth and throat.

RULES FOR TREATMENT.

I.—Give a teaspoonfull of No. 1 and of No. 2 alternately, every half-hour, except at night, when the patient may be allowed to sleep for an hour or two at a time.

II.—Spray the throat with No. 3 for several minutes at a time whenever the above mixtures are given—that is, every half hour. It is essential that the nurse be carefully instructed in the proper method of doing this. The mouth must be opened widely. When the child is too young to do this, the spraying must be omitted.

III.—When there is nasal implication, the nose should be thoroughly syringed out with warm or tepid salt water, once, twice, or three times a day. I have lately employed no other agent. It should be done with the patient's head inclined forward, after the method which is described in my above-mentioned paper. It is very important that the physician know how to do this well, and, generally, *do it himself*. I have always used a two-ounce hard-rubber ear-syringe. It is absolutely essential that this have a suitable nozzle, which is not always the case.

IV.—Do not (as a rule) apply any brush or swab to the throat. I sometimes throw a drachm of No. 1, with a syringe, directly against the affected surface in the throat.

V.—Do not (as a rule) give any quinine or other unpleasant medicine to children. This rule is of great practical importance.

VI.—Do not (as a rule) give alcoholic stimulants. Call this rank heresy—as the majority will! It is none the less true that your success will be greater without them. There are, of course, a few exceptions; those are the cases where a child that cannot be induced to take other nourishment will take weak milk-punch or egg-nog.

VII.—Nourish the patient with an abundance of cold milk, given frequently, to which a little limewater may often advantageously be added. This rule is of the greatest importance. Even a bad case may be regarded favorably while the patient continues to take nourishment well. When the stage of extreme exhaustion has been reached in bad cases, juice squeezed from beef-steak is a valuable addition to the bill of fare.

Simple as this method of treatment seems, its successful application in bad or protracted cases will require much skill, tact, energy, and perseverance. Let not any who may at first fail in its employment hasten to decide that the method is at fault. The efficacy of water in extinguishing fire is undisputed. There are, nevertheless, many instances of its unsuccessful application.

In my previous paper on this subject I used the following language, which some instances

that have since come to my knowledge have shown to be prophetic:

"If any shall adopt some of my methods, only to make them *part* of a treatment in which quinine, alcohol, etc., or topical brushing enter, I predict that they will be the very ones who will pronounce my system a failure."

The reviewer of a leading medical journal failed to find anything very distinctive in my method of treatment, because the drugs employed in it had previously been in general use. I specify the following as distinctive features: 1, the combinations, which are especially simple, pleasant, harmless and efficacious; 2, the convenient and unirritating methods of their application; 3, the frequency of their application. For others I refer back to rules IV, V, and VI.

The results of this method in 124 cases treated by me from the Dispensary, in 1875, were stated by me as follows:

"Of these 124 patients, 94 recovered and 30 died—24 $\frac{3}{4}$ per cent.

"That this rate of mortality is at least fifteen per cent. less than the average from genuine cases of diphtheria during that year in that district will, I think, be admitted by those best qualified to judge; though in the absence of full and accurate returns of the number of cases it would be impossible to prove it statistically. But it yet gives no idea of the actual results of my treatment, which I fortunately can show statistically and accurately.

"Of the 124 cases, 22 passed under the care of other physicians, in most instances after a single visit only, and, in some, without the medicine I prescribed having been procured, leaving 102 that continued under my treatment. Of the 102 that continued under my treatment, 88 recovered and 14 died.

"Of the 22 who passed under the treatment of others, six recovered and 16 died. The extreme badness of these latter results is partly to be accounted for by the fact that some of them were hopeless, and others severe cases, for which, on account of my unfavorable prognosis, other medical aid was called in.

"This is not, however, true of all, fully half of them having been by no means bad when I saw them. Some of them left my care through dissatisfaction at my not using topical applications. The results, in such cases, as I have since learned them, were particularly bad.

"Of the fourteen who died under my care, one was moribund when first seen, surviving only two hours; one was already a hopeless case of laryngeal croup; two others were hopeless cases from extensive membranous affection and marked indications of blood-poisoning. Deducting these, leaves ten deaths out of 98 cases in which the treatment was tested with some degree of fairness, or a little over ten per cent."

These results were obtained under all the well-known disadvantages that attend Dispensary

practice, and in a region which, as I showed statistically from the returns of the Board of Health, gave in that year a larger mortality from the disease in proportion to population than any ward in the city.

With the above I reported still better results obtained by this method of treatment in private practice, which I will not recapitulate here.

That results so favorable should excite incredulity was to be expected. One zealous dispute asserted publicly in opposition to my explicit statements and the probabilities, that my cases must have been "exceptionally mild" ones. The precise opposite was the fact. I cannot, however, deny that my cases may have been, after a few days of treatment, exceptionally mild as compared with some others.

From this *résumé* of results already published, I now proceed to those of the following year, 1876. In that year I treated from the Dispensary 37 cases, of which 29 occurred in the first four months. Then the epidemic quite suddenly abated, and only eight were seen in the remainder of the year.

Of these 37 cases, three passed, after a single visit, under other medical care—with what results I do not know; five others died, and 29 recovered.

Of the five that died, one, aged two and a half years, was moribund with laryngeal croup when first seen, dying in less than ten hours afterward. The only possible remedy, tracheotomy, was refused.

In another case which was bad, but not hopeless, when first seen, I returned on the second day to find the patient moribund. The parents, who were extraordinary specimens of perverse stupidity, acknowledged that they had not used the remedies furnished them, an old woman having told them that the spray would injure the child's eyes! I may here mention that I have in many instances, scarcely more favorable than this in respect to nursing, made up for the deficiency by very frequent visits on the part of myself or my assistants; otherwise I never could have obtained the results I have. In this instance, other engagements made this impossible.

Deducting from the five deaths these two cases in which the treatment was not employed, leaves three deaths out of 32 cases in which it was tested; or, again, a little less than ten per cent.

Among the twenty-nine cases that recovered were a full quota of severe ones, and four were among the very worst that were ever known to recover, as can be attested by competent medical witnesses. I condense a brief account of one of these from notes taken at the time:

Ann McFall, aged three years, 606 Second avenue, March 21, 1876. When first seen, great inflammation and swelling of the fauces; membrane on both tonsils and over soft palate; much enlargement of cervical glands. Extrême nasal

affection with profuse sanious muco-purulent discharge; excoriated nostrils and upper lip, and obstructed breathing. A great degree of blood-poisoning was evident from the characteristic hue and expression.

Expecting her death before the next day, treatment was nevertheless begun. The nose was thoroughly cleansed out two or three times every day by syringing with warm salt water, in which I was kindly assisted by Dr. D. C. Comstock. This proceeding was always followed by freer respiration and improved hue of complexion. The one favorable symptom was that the child could be induced to take milk quite freely.

The condition of the patient continued about the same for six days, the membrane having disappeared from the tonsils, but continuing on the faucial arch and uvula, and a large patch having formed on the tongue.

On the 27th the case was seen by Dr. W. T. White, who predicted its fatal termination. For the next five days the patient's condition continued critical, but gradually improved under the use of the same means, which were employed altogether for two weeks before the patient was considered out of danger. This case was repeatedly seen by Dr. W. E. Bullard.

Few cases, giving so much evidence of constitutional poisoning as this did, recover. It is to be noted that it was treated without stimulants or quinine.

Over-zealous advocacy may be of great injury to a good cause. I therefore say explicitly that I do not claim that such extremely bad cases as the above can, as a rule, be cured. Constitutional vigor is an important factor and sometimes of itself produces remarkable recoveries under all kinds of treatment. I do, however, believe, from not a few similar experiences, that this method, when effectively applied, gives, in all such cases, the best, and in some, the only chance of recovery.

It would be unpardonable forgetfulness should I fail to record my great obligations for most valuable assistance in the above-mentioned labors to Dr. D. C. Comstock, and to Dr. W. E. Bullard, who is now visiting physician to the south district of this Dispensary.

Aware that the endless repetition of statistics of cures resting mainly on my own unsupported assertions, could add little to the weight of the original ones, I adopted at the beginning of the past year (1877) the plan of having the cases occurring in my Dispensary service seen and the diagnosis verified by competent, disinterested, and well-known witnesses. Seventeen cases thus occurred during the year. I reserve the details of these cases and their results, with interesting and instructive facts connected with them, for publication when the number of such attested cases shall have become sufficiently large to be authoritative. I will only state at present that most of these cases have been kindly seen

either by Dr. W. T. White or Dr. Andrew H. Smith, and that the previous ratio of recoveries has been more than maintained.

I have frequently learned, with much gratification, that the method of treatment, which I have used and advocated, has proved successful in the hands of other physicians. No such instance has given me quite so much pleasure as was afforded by the receipt of the following letters from a stranger. The first one came to me in December last at the Demilt Dispensary. I transcribe it nearly in full, *verbatim et literatim*.

"FREDERICTON, NEW BRUNSWICK,
DOMINION CANADA, Dec. 5th, 1877.

"MY DEAR SIR:

"In September, 1876, when on my way to Philadelphia to the exhibition, and to again visit the city in which I graduated seventeen years ago, I called in New York on my friend and college mate, Dr. Edward Bradley. I observed on his table your pamphlet on diphtheria. I told him I must read it, having, I believed, had greater experience in that disease than any physician in our Province. I brought it with me, and strange to say, we have not had a visit of the disease in this city till this fall. The first cases did not occur in my families. They nearly all ended fatally. The first I had to treat was my only son, aged fourteen years. He took the disease on the fifth day of his having mumps. In two hours after the first symptoms the whole throat was well covered with false membrane, and he sank at once into a drowsy state, from which he could be roused only with difficulty, the false membrane spreading rapidly. He was just such a case as was occurring in the city every day, and ending fatally in about two days.

"I took your treatment and followed it to the letter. In twelve hours he was much improved; in twenty-four throat quite clear, and he seemed bright and asked for food. In forty-eight hours there was not a speck of false membrane in his throat and has not been since. This is the fifth day. He is up about his room now, and took a good dinner of beefsteak. I really feel much indebted to you, and thought I must just say so to you. I cannot but think that had it not been for my good fortune in seeing your pamphlet, to-day would have been the day I should have had to bury my son.

