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Original Communications.

The Climate of Colorado, as experienced during the Winter of 1875-76. By RICHARD A. KENNEDY, M.D., &c., Professor of Surgery, University of Bishop's College, and one of the Attending Physicians of the Montreal Dispensary.

Read before the Medico-Chirurgical Society of Montreal, June 23rd, 1876.

Mr. Chairman and Gentlemen,—As physicians, the question of climate demands our serious consideration. We are frequently called upon to give an opinion in regard to a change of residence, not only to relieve suffering and prolong life, but, if possible, to restore to health and strength those who are apparently the victims of incipient disease. How often is the *materia medica*, as represented by drugs interrogated in vain, and we are forced to look for something beyond the remedies at our command, and suggest that our patient seek by a change of climate, that relief which hygienic and climatic influence affords. Considerable difference of opinion exists as to which climate is most appropriate in this or that case. This, no doubt, arises from the difference of theory which is, or may be, adopted, and not from an actual experience of benefits derived. I found it so in my own case, when ill-health compelled me to leave the city last fall. Florida was suggested by some of my friends, Colorado by others. Yet no two places probably could be found having more opposite climatic conditions than these.

Florida with its low altitude, semi-tropical climate, and an atmosphere containing a maximum amount of watery vapour.

Colorado, the highest portion of this continent, temperate climate, with an extremely dry and thin atmosphere.

On the one hand, an atmosphere capable of satisfying all the demands of respiration by the use of less than two-thirds the capacity of the lungs; on the other, a rare atmosphere, in which the lung cells are taxed and forced to expand to their utmost capacity to satisfy the same demands.

To-night I lay before you the results of my experience of the climate of Colorado, mostly gathered by personal observation, but also from the observation of others with whom I have come in contact, trusting that I may afford you some items of information in return for your patient attention.

Colorado has received its name from the prevailing red colour of its surface. Both rocks and soil are

so highly impregnated with the red oxide of iron that the term red colour applied, by the early Spanish discoverers, distinguishes this peculiar feature in the landscape. The country was but little known until 1859, when the Pike's Peak gold excitement brought it under general notice, otherwise the beauty of the mountain scenery and the delightful and invigorating climate would, in all probability, have still remained a *terra incognita* to the debilitated invalid. The annually increasing numbers who there seek relief attest to the restorative powers the climate possesses, and in the near future it will, without doubt, become the great sanitarium of this continent.

A large proportion of the present population owe their existence to its health preserving atmosphere, and are loud in its praises. From many of these, formerly invalids, I gleaned considerable information.

As a means of contrasting our Canadian climate with that of Colorado, I would request you to recall to memory your experience of last January, and compare it with this verbal picture. Last New Year's day six Canadians held a picnic on the cliffs overhanging the Grand Canon of the Arkansas River, at an altitude of 8,000 feet above sea level. The temperature as registered by a thermometer 76° Fahr. The day was, as usual, bright and clear, with a cloudless sky, a cool and pleasant breeze blowing directly from the snowy range, tempering the heat rays of the sun. Here the wanderer, as he inspires health and vigor, has spread before him a grand and magnificent prospect, in which mountain and valley stands out with startling distinctness in the thin and translucent atmosphere. In the west, the serried masses of the snowy range dazzle the eye, as the brilliant sunlight is reflected from their snow-covered surfaces. Towards the east the plains are discernible fading in the mists of distance; while to the north and south innumerable mountains, with beautiful parklike valleys intervening, complete the view. These cliffs will be the point of pilgrimage for many an invalid and tourists, for below them lies the Grand Canon, presenting a scene of such imposing and terrific grandeur that the beholder is filled with awe as he gazes down into the profound abyss, of over 2,000 feet deep. The convulsions of past ages, aided by the eroding action of water, has here grooved out a channel, at the bottom of which the Arkansas river rushes with tremendous rapidity, enclosed in nearly perpendicular walls.

This description is introduced as an example of the many grand views to be obtained, which are not to be despised as means to stimulate to exertion, while they excite pleasurable emotion in the mind of the invalid tourist.

By referring to a map of this continent, the Territory of Colorado will be found to occupy the space between the 37th and 41st degrees of north latitude, the centre of which being the same degree in which the City of Washington stands. It is in this territory that the Rocky Mountains attain their greatest altitude and width, consequently the average elevation of the surface is much greater than elsewhere on the continent, being over 7,000 feet. Here nature culminated her greatest forces, and the many ranges of mountains remain as evidences of the terrible convulsions and volcanic upheavals which the crust of our earth sustained in past ages.

The immediate crest of the continent is the Main or Snowy range, flanked by numerous offshoots or foot ranges, which run more or less parallel, and between which are situated extensive valleys, each peculiar in climate and vegetable productions.

In the future it may be found that some are better adapted than others for peculiar cases; in my limited experience I came across a few cases which bear out this view.