"I have had to treat the disease, I think oftener than any physician in this city, and am regarded by many as having better fortune than any of my brothers, but I feel that the best I have ever done is far inferior to your treatment.

"May I ask you to forward me your treatment for adults? About one-fifth of our cases are young men and women.

"I have now been put pretty busily at work

with this disease, and feel confident that all are going to do well that I can have nursed well.

"Yours, very respectfully,
T. CLOWES BROWN."

I replied that my treatment of adults differs little from that of children, consisting generally of the administration of Number 1 every hour or half-hour, with very frequent spraying. To this may be added, when indicated, the use of such gargles as a solution of mel. boracis, or of a little alum in sage tea, or the salicylic acid mixture, of which the formula is given above.

I also requested Dr. Brown to favor me with the results in his other cases, and to permit me to publish them with the interesting case of his son.

I received the following reply, dated Dec. 13th:

"Since the case of my son I have had to treat a number of cases of diphtheria, with the best possible result in every one.

"The most malignant case I have had was fortunately my next-door neighbor, a boy aged 13 years. He was ill with a cold about two days when throat symptoms showed themselves. I at once adopted your treatment—the iron and glycerine mixture, the salicylic acid and soda mixture, and spraying the throat; but in spite of the best nursing I could desire to have, and giving the case nearly hourly attention, it went from bad to worse until the fifth day; then for two days it did not seem that he could recover. He must have suffocated at different times had I not with dressing-scissors removed the partially detached portions of false membrane. At one time I took from his throat a portion of false membrane as large as your twenty-five cent piece and as thick as my little finger. This, for the time, gave great relief. The next day he must have smothered had I not removed the whole palate, which was one solid portion of false membrane as large and long as my little finger to the middle joint. The next day I had the throat clean. Since that time, once in twenty-four hours, it would re-coat itself, and the spraying would remove it—each day the coating getting thinner. He is now well, looks bright, and throat clear, but could you see it, you would not say he had elongation of the uvula!

"I have seen diphtheria in all forms, but never a worse case than this. I have seen whole families carried to the grave in one week with exactly the same type of the disease this boy had, and I believe he was saved by the iron and spraying. I just followed it up and awaited the result.

"Diphtheria has raged here this fall, nearly leaving childless some families. All plans of treatment have been tried; some relying on the sulpho-carbolate of soda, some on the strong acids, others on carbolic acid; but, to my mind,

your treatment in our present state of knowledge cannot be equalled."

I feel greatly indebted to Dr. Brown for these letters, and for his permission to make use of them, for the following reasons: First, his large experience with the disease enables him to speak with authority of cases and their types. Second, they illustrate the efficacy of this method of treatment, not merely in cases of diphtheria occurring in this city, but in a malignant epidemic in a remote region. Third, the perseverance with which Dr. Brown "just followed it up and awaited the result" in his worst case through seven discouraging days is noteworthy. It is too common to hear a physician, after treating a fatal case of diphtheria, say "everything was tried!" Fourth, the close personal attention, and the skill, dexterity, and judgment in the management of that case that are evident in the doctor's unpretentious narrative, show that my method, as carried out by him, was like good tools in the hands of a master-workman. Vacillation, lack of energy, and want of tact and skill, may easily bring discredit upon the best method of treatment in a disease of such critical emergencies as is diphtheria in its bad forms. Fifth, the types of the two cases described in these letters are worthy of consideration. Although the doctor was doubtless right in regarding the former as malignant and of rapidly fatal portent, yet the exudation was evidently comparatively superficial, as was shown by its yielding so readily to proper treatment. The disappearance of the marked constitutional symptoms with that of the exudation is also noteworthy—illustrating the dependence of the former upon the latter. In the second case the exudation was deep in the tissues as well as thick and extensive. Such cases are the most formidable of all. Rapid removal of the membrane or its complete disinfection is impossible. The greater difficulty and the occasional failures in dealing with such cases, however, simply confirm the lesson taught by the other class as to the nature and the only useful treatment of the disease. Sixth, the age of these patients was the one favorable circumstance. Had it been under three years, such intensity of disease must have been almost necessarily fatal for the following reasons: the absorbents are at that age very active; and the resistance that is offered to throat-spraying and other necessary manipulations is a formidable obstacle to treatment. The very failures of the antiseptic method, when intelligently considered, furnish strong confirmation of the great principle that demands its employment.

The few remaining copies of my pamphlet will be gladly furnished, on application, to physicians who may wish to test this method of treatment in an actual epidemic of the disease.

Those who have fairly tested it in a number of cases, or who may hereafter do so, are earnestly requested to communicate to me the results obtained.

157 LEXINGTON AVENUE, NEW YORK.

—N. Y. Medical Record.

THE DISEASES OF DENTITION AND THEIR TREATMENT.

While in general the process of dentition is to be considered a physiological one, yet it sometimes takes place with disturbances of the general condition, as well as with local irritations and abnormal processes, which must be recognized and attended. Sometimes it happens that children have teeth at birth, in which case the gums are diseased, and the teeth fragile and bad.

One must be cautious then about removing the teeth, because severe hemorrhages readily occur. The physician must likewise refuse, in spite of the wishes of the parents, to incise the gums when severe symptoms precede the cutting through of the teeth, a practice common in England, since the cicatrix formed by the incision offers greater resistance to the passage of the teeth. Only in extreme cases, when through the red and swollen gums the teeth can be seen, and the sickness is severe, should the physician conclude to incise.

In many cases dentition produces an *aphthous ulceration of the mucous membranes of the mouth*, with occasional hemorrhages beneath the membrane, then the children must undergo careful treatment with potass. chlor. as if suffering from ulcerative stomatitis, and the mouth must be frequently washed and cleansed. Since this is difficult with children, it is recommended to inject into the mouth, with an india rubber syringe, the fluid consisting of borax dissolved in glycerine and water. The incision of the gums is to be regarded with greater caution in these cases, as we do not wish to add a new wound to a previously existing one. A frequent occurrence of skin affections belongs without doubt to the symptoms accompanying dentition. Light erythematous, which are to be regarded as congestions in the skin of children, are readily removed by powdering, bran-baths, and cleanliness. It is more difficult to cure eruptions during dentition, in children who have a pre-disposition to any disease, among which eczema impetiginodes is to be numbered. The popular belief that old milk will cause such eruptions, is not well grounded; we must rather accept, that, when a change occurs in the nourishment, as when a child receives an abundant supply of milk from a better nurse, or takes a mixed food, then the eruption takes place, while, on the contrary, when a more sparing nourishment is received, the eruption already present disappears. For the most part we observe such exanthemata in lymphatic children, who drink little and irregularly. In weak children the eczema generally takes a day to form.

A rapid cure—which is exceedingly rare—is not advisable; the important thing, therefore, is to remove the annoyance. When the eruption is on the head, it is recommended to let the children wear an india rubber cap after the hair has been cut off, and to remove the crusts by means of washes. When the eruption is on the body, and when there is itching, we use mild bath, and washes with a solution of phenic acid (1 grm. to 500 of water), or a solution of sublimate, 1 part to 1,000 of water. The skin may also be powdered with the following: Hydrarg ammon-chlorid, 1; zinc. oxid., 4; glycerine starch, 30.

A still more important attendant of dentition is diarrhœa, which, however, need be stopped only when it is very severe, and has a tendency to become chronic. Five or six soft stools, when the teeth are coming through, require no treatment, and interference is only needed when there are epidemics of cholera morbus.

Although the ordinary remedies are well known, yet the following formula may be recommended: Aq. calcis, parts 30; aq. fœnic, 40; syr. catechu, 15; tinct. opii, gtt. i-ii; or, at night a powder of hydrarg. c. creta, pulv. doveri, aa, 0.01 grm; or, according to West, ext. ligui campech, 4; tinct. catechu, 8; syr. simp. 10; aq. fœnic, 30; or, bismuthi nit. 0.1, or pulv. doveri, 0.01 grm.

The statement, that the diarrhœa is to be regarded as an extension of the inflammation from the mucous membrane of the mouth to the intestinal tract, will not hold, we must rather believe that it is caused by an abnormal condition of the gastric juice, whereby the digestion is disturbed, since the children, on account of the great thirst, drink more than is good for them. In addition to the medication then, we must see that the children take the breast or bottle at considerable intervals, and in the intervals receive sugar-water only. Meanwhile, in dentition an irritation of the bronchi, of a nervous nature, occurs, which may be removed by mild means, generally by syr. ipeacac. with potas. brom., and tinct. hyoseyam. Finally, so far as the nervous symptoms of dentition are concerned, which show themselves by cramps, two kinds are to be distinguished. They are either reflex spasms, which are not dangerous, or they come from an inflammation of the meninges, and must be energetically combated. If the latter is the case, one or two leaches, according to the constitution of the children, are placed behind the ears, baths are given, and internally, potass. brom., or, as the author has frequently done, calomel with zinc. ox. is given. A few drops of chloroform are inhaled. The application of sinapisms, or other irritating substances, are used sparingly, so as not to add a new irritant to those present. In reflex spasms it is recommended to give potas. brom., and aq. valerian, and to use warm chamomile, or linden flower baths. (*Allg. med. Cent. Zeit.*, No. 39, 1878).

A.G.D.

CLIMATIC TREATMENT OF PULMONARY PHTHISIS.

BY

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I pass to the consideration of the climatic treatment of pulmonary phtthisis, a subject which at the present time is largely engaging the attention of the profession.

It is not my purpose to speak of the advantages or disadvantages of the different localities well known as homes for phtthisical invalids localities which, during the past ten years, an enormous amount of pamphlet literature has brought to the notice of the profession, as well as before the public. I shall endeavour rather to indicate some of the conditions and considerations which should influence one in coming to a decision in regard to the climate or locality best suited to each phtthisical patient who is amenable climatic treatment.

Before entering upon the discussion of the subject of climate as a therapeutical agent in the treatment of phtthisis it seems necessary to briefly consider those anatomical changes which occur in the lung tissue in the course of this disease. Formerly, every variety of phtthisis was believed to be due to a neoplasm called tubercle which was developed in lung tissue, and afterwards passed through a great variety of changes. At the present day many believe that there is nothing in these anatomical changes which cannot properly be classed under the head of inflammation. The processes of inflammation, as we now study them, are so numerous and varied that they include all the changes that are found in the lungs of those that die of any form of phtthisis. While one class of these changes may be produced by inflammatory changes in the cell elements of the lung tissue, another class may be due to an inflammation which results in the production of serum, fibrin, and pus. Necrotic and reparative inflammatory processes may give rise to another set of changes in the lung; and a tubercular inflammation may cause the development of those nodular masses, concerning which recently there has been so much discussion. While I recognize the fact that in many instances it is very difficult to draw the line of distinction between what has been called tubercle, and the changes produced by one or all of these inflammatory processes, I am inclined to the opinion that pulmonary phtthisis is no more specific in its character than is chronic intersittial nephritis, and the varying appearances presented by the lungs in those who die of pulmonary phtthisis are accounted for by the variations in the type, and in the primary seat of the inflammatory changes, combined with their different stages of evolution.

*Read before the American Medical Association, at Buffalo, June, 1878.

In one class of cases the primary changes are in the cavities of the alveola and bronchi, and are epithelial and cellular in their nature. This class I would include under the head of catarrhal phthisis.

In another class of cases the primary changes occur in the bronchial and alveolar connective tissue, and are connective tissue hyperplasias. This class I would include under the head of fibrous phthisis.

Again, in another class of cases the primary changes occur in the lymphoid elements of the lung in which hyperplasia of the lymphoid elements, associated with connective tissue hyperplasia, form little masses or nodules, which are ordinarily termed tubercle. This class I would include under the head of *Tubercular Phthisis*. These different anatomical changes in the lungs differ so widely and give rise to such varying phenomena in the course of their development that in order properly to estimate the value of remedial agents, the power of hygienic surroundings, and of climate to prevent or arrest their development, there must be a careful analysis of our cases that we may determine the variety and stage of development of each case which comes under our observation.

In tubercular phthisis I have never known climate to produce favorable results, while in the other two varieties it has shown such power in arresting and controlling the disease that I have been led to the careful study of those climatic conditions which are able to produce such results. Although we are unacquainted with any climatic conditions which render the development of phthisis a necessity or an impossibility, we do know that there are certain climatic conditions which are antagonistic to its development.

With our present knowledge of the etiology and morbid anatomy of this disease we must believe that the primary catarrhal processes, as well as the later phthisical developments, depend to a very great extent upon atmospheric influences, their mode of action as yet we do not fully understand. We cannot even satisfactorily explain "how we take cold." We can only say that among these active atmospheric influences are temperature, humidity, and some atmospheric element as yet undetermined. If one who is exposed to these influences has no phthisical tendency, either hereditary or acquired, he has simply a bronchitis or pneumonia; if, on the other hand, he has a phthisical tendency then these influences produce or lead to those changes in the lung structure which are recognized as phthisical developments. These may be of the character of catarrhal pneumonia or peri-bronchitis. Taking cold cannot be regarded as the cause, it only awakens the phthisical tendency into activity.

There can be little question but that there are certain atmospheric germs which, when drawn

into the lungs on inhalation act, in a chemico-local manner. They act not only upon the surface of the mucous membranes, but originate destructive processes in the lung parenchyma. Even when phthisical constitutional tendency does not exist in an individual, particles of dust mixed with the inhaled air taken into the lungs will excite inflammation by their continuous mechanical irritation.

This inflammation is not limited in its effects to the mucous membrane and its epithelium, but by penetrating deeper produces destruction in the lung substance, and thus excites processes which end in cicatrization and thickening, or necrosis and ulceration, and finally develop a condition of phthisis. If this occurs in perfectly healthy individuals we can readily understand how, under such influences, phthisis will more readily and certainly be developed in one with a constitutional tendency.

Dampness of the atmosphere depending on dampness of the soil is unquestionably a powerful agent in developing phthisis. If to this is added the inhalation of dust and unwholesome germs, the chances of developing phthisis must be greatly increased.

During the past few years in our country and in foreign lands, monographs have been published containing carefully prepared tables in regard to the temperature range of different health resorts, the amount of rain-fall, the degree of atmospheric pressure, the prevailing winds, the altitude, etc. Some localities are mentioned as especially desirable for phthisical invalids, on account of their equability of temperature, other places are recommended on account of their luxuriant vegetation or the peculiarity of the soil. Some are thought desirable on account of their dryness of atmosphere, others on account of the humidity of the atmosphere.

Vague and uncertain are the statements found in the literature of this subject, and widely different conclusions have been arrived at by various observers. Places which at one time were the favorite resorts of consumptives have been abandoned as unhealthful and dangerous. Directly opposite views are held in regard to the therapeutical value of the same resort. An educated physician, who was in the last stage of this disease, and who had vainly tried all climates, expressed what I mean, when he said to me: "In attempting to follow the instructions of my New York adviser, and also those of my Philadelphia medical adviser, the one recommending a cold, and the other a warm climate, I made the result a failure."

We need not be surprised at all at this if we consider what a revolution has taken place within the past ten or fifteen years in regard to the morbid anatomy and etiology of phthisis; its climatic treatment would necessarily have

correspondingly changed, if it were based exclusively on theoretical grounds.

Fifteen years ago the belief prevailed that the essential climatic element for the arrest or cure of phthisis was a warm, dry atmosphere. More recent observations and investigations have settled the fact that phthisis is not necessarily hastened in its development by a low temperature, neither is it prevented or cured by a high temperature. As yet, no one has found the ideal climate for the phthisical invalid. Again, it has been claimed that the higher the altitude the fewer were the cases of phthisis, until at a certain elevation it entirely disappeared, and that this diminution in the number of cases was due to diminished atmospheric pressure. More extended observation has demonstrated that the altitude at which this proposed immunity exists varies with the latitude, that the nearer the approach to the equator the higher must be the altitude in order to accomplish the desired result. This fact seems to prove that the development of phthisis does not depend upon atmospheric pressure, for the laws which govern atmospheric pressure are ever the same at a given altitude. Elevation was also regarded as the cause of this immunity from phthisis. This theory, however, was disproved from the fact that whenever the inhabitants of elevated regions engaged in manufacturing pursuits which confined them in unwholesome air, phthisis was very frequently developed. Nevertheless, this theory so rapidly grew in favor that a large number of phthisical patients were sent to the mountains. These more markedly improved than those who were sent to the milder regions of the southern lowlands. A new series of investigations soon established the fact that this immunity was not due to altitude but to the absence of organic matter in the air of these high elevations. It is now well established that organic substances, whether gaseous products of putrefactive processes, or microscopic germs floating in the atmosphere, when they reach the bronchial tubes in the inspired air, are capable of exciting morbid processes which lead to serious results. It has also been demonstrated that these organic substances are more numerous in the lower than in the higher strata of the atmosphere, and that they continue to diminish the higher we ascend, until a certain height is reached in mountain ascent when they entirely disappear. If irritation of the mucous membrane of the respiratory passages is the primary exciting cause, in a large proportion of the cases of phthisis, may not the purity of the air in these elevated regions be the one all-important restorative agent? When I speak of the purity of the atmosphere, I mean not only its freedom from what are ordinarily called impurities, but its freedom from atmospheric germs. Professor Tyndall has shown by actual experiment that

the air as we ascend becomes freer and freer from these atmospheric germs. His experiments with the sealed flasks were made to prove or disprove the theory of spontaneous generation, but facts are always the same. Professor Tyndall also proved by careful experiment that dust laden air is necessary in order to the production of these living organisms, that it has an effect similar to putrid liquids upon a vegetable infusion, differing only in degree, while vegetable infusions exposed for months to optically pure air remain free from infusorial life, and consequently that germs are diffused through the atmosphere, although the air in different localities may be infected in different degrees. In the presence or absence of these organic substances we have a very important element of difference between the air of the lowlands and the air of the mountains. That atmospheric germs are much more abundant in cities and large towns has also been plainly shown. Dr. Schreider in his lectures on Climatology states that ozone and rain have the power of purifying the atmosphere, that is freeing it from organic substances, that the purifying power of ozone depends upon its oxidizing power; that while oxygen requires a considerable degree of heat before it will combine with other substances, ozone will do so at an ordinary temperature. Ozone destroys the products of decomposition by chemically combining with them. The presence of ozone in the atmosphere is presumptive evidence that it contains no organic substances. The air of the ocean and high mountains is richer in ozone than that of the plains. As has been already said ozone purifies the air of a locality by destroying injurious gases, and by oxidizing decomposing organic substances. It also promotes nutrition and blood changes by supplying to the respiratory organs a most active form of oxygen. Therefore when choosing a health resort for phthisical invalids, we should give the preference to a locality in which there is constantly an excess of ozone in the atmosphere, for experience has established the fact that there the climate is especially salubrious. For some years pulmonary invalids have been recommended to take up their abode in the midst of pine forests. It has been known that they did well amid such surroundings, but "why they did well" has been an unanswered question. The more extensive and primitive the evergreen forests, the better adapted is the climate to phthisical invalids. The turpentine exhaled from these pine or hemlock forests possesses to a greater degree than any other known substance the power of converting the oxygen of the atmosphere into ozone, thus rendering the air of these pine forests very pure, and consequently antagonistic to phthisical development. Experiment has shown that the direct inhalation of ozone has little if any power pre-

venting or arresting phthisical development. We must, therefore, conclude that it is not the action of the ozone upon the respiratory surfaces that renders the climate of localities where it is found in excess especially salubrious, but that by its power of destroying noxious gases and atmospheric germs the atmosphere is rendered so pure that its action is favorable upon the respiratory surfaces of those predisposed to phthisical development.

It has been shown that showers purify the atmosphere. Rain becomes a hygienic agent as, by it, the solid particles are carried to the ground, and the atmosphere is freed from carbonic acid and ammonia. I am aware that this statement is in direct opposition to that of those who claim so much for those climatic resorts, where for weeks and months no rain falls. Doubtless long continued rains affect unfavorably a phthisical invalid, but localities where showers are not infrequent, where there is rain-fall sufficient to cleanse the atmosphere, seems best suited to phthisical invalids. Besides, observation has established the fact that whenever the atmosphere of a locality is dry, there are daily extremes of temperature. During the day, in such places, the sun's heat reaches the earth unimpeded and the maximum heat is high, while during the night the earth's heat unhindered escapes into space, and the maximum temperature is low. Hence the difference between the maximum and minimum temperature is greater where the air is driest.

Undoubtedly, a damp warm as well as a damp cold climate acts unfavorably upon phthisical invalids, but the peculiar dampness which acts most unfavorably is not usually present in those localities where there is the greatest amount of rain-fall, nor is it present because large bodies of water are in close proximity, but it mainly depends upon the nature of the soil. To avoid this dampness the soil should be porous and sandy, a loam soil of sufficient porosity to permit the rapid filtering of water from its surface, so that after a heavy rain-fall the surface will soon become dry. All clay soil drains slowly and imperfectly, and the peculiar dampness arises which acts so unfavorably on phthisical invalids.

Laennee states that the dampness arising from such a condition of soil is one of the most certain developing causes of phthisis, and he makes mention of a locality having such a soil in which the dampness was so constant and of such a character that more than two-thirds of the resident population died of phthisis. In determining the fitness of a locality as a residence for phthisical invalids, I have come to regard the external configuration and conformation of the soil as of greater importance than the amount of rainfall, or the relative moisture.

Temperature has always been regarded as of very great importance in the climatic treatment

of phthisis. For a long time a warm sedative climate was regarded as the suitable one for phthisical invalids; more recently, it has been claimed that a cold climate is the favorable one, and that phthisical mortality decreases as we go northward.

An extended clinical experience will lead one to accept both views as correct to some extent.

It is not the mean temperature of a locality which is of such importance in retarding phthisical development, but it is the absence of sudden and frequent changes. Whether a cold or warm climate is indicated in any given case, can be determined only by the experience of the individual prior to the phthisical development. Some are greatly depressed by a cold climate and exhilarated by a warm one; with others, the contrary holds true. There is no evidence that temperature has power to favor or arrest phthisical development. At the present time altitude is regarded as of great importance in the climatic treatment of phthisis. While there is no question but that usually the atmosphere 1,500 or 1,800 feet above sea level is purer, containing fewer atmospheric germs than that of the plains; it is equally true that the atmosphere of very many mountain regions is not thus pure, and does not furnish favorable results in its action upon phthisical invalids. For example, experience has shown me no place where phthisical invalids in all stages of the disease do worse than among the Catskill Mountains. Without exception, in those phthisical invalids under my observation who have resorted to this mountain range, the disease has made much more rapid progress than in any other locality. I find similar testimony given by other observers in regard to other mountain regions. We must therefore come to the conclusion that something besides altitude should be sought for in choosing a health resort for phthisical invalids. Much has still to be learned by careful observation and experiment as to the exact nature and limit of the influences which seem to act so beneficially in many mountain regions. As great restorative properties have been claimed for sea air as for mountain air. Migration to the sea shore in search of health is an ancient custom; the mountain exodus is of recent date.

Formerly it was claimed that sea and mountain air differed widely, not only in their effects, but in their composition, and that in mountain regions and by the sea are found the extremes of climate influences. Within the past ten years different analyses have been made of the air of both regions, and their similarity in composition is much greater than their difference. Mountain air differs from sea air in that it is less dense, is of lower temperature, and is less humid. It resembles sea air in containing an excess of ozone, in its freedom from organic substances and from other impurities, and in being cooler and subject to less frequent variations in tem-

perature than is the air of inland plains. For the most part the study of mountain climate has been merely a series of investigations into the physiological effects of diminished atmospheric pressure on the human organism; but these effects vary so greatly in different individuals that any attempt to determine the effect of such pressure is very unsatisfactory in its results. It has been proven by experiment that while a slight diminution in atmospheric pressure exerts no marked deleterious effect upon the human organism, a great diminution, say one-fourth of the ordinary pressure, gives rise to serious disturbances in nutrition, developing a condition which favors rather than retards phthisical development. While we find equal purity in the air of the mountains and the sea, and that the difference in atmospheric pressure has little to do in determining the beneficial or deleterious effect upon the phthisical invalids, clinical experience has demonstrated that, while one class are benefited by sea air, another class do badly at the sea, and improve in the mountains. The question naturally arises, is it possible to determine, without a trial of the region, who shall go to the sea and who shall go to the mountains?

The experiments of Prof. Beneke seem to prove that tissue changes take place more rapidly on or by the sea than in the mountains: if this is the case we may readily arrive at the following conclusions: 1st. That individuals in whom the process of tissue change do not require hastening are better in the mountains than on or by the sea. 2nd. Persons past middle life, in whom phthisis has been developed, do better in sea than in mountain air. 3rd. Phthisical invalids should not go to the mountains unless they are capable of considerable muscular activity. 4th. As a rule, phthisical individuals with an exhausted nervous system, with an overtaxed brain from excessive mental labor, or an all-absorbing occupation, yet who still retain considerable latent muscular power, will improve in the mountains, while those whom processes of tissue change require hastening or stimulating, they being in too feeble a condition to take active muscular exercise, should go to sea.

*Sea air is better suited than mountain air to those who cannot bear sudden changes of temperature; while the susceptibility to such changes is greatly lessened by mountain air.

During the past ten years my advice has been given to a large number of persons suffering from pulmonary disease. Under my direction pulmonary invalids have taken up their residence for a longer or shorter time in nearly every well-known health resort on this continent. I have sent but few phthisical invalids to other countries, for within our own boundaries may be found every diversity of climate. From these experiences, without entering into

the details of individual cases, I have reached the following conclusions:

First—That we can expect permanent improvement in cases of developed phthisis only after a prolonged residence in the locality which experience has proved to be best suited to each individual case. Permanent favorable results cannot be obtained from an annual change of climate.

Second—That cases of *tubercular* phthisis in any stage of the disease grow steadily and rapidly worse in all localities. Such cases do best in the quiet, well-ventilated apartments of their own homes, where they can be surrounded by all those influences and circumstances which tend to make a feeble invalid comfortable.

Third—That cases of *fibrous* phthisis in every stage, whether the fibrous process commenced in the pleura or in the bronchial tubes, even after retraction of the chest walls, especially in the infra-clavicular region, is well marked, and the bronchial dilatations which accompany it give the physical sign of extensive cavities, improve and often reach a condition of comparative health, when they take up their residence in regions having very high altitude, such as are found in Colorado and in the Rocky Mountain range. The benefit which asthmatic and emphysematous invalids derive in these regions is most marked. I know of no locality where these classes of pulmonary invalids make such rapid and permanent improvement. Experience has led me to be very cautious in recommending these regions of high altitude to invalids with catarrhal phthisis. In the advanced stage of this form of phthisis, I have never seen good results from a residence in such regions, and it is quite doubtful whether any one in its first stage has received benefit. It is stated by some of the advocates of the Colorado climate, that by its advanced cases of phthisis are greatly benefited, and often reach a condition of apparent recovery. In these favorable cases I would rather the exact nature of the diseased processes than the physical signs had been given, notwithstanding by some so much importance has been attached to the latter. My own experience leads me to believe that only cases of fibrous phthisis are benefited in regions of very high elevation.

Unquestionably, the majority of cases of pulmonary phthisis are of the catarrhal variety, and it is in giving advice as to the climate and locality best suited to this class that the greatest experience and judgment is to be exercised by the medical adviser. One thing seems certain that after the stage of softening and excavation is reached by this class, no climate will long delay the fatal tissue. It is during the stage of pulmonary consolidation, or during the period of enfeeblement which precedes consolidation, that we may expect permanent improvement and perhaps final recovery.

I have seen only a very limited number of

cases of catarrhal phthisis permanently improved by long sea voyages or a residence in a warm climate. A large number in the early stage of this disease, going from a northern to a southern winter are temporarily improved: after the first apparently beneficial effects are passed, the degenerative inflammatory processes go on more rapidly than before. The invalids whom I have found to be most markedly benefited by a sojourn during the winter months in a southern climate are those convalescing from some acute pulmonary affection, in whom the delayed convalescence raises the fear of possible phthisical development, and those in whom acquired or hereditary phthisical tendencies exist, yet there may be no positive physical signs of disease of the lungs. The list of such cases is a long one, and the results obtained are most satisfactory. My favorite resorts for such cases are Aiken in South Carolina, Pilatka, Enterprise and Gainsville in Florida, and Thomasville in Georgia. My best results in the stage of consolidation of the catarrhal form of phthisis have been reached in those who have made a prolonged stay (varying from one year to three years) in mountain regions with an elevation of from 1,500 to 2,000 feet. Of such regions the most positive and permanent beneficial results have been obtained in Ashville, N. C., and in the Adirondack region in this State.

I am led to believe that persons suffering from catarrhal phthisis do well at a higher elevation than 2,500 feet, and also that some regions with a much lower elevation afford all the necessary climatic conditions for this class of cases.

The mode of life which those suffering from phthisis should adopt is important. The general direction given is, "Live in the open air," but few of those who give or receive this advice appreciate its full meaning. My own personal experience, as well as my experience in regard to its effects upon others, leads me to believe that a camp life, or a tent life during the warm season, in such localities as have already been indicated, is of the greatest service in arresting and curing phthisis in those who are not enfeebled. If this kind of life is not practicable, or the invalid's condition renders it hazardous, then spending the day in the open air in pleasurable excursions should be encouraged, even in the feeble.

BURNS AND SCALDS.

The Alkaline Treatment—Its History. By GEO. F. WATERS, Discoverer of this Treatment.

Whilst reading a summary from Holmes' Manual of Surgery upon the treatment of burns and scalds, published in the Boston *Journal of Chemistry* for November, 1876, the idea occurred to me that there was something of importance known about burns and scalds, not included in

that summary, which ought to be made public. These are the facts which came to my mind: In 1837 I saw a little sister, too young to talk, scalded with a solution of bicarbonate of potassa. A half pint of the solution flowed over her neck and chest. The water had just been poured from the kettle in an active state of ebullition, and before the kettle could be set down the little girl had done the work. To tear off her clothing was but the work of a moment, and the scalded surface was then covered for a short time with a cool calico apron. In two minutes she had stopped crying, and, looking into her mother's eyes, began to laugh. My mother thought it hysterical, and expected to see her soon go into convulsions. She made all haste to dress the surface with sweet oil and laudanum, with cotton batting over all; but the surface blistered before she could finish dressing it, the vesicles being quite small and near together. The next morning all signs of a burn were gone, except little white patches of desquamation where the bullæ had been. There seemed to be no soreness, and there was no after-trouble. So far as I know, there was at this time no thought of ascribing the wonderful cure to the saleratus in the water, and yet my mother might have had such an idea. A story which she told at that time, of an old horse wounded in the side and turned out to take his chance of cure without care, would seem to imply as much. This is the story: a potash-factory was by the side of a pasture, and the horse would frequently go to the heap of leached ashes and nibble them. One of the workmen, disgusted at the sight of the gaping wound all alive with the larvæ of flies, dashed a ladle of hot lye into the wound, starting the horse and destroying the parasites; and the horse was in a few days cured of his wound and taste for leached ashes. This is really the first case of alkaline treatment—occurring as it did in my mother's girlhood—of which I have heard.

The next case which came under my notice was in 1860. My oldest daughter, then in her fourth year, was accidentally crowded against a hot stove, by which her arm was burned from wrist to elbow, the embossing of the stove burning in deeply. Soap-suds was first applied to the arm, and gave relief, and as soon as it could be prepared, the "the linimentum ex aqua calcis" was used to dress it with. The emulsion was made with olive oil. It was quite bland and soothing. (The odor is not quite so bearable as that of the carron oil, linseed oil, and lime-water.) She made no complaint, and had quite a quick recovery.

The next case was in 1865. I had opened a large three case Roberts' vulcanizer hastily, the thermometer, when I began, indicating temperature of 320° Fahr. Violent ebullition soon cooled down the water to 212° Fahr., but the upper part of the vulcanizer was very much

above that temperature. Wishing to cool down my case as soon as possible, I grasped the flange of the vulcanizer on either side with my hands—using woolen pads in so doing; but, as I started for the sink to empty out the hot water, my left hand slipped its hold and that part of the vulcanizer dropping brought my hand into the scalding steam. That the cool air might keep the steam away from it, I at once lifted the vulcanizer and at the same time tried to recover the lost hold of the left hand. I succeeded, but in doing so I got about five deciliters of water, in a violent state of ebullition, on my wrist and into my sleeve. My training in the medical laboratory had taught me to keep cool in accidents, but, though I kept my muscles under control, I could not keep my arm cool: so, whilst my assistant stood aghast, I set down the vulcanizer, took off my coat, unbuttoned my sleeve and lifted it up from the arm, which was red as a boiled lobster. Behind me, and within reach, was a case of drawers, one of which contained a good supply of bicarbonate of soda. As soon as I felt the hot water upon my arm the whole case of my sister's scald came vividly to my mind, and the thought with it that it was bicarbonate of potassa which saved her. I had no bicarbonate of potassa at hand, but I had soda bicarb., and without a second's hesitation I thrust my right hand into the cool soda, and felt a relief there; withdrawing it with a handful of soda I lightly rubbed with it the left arm and wrist wherever it burned. I then buttoned my sleeve again, although it was still wet and warm, and took up the vulcanizer and went on with my work; the whole detention was less than two minutes. When my assistant found his mouth, he said, "You'll be laid up three weeks with that." But it did not give me a moment's uneasiness thereafter.

The next case was in 1875, when I burned the inside of my left hand with a metallic die, the temperature of which was very much above boiling water. The skin was scorched and contracted. I was standing near my sink, and at once took up a cake of bichlorate of soda soap, dipped it in water, and applied it to my hand. It gave me relief in less than a minute, and the relief was permanent.

When I read the article in the *Journal of Chemistry* all of the above cases came, as I have said, to mind, and I at once thought that there must be reasons for the pain in a burn other than the proximity of the air, and that the philosophy of the cure was in some way connected with the action of the alkalies. Experiment (on my own person) showed me that of all the alkalies bicarbonate of soda was the quickest and best and lime the slowest and poorest in action, potassa being between the two. Nature places them in their appropriate places in their animal system. Thus, take a cross section of any limb, and we find the bone

(lime compound) central, surrounded by muscles (potash compounds), and the skin external, with its albumen associated with soda. During the winter of 1876 I made a study of the human saliva as found in the mouths of my patients, on the microscopic stage, with polarized light. There I found the lime compounds of a solution to first appear in a crystalline zone, followed by potash and stronger (acid) soda salts, as chloride and sulphides, etc., the bicarbonate of soda being the last to put in an appearance, and the whole mass on the slide seeming perfectly dry before a crystal of the bicarbonate of soda was seen. Thus bicarbonate of soda is shown to be in a fluid condition with a minimum amount of water, and bicarbonate and phosphate of lime to require a maximum amount. Here the microscope explains the philosophy of the position of the alkalies and alkaloids in the living body, as well as why bicarbonate of soda is the proper alkali to apply to the skin for any purpose. As we investigate we always find albumen in association with bicarbonate of soda, or soda in some form, showing them free yet constant lovers.

In the winter of 1870 the late Dr. N. C. Keepe recommended me to use for my eyes, which were suffering from overwork, the vapor of *bi-sulphid of carbon*. To apply it by means of an eye-wash bottle, holding the bottle by one hand so as to warm it, and thus to vaporize the bi-sulphide. In using it I found that as soon as the vapor began to form there was a sharp pricking sensation in the surface of the sclerotic coat exposed to its action, and that this surface soon began to show signs of inflammation, the small blood-vessels enlarging and carrying red blood. A natural desire to know the philosophy of its action led to a course of experiments, in which it was conclusively shown that the pricking was caused by the vapor entering the minute pores, arresting and severing the natural course of the flow of the contents, thus pressing upon the adjacent nerves, and continued pressure, causing continued back-action allowed the red blood disks to glide into the enlarged vessels. Applied to the skin, I found that it, and also chloroform and ether (sulph.), would produce all of the phenomena of a scald, even to vesication, if continued long enough.

Cold applied to the skin may produce the same phenomena. The volatile hydro-carbons produce their effects by pressure applied to the mouths of the pores, penetrating them and causing them to dilate and *press upon the contiguous nerves, thus producing pain*. Cold crystallizes the contents of the pores, and thus obstructing them produces its effects. Heat contracts albumen, hardens, stiffens, and thus closes the pores and produces pressure upon the nerves. The application of bicarbonate of soda gives its quick relief by dissolving or softening the albumen in or surrounding the

pores, and, allowing the restrained contents to escape, relieves the pressure. That the pain is due to pressure is shown also by the fact that position is all important in giving relief. Thus, a man came to me who had burned his hand with melted sulphur. He had scraped off the sulphur and washed with soap, and came with his hand in a wet towel, suffering intensely. By urging I got him to stand still while I placed a half dozen grains of soda bicarbonate in his open palm; a drop of water added made a stiff paste, which at once removed the pain. Holding his hand up to the light, and gazing at it with looks of astonishment, he exclaimed, "By golly, I don't see how he does that." But as he turned to leave my office, and took hold of the door-knob to open it, he suddenly turned, exclaiming "It has all come back again." I explained to him my theory of pressure, and directed him to so poise the limb as to let the blood gravitate toward the heart. He had no more pain. Many other cases have come to me of a like nature, showing the same fact, and in the last (May) number of the *Boston Journal of Chemistry* they say we have met with only one unfavorable report concerning the new remedy. Dr. R. P. Oglesby states the case of his child in *The Doctor*. It seems that the child's hand was scalded by the steam from a kettle. The hand was treated by "placing it in a solution for nearly ten minutes." Now the position of the limb in this case was such that not only could no relief come, but even the blood-vessels would be dilated so as to make a pressure that would not quickly be relieved upon the limb being properly posed; but brought to a proper position for relief by gravitation, and having the contracting power of cold applied, it would have ceased to give pain in less than ten minutes, and I do not see why ten seconds would not have sufficed. (See the *Journal*, page 130.)

I had arrived at the conclusion that pressure was the cause of the pain, about the last of January, 1877. I now began a search through medical books and among friends to see if I had been working on old ground. I could find nothing that even hinted at my conclusions. It did not occur to me to ask Dr. White, although I frequently saw him at the meetings of the Boston Society of Natural History. In April I met Dr. William F. Channing, of Providence, and gave him, quite briefly, the results of my studies on the treatment of burns and scalds. He at once said that it was all new to him, and advised me to publish or make known the results of my investigations, as they were of too much importance to be allowed to repose in the possession of one or of a dozen persons. So I resolved to publish, as soon as an opportune moment arrived, which soon came at a meeting, in Salem, of the Massachusetts Dental Society. My essay was unwritten, and was delivered in the institute

building on the 8th of June, 1877. Before eight o'clock on the morning of the 9th of June, a woman in this city read the report of the essay as printed in the *Boston Daily Advertiser*, and in half an hour had a chance to try the cure. She was taking lemon-pies from the oven, a pie slipped from her hands, she sprang to save it, hit the edge of the plate in such a way that the pie was turned over upon her hands hot from the oven, bottom up; she turned it on the table, saved her pie, then quickly washing off the sticky stuff applied the bicarbonate of soda, which, as her good fortune ruled, was at hand on the table. It gave her immediate relief. She told a friend, who came to me with the story, that she could see the fire leave. No unpleasant results followed. Many such cases are constantly coming to my knowledge. I will close with a case of scalding with soap, which occurred in Concord, Massachusetts:

Mr. Cyrus Hapgood (then twenty years old, now sixty) was at work alone in a soap factory making hard soap, using barilla with bleached-ashes lye. A sudden increase of heat caused the soap to boil over. He had on a coarse cotton shirt, open in front, with a button six or eight inches down from the neck. The top of the kettle was about breast high, and when the soap came over, a quart or more flowed into his bosom. He says the pain was awful, but he could not stop; he just leaned forward for a few moments and held his shirt off till it cooled a little, and then he went on with his work saving the soap, which was now done. At night he took off his shirt and soap and washed up; there was no soreness of the skin where the soap had been, and he suffered nothing from the soapscauld after it got cool. This was a year or so subsequent to my sister's scald. Mr. H. gave me the history of his case Sunday, May 12, 1878.

My treatment is to apply to the burned surface bicarbonate of soda in fine powder, if it is a wet surface; but if it is a dry burn, use a paste of bicarbonate of soda and water, or a strong solution of the bicarbonate of soda in water and apply to the burned surface. This relieves sunburns as well as burns from hot coals, melted sulphur, hot iron, steam, etc.

N.B.—Always dispose the burned surface so that the blood can gravitate toward the heart if possible, as otherwise a continuous pain may be felt, due to the dilation of the blood-vessels from the weight of the contained blood.

If bicarbonate of soda is not at hand, bicarbonate of potash is the next best; baborate of soda does as well, but is not often found handy. Then the emulsion of limewater with oil makes a good dressing where the skin is broken. But vaseline is preferable, as there is no odor from it, and it is quite as bland.—*Louisville Medical News*.

ON SYMPATHETIC OPHTHALMIA.

A CLINICAL LECTURE DELIVERED AT THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF THE CITY OF NEW YORK.

By D. B. ST. JOHN ROOSA, M.D.

PROFESSOR OF OPHTHALMOLOGY,

(Reported for the *Medical Record*.)

Sympathetic Ophthalmia—Atrophy of the Optic Nerve—Causes of the Atrophy—Traumatism—Tobacco and Rum—Syphilis—Exposure to Bright Light, etc., etc.—Sympathetic Inflammation of the Uveal Tract—Treatment.

GENTLEMEN,—I will to-day interrupt the regular order of study for the purpose of showing you an important case.

Last week, you will recollect, I lectured upon the methods of examining the eye. We shall now bring into requisition some of the knowledge then obtained, and endeavor to find out, if possible, from external examination, what the affection is which causes this man to be blind. The history of his case is as follows:—

He is forty-five years of age, and a farmer. When fourteen years old he was one day holding a board, through which his father was attempting to drive a nail; the nail glanced and struck him in the left eye. On account of the injury thus received he remained in the house about ten days, and during that time he was unable to see with the injured eye. It is fair to suppose that considerable inflammation occurred. At the close of the inflammatory action he had only perception of light from the injured eye, and it was limited to one part of the retina: light could be perceived only when he looked in a certain direction. Subsequently he attended school as usual, was able to read and write, etc., with the uninjured eye, without inconvenience, and since reaching manhood he has been able to see with his right eye sufficiently well to transact with ease all business incident to his occupation.

About three or four years ago he first observed that he was not able to see so well in the night as in the daytime. That fact showed that the perceptive power of the retina was blunted. The man found greater difficulty in seeing in the night, simply because there was not sufficient light. The perceptive power of the retina, or the conducting power of the optic nerve-fibres, was so lessened that they could not do their work unless they were exposed to more than the ordinary quantity of light.

Some eight or ten months ago he first began to notice that he had difficulty in seeing to read and write, and he now comes to us almost entirely blind. He can, in fact, as you see by the tests, only distinguish light from darkness. Here, then, is a healthy man, who, a certain number of years ago, received an injury of the left eye that destroyed its sight. Three or four years ago he first noticed failure in the sight of the right eye, and that failure made its appearance and progressed without pain. The suspicion then at this stage of the examination is aroused, since there is no history of injury of this

eye, that he is suffering from *sympathetic disease* of the right eye.

In the next place, we wish to know what the condition of the left eye is. As we look upon it we see that the eyeball is smaller than the right, and that it is also flattened; the cornea is opaque, and is smaller than in the right eye; the conjunctiva of the lid is very vascular, and so also is that which is upon the eye-ball. The eye is irregular in shape, and has undergone such changes in its interior that it has become folded or wrinkled, exactly in the same manner as if my handkerchief was made into the shape of a ball-cover and was filled with a tenacious fluid. As long as the handkerchief is filled completely it will form a complete globe; but if by any means a portion of the fluid is made to disappear, the cover becomes wrinkled. This is what has happened to the left eyeball of our friend: some change has occurred in the interior which has so affected the coats of the eyeball as to give to it this external appearance. Besides this, the cornea is opaque and has a scar upon it.

Let us next see what we can discover by an external examination of the right eye. First, we notice that the cornea is perfectly transparent; the iris and the conjunctiva are sound. There is no evidence whatever of disease in the external portions of the right eye.

[Before this statement had been made by the lecturer, three of the class had been called upon to give an opinion as to the appearance of the outer part of the eye. Two of them pronounced the cornea and iris to be diseased, while the third formed a correct estimate of their appearance.]

You observe, gentlemen, that some of you had put yourselves in such a prejudiced frame of mind that you were unable to give a correct opinion, although I asked you to compare the appearance of this man's cornea and iris with my own, in neither of which is there disease. Before you examined the case you believed there was disease in the outer parts, and hence you found it. To cease to form opinions before a case is thoroughly examined, is one of the most difficult things in the investigation of disease. It is, however, an essential to him who would be an intelligent and skilful practitioner. Although the suspicion of sympathetic disease was excited by the history, the objective examination affords us no evidence, or at least none of the usual evidence of such disease. There is no lachrymation, no photophobia, no iritis. These are the usual marks of a sympathetic ophthalmia; but here is a quiet eye, and one without history of inflammation.

The patient cannot count the fingers on my hand; he cannot even see my hand, although he makes an effort, and he thinks he can. The disposition of the human patient to exaggerate his visual power is as marked as that of the consumptive to say that he is "now going to get well." Gentlemen, you will need all your power of objective observation to prevent you from accepting the patient's statement instead of the results of your own examination. Patients who are entirely unable to see fingers, or even a hand, will

insist that they are able to see both. They hold up their own hands, of course knowing that they are doing so, and then imagine that they see them. When the right eye is examined by placing a lighted lamp in front of it, you see that he has quantitative perception of light—that is, he can tell light from darkness—but he has no qualitative perception of light. He is unable to see even very large objects by any light.

What has brought our friend to this condition? If we had lived in the olden time, our investigation would at this point cease. But we are now able to go farther, and to determine what the nature of the affection is that I have just given the general name of sympathetic disease. This is done by means of the ophthalmoscope. An ophthalmoscopic examination has already been made, and to as many of you as is possible will be given the opportunity by Dr. Ely, of observing the change which has occurred in the interior of the eye. The examination has revealed atrophy of the terminal extremity of the optic nerve. As seen by the ophthalmoscope, in this case the optic papilla, or optic disk, is very white; it is excavated, and it has scarcely any capillaries. These are the signs of atrophy of the optic nerve, and are to be appreciated only by the use of the ophthalmoscope. As far as can be determined, the remaining portions of the eye are perfectly healthy. Here then, is a condition which explains this man's blindness: the fibres of the optic nerve which supply the retina have undergone atrophy.

CAUSES OF ATROPHY OF THE OPTIC NERVE.

The question now arises, what has caused the atrophy of the optic nerve in this case? Atrophy of the optic nerve arises from a large variety of causes.

If a soldier in battle receives a *gunshot wound* through his orbit, cutting off the trunk of the optic nerve, atrophy will of course follow.

Again, a man may use *tobacco* and *rum* to such an excess as to give rise to an insidious inflammation, that may be followed by atrophy. The neuritis in this case is perhaps excited by blood-poisoning.

A man may be exposed to a *bright light*, such as the exposure received by roofers, which so affects the eye as to develop a neuritis that will be followed by atrophy.

A man may have *syphilis*, and, in consequence of the destruction of the nutritive qualities of the blood produced by that disease, an optic neuritis may be developed which is liable to be followed by atrophy.

There are many cases of atrophy of the optic nerve, however, which have been developed apparently without cause. That is, with our present knowledge and means of investigation, we are not able to find the cause. Anything, however, which can produce neuritis—for example, meningitis extending along the sheath of the optic nerve to the nerve itself—may be followed by atrophy.

Prolonged or sudden anæmia may deprive the trunk of the optic nerve of the requisite amount of nutrition, and atrophy may follow. *Concussion of the*

brain may be followed by atrophy of the optic nerve, and probably of the acoustic nerve.

But we come back to the question, what has caused the atrophy of the optic nerve in this case? We can only say it is probably a *sympathetic trouble*. This is not saying very much, but it is because of our lack of knowledge that we use such a general term. There is a doubt in many minds whether an inflammation of the optic nerve is ever a sympathetic trouble. Such authorities would say that the atrophy in this case is not sympathetic—not dependent upon disease of the fellow eye, but that it is a mere coincidence that it has occurred in this case. Sympathetic disease with them is always an irido-choroiditis. I think the evidence is rather against this view. I am inclined to believe that atrophy of the optic nerve may be one form, although a rare one, of sympathetic ophthalmia.

We know that the optic nerve does not transmit sympathetic trouble, because the optic nerve of the affected eye has been divided in cases of injury, thus "put out of play," as the Germans say, and yet inflammation has extended to the other eye. Sympathetic inflammation probably extends through the nerves which supply the ciliary region coming from the fifth pair and the sympathetic. We know that inflammation is propagated through these nerves, because injuries in the ciliary region, such as wounds, presence of foreign bodies, cicatricial contractions, are very commonly—indeed, I might say almost invariably—followed by sympathetic inflammation; whereas injuries of the eye not involving the ciliary region are not nearly so apt to be followed by such inflammation.

I am not to be understood as saying positively that this is beyond all question a sympathetic condition, for sympathetic neuro-retinitis, followed by atrophy, is, as I have already said, rare.

SYMPATHETIC INFLAMMATION OF THE UVEAL TRACT.

Another, and much more common form of sympathetic trouble, is inflammation of the iris, inflammation of the choroid, and inflammation of the ciliary body—in other words, inflammation of what is called the *uveal tract*. The iris, the choroid, and the ciliary body constitute what is known as the uveal tract, and you will please remember that this is the great nutrient portion of the eyeball.

The nutrition of the optic nerve in the right eye in this case has been affected, probably in consequence of the propagation of ciliary irritation from the other eye. It is in this manner, probably, that this man's blindness has been produced.

What can we do for him? But very little. The atrophy has occurred; the tissue is destroyed; the capillaries do not exist; the nutrition of the optic nerve has been removed. The prospect for giving this man vision is exceedingly slight. It would be a perfectly justifiable operation to remove what remains of the left eyeball, which is, perhaps, a slight source of irritation to the other eye; yet I cannot promise

that he will recover any sight as a result of the operation, or even retain what he has.

I should think that, perhaps the chances of improving the sight of the right eye by removal of the left were about one in ten thousand. I am unable to see how changes can occur in this optic nerve that will allow it again to communicate luminous impressions. This is not an operation which, under these circumstances, the surgeon should urge, but a plain, truthful statement should be made to the patient, and then he should be allowed to make his own decision. Were I in this man's situation, I should take the trifling chance which the operation offers, and submit to its performance. I have seen cases, in which atrophy of the optic nerve had advanced to such an extent that scarcely any capillaries existed, so much improved by the use of strychnia, that capillaries again appeared upon its surface. I have seen such cases in my own and in the practice of other gentlemen. If, therefore, I should remove this eyeball, strychnia would enter into the subsequent treatment of the case.

How would the case be altered, had the patient more perception of light, if there were lachrymation, and inflammation of the iris and the choroid? Then I should urge the operation; and if the patient was a minor, and I was responsible, I should put him to sleep and have the eye removed, whether he was willing or not.

If he had sympathetic irritation, manifest by lachrymation and what is commonly known as weakness of the eyes when they are called upon to work, I should be even more urgent regarding the removal of the eyeball, and should feel quite safe in promising him that he would fully recover his sight; but when the inflammatory process has become established, I should be very guarded in an opinion given with reference to the ultimate results of the operation, for you are not at all certain that you will cut off the inflammation.

Thus, gentlemen, you see the importance of a case in which injury has been done to an eye by a foreign body. If a foreign body enters the eye, every reasonable attempt should be made to remove it; but if such efforts fail, the eyeball should be enucleated. You are not to allow a person with inflammation of the eyeball from injury, or from the presence of a foreign body, to go from your observation with a weeping eye upon the opposite side. Such cases are serious, and you should give the eyes of such persons the most exact examination, and determine whether or not there is any failure of vision. As long as there is merely lachrymation, as long as there is no inflammation you may hope by removing the affected eye to save the other.

As soon as sympathetic irritation occurs, immediately remove the eyeball which has been injured. That should have been done in our friend's case, but he has been unwilling to admit that his sight was failing, and now all that remains for him is to decide whether or not he will take the very slight chance offered him by an operation.

[The patient decided not to have the operation performed.]

THE CANADA MEDICAL RECORD

A Monthly Journal of Medicine and Science.

EDITOR:

FRANCIS W. CAMPBELL, M.A., M.D. L.R.C.P., LOND

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TO SUBSCRIBERS.

Attention is directed to the fact that our next issue will be the last number of Volume Six. All subscribers to obtain the RECORD at two dollars a year must pay previous to the publication of the first number of Volume Seven; after the issue of that number, three dollars will be charged. The late appearance of the present number is due to the Editor's absence from the city.

COLLEGE OF PHYSICIANS AND SURGEONS.

Province of Quebec.

The Governors of the College will hold their Semi-Annual Meeting in the City of Quebec on the 25th of September. The Board for Preliminary examination will meet at Laval University in Quebec the week previous.

THE NEW BOARD OF HEALTH.

Montreal has at last got a Board of Health, and we hope for vigorous work. Small-pox still maintains its hold among the deluded non-vaccination advocates. Charges of mismanagement in connection with the Civic Small-pox Hospital have been made by a Medical member of this Board (Dr. Kennedy,) which we hope will be thoroughly sifted.

The various Medical Schools in Montreal open October 1st. The introductory lecture of Bishop's College Faculty of Medicine will be delivered in the large hall of the Natural History Society by Professor J. Baker Edwards.

MEDICAL CANDIDATES.

The din of political thunder is to be heard from one end of the Dominion to the other in anticipation of the general elections, which take place on the 17th September. If all the Medical candidates who are soliciting the suffrages of the free and independent electors are successful, our profession will have its share of representation.

BIRTH.

At St. Etienne, Beauharnois County, on the 19th of July, the wife of J. Lemieux, C.M., M.D., of a daughter.

Pharmaceutical Department.

A. H. KOLLMYER, M.A., M.D., Editor.

A PHARMACEUTICAL OLLA PODRIDA.

By HENRY R. GRAY, MONTREAL.

It has frequently been stated by retrogressionists that the separation of the business of apothecary and physician is a modern innovation. This is evidently an error, for we are told that Aristotle, who lived four hundred years before Christ, served for some time in a drug establishment and herb store in Athens. Previous to the fourth century the distinction was not very apparent, as one man frequently practised both professions, as in the case of Galen, who kept a drug store in Rome.*

As early as the eighth century, according to a paper on the name apothecary, by Barilett Patten, schools were established at Alexandria and Salerno, and the art of the apothecary and herbalist was taught, independently of medicine. Later we have the evidence of Sir Thomas Elyot, who says:—"And, therefore, happy is he which in sickness fyndeth a discrete and well-learned physition, and so true an apothecary that hath always drouges uncorrupted." In Wood's *Athene Oxoniensis* the following paragraph occurs: "A detection of the daily enormities and abuses committed in physic, concerning the three parts thereof; that is, of the physician's part, the part of the surgeon, and the part of the pothecaries." Several other old writers speak of the apothecary being the culler and preparer of simples and Galenicals, and the physician the employer thereof. The carefully-arranged drug shop, unearthed at Pompeii, speaks for itself.

The name apothecary has now almost fallen into disuse, and the distinction between the physician and the modern apothecary is being more sharply defined every day. What the coming name of the modern apothecary will eventually be no man can predict, in view of the many diverse ones at present employed.

The first change in advance took place in

* The earliest record which we possess concerning the existence of apothecaries, may be found in Exodus, chap. 30, and verses 23, 24, 25, which read as follows:—"Take thou also unto thee principal spices, of pure myrrh five hundred shekels, and of sweet cinnamon half so much, even two hundred and fifty shekels; and sweet calamus, two hundred and fifty shekels.—And of cassia five hundred shekels, after the shekel of the sanctuary, and of olive oil an hin.

"And thou shalt make it an oil of holy ointment, an ointment compound after the art of the apothecary."

And, again, in verses 34 and 35, we have another prescription:—

"Take unto thee sweet spices, stacte and onycha, and galbanum, these sweet spices with pure frankincense; of each shall there be a like weight.

"And thou shalt make it a perfume, a confection after art of the apothecary, &c." E.C. 1500

It is also worthy of note to study the terms here used in these ancient prescriptions, as they are identical with those employed in modern times.—(Ed. of the Record.)

France, and "pharmacien" soon usurped the ancient and time-honored name of "apothicaire." In 1839, Mr. Blair, of Philadelphia, according to a recent paper on the subject, devised the name "pharmaceutist," and displayed it at full length upon his sign. Few followed Mr. Blair's example, until, at length, the College of Apothecaries concluded to change its name to the Philadelphia College of Pharmacy. Pharmaceutical chemist is the title gained by the highest graduates of the Pharmaceutical Society of Great Britain. It is now conceded that the simple word pharmacist describes, concisely, and with sufficient accuracy, the occupation of the modern apothecary, and it will be a matter of regret if this name does not eventually come into general use.

The relative position of the pharmacist and physician, in this country at least, can hardly be said to be in as settled a condition as one could desire. Usually from the same social position in life, the rudimentary education of each is about equal, and, if it were not for the implied or fancied antagonism of their occupations, they would be the best of friends, and it is a matter of regret in the interest of both professions that a better *entente* does not exist to their mutual advantage.

The two causes which seem to militate against a closer intimacy and confidence, appear to be, that the physician is continually infringing on the specific duty of the pharmacist, and the pharmacist does the same to the physician. The former by preparing his own medicines, or entering into degrading alliances with individual pharmacists, and the latter by giving advice to patients in cases which ought to be under the physician's care.

It has been frequently remarked that a physician practising in a town of more than 5,000 inhabitants cannot afford the time necessary to supply medicines, without infringing on the time required for the proper study of his cases, and the reading of the periodical medical literature of the day, with which the table of every progressive physician should be abundantly supplied. It is, therefore, to the best interest of the medical man to encourage the establishment of well-conducted pharmacies, not only in his own immediate neighborhood, but also in different parts of the town or city in which he resides.

The pharmacist on his part will find that it does not pay to infringe on the rights of the physician, neither is it honorable so to do. A pharmacist doing a fair business soon finds that to talk to a patient for fifteen or twenty minutes, giving advice as to diet and other matters, with a bottle of medicine into the bargain, which latter the patient only expects to pay for, is a very tedious and troublesome way of earning a precarious livelihood, to say nothing of the bad feeling engendered against him among the neighboring doctors.

Let each profession zealously strive to raise the standard of its own body, and let the motto be in healthy rivalry "Excelsior!"

Pharmaceutical education has been very thorough on the Continent of Europe for a long time, and in England recent laws have made the attaining of a license to practice pharmacy quite a difficult matter, dependent on a long course of study, with practical work in the laboratory and behind the counter. In the United States the pharmacists as a body are fully alive to the necessity for stringent legislation, and in some states restrictive enactments have become law. In Canada, three provinces, namely, Ontario, Quebec, and Nova Scotia have Pharmacy Acts, which are rigidly enforced. The Quebec Act is the most stringent, inasmuch as it exacts a curriculum of study in addition to practical experience behind the retail drug counter. While, however, advocating the necessity of a scientific training for the pharmacist, it must not be forgotten that he is practically obliged to sell, in order to make his business remunerative, a vast number of articles which any ordinary person, with little or no education, could as easily do. The advance in rational medicine, so little understood as yet in this country, has discontinued the use of many remedial agents, and has greatly limited the rather too liberal administration of drugs which marked an era now, happily for the public, almost passed away. Any pharmacist of ordinary perspicuity cannot fail to have noticed that the most highly educated physicians use the fewest and simplest drugs. The consequence of this change is a decrease in the returns of the pharmacist; formerly a highly remunerative occupation, it is now most difficult in cities where expenses are high to make a respectable living, consequently the pharmacist is driven to enter into competition with mercantile men to earn in trade what his own art, *professionally conducted*, refuses him; hence the vast increase of patent medicines, articles de toilette, confectionery, soda water, artificial flowers, and many other things found in so many of our best pharmacies to-day.

"It is not all gold that glitters" is a saying very applicable to the modern apothecary, one half of whose modest capital is usually, to keep pace with the times, spent in plate-glass and gilding, and whose balance, when salaries, rent, and taxes are paid, is too frequently on the wrong side of the ledger.

BLACK HAW.

BY H. ROSSER, MONTREAL.

Viburnum Prunifolium.

This shrub or tree, known also by the name of sloe, is found very abundant throughout the Middle and Southern States, growing to the height of from ten to twelve feet. It flowers from March to June, and at this season presents

a handsome appearance. The bark of the root, stems and branches are medicinal, that of the root being preferred. It is fawn-colored, with a feeble odor and a very bitter astringent and aromatic taste. It contains extractive matter, tannin, gallic acid and a peculiar resinous principle for which the name *viburnin* has been proposed. Black Haw is tonic, astringent, diuretic and alterative, and has been used internally in chronic diarrhœa, dysentery and palpitation of the heart. It appears to exert an especial tonic influence upon the uterus, and is highly recommended in cases of threatened abortion and as a preventive in cases of habitual miscarriage. In the latter case its use should be commenced a week or two previous to the aborting period, and continued during the remaining period of pregnancy. Dr. Phares of Mississippi considers it to completely neutralize the effect of cotton root bark when used for the purpose of abortion. The decoction has been used as a gargle in aphthæ, and as a wash to indolent ulcers. The dose of the powdered bark of the root is from half to two drachms. The most convenient form for administering is the fluid extract, the dose of which is the same as the powder.

To the Editor of the *Pharmaceutical Department* CANADA
MEDICAL RECORD.

DEAR SIR,—In the annual report of the Pharmaceutical Association of the Province of Quebec, published in the *MEDICAL RECORD* of last month, it may be observed that the retiring council recommend the new one about to be elected to endeavor to secure by Act of Parliament certain amendments to the present Act, by which they will acquire more power as a licensing body. Among other items suggested as desirable is, that all physicians keeping drug stores in this province shall be compelled to take licences authorizing them so to do from the Pharmaceutical Association of the Province of Quebec.

Now this is what may be regarded as an endeavor to introduce the thin edge of the wedge; how much further it may or can be driven remains yet to be seen. Perhaps, as in accordance with the laws of that Association, students in medicine will not be allowed to serve or do duty in these doctors' drug stores until they have passed examinations, first as apprentices and secondly as qualified assistants, before the Examining Board of the Pharmaceutical Association. Again, perhaps, the apothecaries of our hospitals, convents, dispensaries, and other charitable institutions will also be compelled to qualify before the same Board:—indeed the question may even be raised whether physicians or surgeons are competent to dispense their own medicines, since they have not yet received licenses from what desires to be the only licensing body in this province.

It can hardly be expected that the members of the Medical profession in this province will

quietly submit to any such legislation as this, which would at once deprive them of much of their usefulness as well as of part of their just and hitherto fully recognized rights and privileges.

If we glance back at the history of the drug business in this province, we will find that the first drug stores were for the most part opened and superintended by regular practitioners, and it is not much more than 50 years since, that these were the leading stores both in Montreal and in Quebec. Gradually, however, as the population increased, the medical man's time became more valuable, and he was compelled to devote the whole of it to his practice, and leave trade and dispensing to others who felt more disposed to devote their energies in that direction. The number of medical pharmacists thus gradually decreased, while the pharmacists proper have increased to such an extent, that within the last few years they applied for and obtained full powers to educate, examine and license their own members. Previous to this all pharmacists had to pass their examinations, qualifying them to practice their art as druggists in their own right, before a board composed of *medical men* appointed by Government; the amount of study required by each candidate, the period of apprenticeship and all other qualifications being altogether under the control of that board of *medical men*, which was then called the College of Physicians and Surgeons of Lower Canada. For sundry and justifiable reasons, unnecessary to mention here, the druggists desired to have all these powers invested in themselves. They accordingly formed themselves into the Pharmaceutical Association, applied to Parliament, and unopposed by the medical profession, who, for the most part, supported their views, obtained what they sought.

Now, however, not content with having obtained all they petitioned for, they seek for more power, power by which they may oppress and deprive of one of their just rights that very profession which has always sought only their good, while jealously guarding at the same time the public welfare and interests. Physicians have always had the right in Canada to open pharmacies if they see fit to do so, and to place in them students on whom they can rely, to dispense, if they wish. The student, on the one hand, has already proved before the College of Physicians and Surgeons of the Province of Quebec, before he becomes a medical student, *i. e.* when he passes his classical examination, that his education is such that he can be entrusted with a Latin prescription, and the medical man on the other has also proved before the same board that he is fully qualified not only to prescribe but also to dispense.

The present College of Physicians and Surgeons of the Province of Quebec have yet the power to grant such licenses to medical men, students and midwives; and though it has

yielded to the solicitations of the pharmacists in so much as to leave the education and licensing of members of that body to themselves, it will not by any means allow them to deprive it of its just prerogatives. Let the druggists therefore be content with the powers they have procured, and let the medical profession take care of themselves.

I am, Sir,

Yours respectfully,
MEDICUS.

HINTS ABOUT PATENT MEDICINES.

To the Editor of the *Pharmaceutical Department CANADA MEDICAL RECORD.*

SIR,—Colleges of Pharmacy for the training of young chemists having become permanently established in Canada, it becomes a duty to bring to the notice of the public how carelessly Patent Medicines are manufactured, by persons not having the necessary qualifications, and sold throughout the country, also the necessity of calling the attention of the trade to restraining the sale of them.

On the European Continent there are laws prohibiting the free sale of Patent Medicines. The English Government, who formerly granted licenses only to dealers in London and Westminster, has of late issued them all over the country, and it would be but proper should the Dominion Government follow the same system. As it is now, any grocer or pedlar has Patent Medicines for sale without any restriction, whether it contains poison or not. Should any druggist venture to retail dairy products it would certainly create quite a sensation; grocers and pedlars would protest against it; the public would refuse to patronise as druggists the foolhardy one who had vegetables and fish side by side with Lubin's perfumes; still these very grocers keep Patent Medicines, whose only place is on the shelves of a regular drug store, and the same public continue to be imposed upon and to buy from unlicensed and unscrupulous vendors bent upon money making, by abusing of the credulity of people, and are willing to trust the health of themselves and families in the hands of shopkeepers entirely ignorant of the nature of the medicines they sell, and perfectly unconcerned as to whether it kills or cures. The chemists and druggists of Canada have come to the conclusion that the safety of the public demands that the sale of Patent Medicines should be solely in the hands of competent licensed chemists and druggists, who know the nature of the medicines, and who can advise the purchaser as to the effects and doses. It is injudicious to countenance any longer such encroachments upon the rights of trade. It is a fact that general store keepers sell not only patent medicines but other articles in contravention with the Pharmacy Act.

The only way to remedy this evil is to appeal

to the Dominion Government to issue licenses for the sale of Patent Medicines, and grant them only to chemists and druggists, as the proper persons to deal in such articles, the exception to this would be only in the rural districts where there are no drug stores. In that case the license should be given to some competent and responsible party, such as the postmaster, but under no consideration, should the sale of patent medicines be entrusted to unlicensed shopkeepers or pedlars.

ECHO.

THE POISON IVY AND ITS REMEDIES.—Poison ivy, *rhus toxicodendron*; poison vine or climbing ivy, *rhus radicans*; poison sumach or swamp sumach, *rhus vernix*; and poison elder, poison dogwood, *rhus venenata*; are all plants of the same family. Their juice when applied to the skin, has the effect of producing inflammation and vesication; and the same poisonous property is possessed by a volatile principle which escapes from the plant itself, and produces, in certain persons, when they come into its vicinity, an exceedingly troublesome erysipelatosus affection, particularly of the face. There is frequently itching and redness, a sense of burning, with tumefaction, vesication, and ultimate desquamation. These effects begin immediately after exposure and usually decline within a week.

The principle of treatment should be based upon the fact that the milky juices of these shrubs are neutralized and made harmless by alkaline washes, and these washes may be used as preventives as well as remedies. Our forefathers in the profession depended upon a light cooling regimen, with saline purgatives, and the local use of cold lead-water. Experience has proven alkaline washes to be the most reliable remedies, such as a solution of pure carbonate of potassa, or salt of tartar. Carbonate of potash procured from cream of tartar is preferable to that obtained from pearl-ash in these cases. It should be used of the strength of two ounces to eight ounces of water, and applied to the affected parts several times daily. Strong suds, made from soft or lye soap, white lye, ammonia water—two to three desert-spoonfuls to a pint of water—or a little saleratus dissolved in water, are excellent washes. White lye is made by throwing two quarts of hardwood ashes into a pail of water, stirring and then allowing it to settle—the clear supernatant liquid is white lye.

When a person is exposed to the influence of these plants, which, when bruised or cut, have the power of affecting some skins when several feet distant, although most persons require to touch the plant before it affects them, he should wet every part of the skin that is likely to be exposed or uncovered, with one or another of

these washes, allowing the wash to dry upon the skin, by no means wiping it off. This plan is said to protect the skin from the poisonous influence of these plants. In the same manner, if one has been exposed, or fears he has, let him follow the same plan and allow the wash to dry upon the skin.

Where the skin has already become red and swollen, and there is itching and stinging, these lotions should be freely applied by means of cloths wet with them, allowing them to dry upon the skin. Keep the patient cool and quiet, let the diet be spare and cooling, and keep the bowels gently open. Where the skin is very extensively inflamed, and the applications are made too perseveringly, it may happen that metastasis to the bronchial mucous membrane may take place, and great oppression of breathing with urgent sense of suffocation be felt. In such cases the application of mustard over the lungs affords relief. As prevention is always better than cure, persons should shun the immediate neighborhood of these poisonous plants when practicable to do so.—*Canada Lancet*.

A REMEDY FOR THE ERUPTION OF POISON OAK, IVY, AND SUMACH.—Dr. S. A. Brown, U. S. N., Mare Island, California, believes that he has found a specific for the eruption caused by contact with poison oak, sumach, ivy, huahoo, cashew nut, etc. He writes:—"This specific is bromine. I have used it with the same unvarying success in at least forty cases. The eruption never extends after the first thorough application, and it promptly begins to diminish. Within twenty-four hours, if the application be persisted in, the patient is entirely cured. There is no pain attending its use, as from that of astringents. Of course the epidermis peels off as after other treatment.

"I use the bromine dissolved in olive oil, in cosmoline, or in glycerine. The application with glycerine is painful, and, I think, possesses no advantage to compensate for the irritation. The strength of the solution is from ten to twenty drops of bromine to the ounce of oil, used by rubbing gently on the affected part three or four times a day, and especially on going to bed at night. You wash off the oil twice a day with castile soap.

"The bromine is so volatile that the solution should be renewed within twenty-four hours of its preparation, as it will get out of a bottle, however well corked. It is best to stand the bottle on its cork end, in the intervals of application.

"I have seen no publication of this treatment, and I, therefore, send you my experience with it, hoping to attract to it some little attention, and do the good which must result from its adoption." (The Medical Brief.)