By referring again to the map it will be observed that the territory is peculiarly situated, being far distant from any of the great sources of evaporation which supply moisture to the atmosphere. The nearest portion of extensive water surface is the Gulf of Mexico, 800 miles distant, and it is from that surface that the greater part of the rain which falls on the eastern slope of the Rocky Mountains of Colorado is obtained. On the eastern side of this continent the Appalachian chain of mountains, including the Blue ridge, Alleghany and Cumberland, form a barrier which withdraws from the atmosphere great quantities of its moisture, and before the air currents have proceeded westward to within 100 or 200 miles, of the Rocky Mountains the atmosphere has been deprived of nearly all its watery vapor. This 100 or 200 miles constitute the plains which are sandy and not very fertile, owing to want of moisture, buffalo grass and sage being about the only vegetable growths.

These plains gradually rise and merge into the foothills.

The Sierra Nevada of the Pacific slope acts in a similar manner on the western side of the Rocky Mountains as the Appalachian on the east. What

little moisture is retained is attracted to, and condensed chiefly upon, the higher main range, and it is interesting to witness this condensation occurring and clouds forming as the air currents brought fresh portions of the atmosphere to be chilled against the highest peaks, forming flag-like streamers as they floated from each peak.

As the elevation of the country averages over 7,000 feet the atmosphere is very light, and incapable of retaining as much moisture as at sea level.

(At this elevation the pressure of the atmosphere is about eleven pounds to the square inch.)

It will, therefore, be understood why the climate is so dry and without dewfall at night, and, for the same reason why it is so warm during the day and cold at night. There being no watery vapors to intercept the sun's rays the earth's surface is quickly warmed, which as quickly cools by radiation as night sets in.

The peculiarity of its climate, therefore, is owing to its latitude, its distance from the sea, the great elevation of its general surface, and to the prevailing dryness of its atmosphere.

No just estimate can be made of its average temperature. Its surface is so diversified that much will depend on situation, but the mean average may be generally stated to be several degrees higher than that of Philadelphia for the north, and Baltimore for the south, in the same lines of latitude. Of course, the higher the elevation the colder it will be, and, in summer time, tourists or invalids remove to higher levels, and, as this can be accomplished in a few hours, the invalid can always manage to obtain nearly the same degree of temperature the year round.

I have, in the morning, left warm summer weather, and, in a few hours, have found myself in a bleak and wintry region, exposed to a driving snowstorm.

While the general winter temperature is much warmer than the same latitude east, the summer is much cooler, owing to the chilling effect exercised by the proximity of the snowy range.

It must not be inferred that no rain-fall occurs. In winter more rain falls in the northern than southern portions. The former being subject to occasional heavy snowstorms.

The rainy season proper, occurs in July and August, usually of short duration, and the rain falls in showers and not continuous. The soil is so dry and thirsty that moisture is quickly absorbed. As a change this rain is long wished for and welcomed, but, occasionally, it comes in a very undesirable form.

as storms which carry destruction before them. These storms are terrific; the lightning flashes continually, and the thunder rolls with deafening roar, while, as the cloud bursts on the mountain side, a torrent of water rushes with irresistible force through the steep gulches, carrying rocks, tons in weight, along with it. These torrents soon subside, and leave their channels as dry as they had been for months before. Their effect, however, must be seen to be appreciated, for they will produce changes which, otherwise, a continuous steady stream would not accomplish during a long period of time.

From the extreme dryness of the air and the great amount of mineral matter on the rocks, severe electrical disturbances frequently occur. Preceding a storm, tests show that a very large quantity of ozone has been generated. As this gas produces irritation and resembles chlorine in its properties, physical feeling corroborates the test. I could feel a storm many hours before it occurred on the neighbouring mountains, by the oppressive sensation I experienced, as if a heavy weight had been placed upon the chest. This feeling would subside as soon as the electrical equilibrium was established, tests showing a lessened quantity of ozone.

Probably it is to the great amount of ozone generated in these high altitudes, due to a long continuance of dry weather, that the so-called epidemics of pneumonia occur, of which I will speak again.

As a result of this dryness, purity and rarity of the air, objects can be seen perfectly plain at immense distances. We are all accustomed to measure distance by sight, and form some idea as to the height or size of the object looked at. With others I have been greatly deceived in this respect, mountains appearing but a few miles away when, in reality, they were twenty or thirty. It is extraordinary this deceptiveness in regard to distance. Peaks sixty or a hundred miles away, being more distinctly seen than can Belœil from our Mountain Park.

Mineral springs abound everywhere, mostly alkaline in character, but some strongly ferruginous. The soil is so impregnated with alkali, that large patches of alkaline efflorescence are frequently seen, making the ground appear as if covered with snow. It consists of compounds, mostly sulphates, of soda, lime and magnesia.

Nearly all the water used for domestic purposes is strongly alkaline, and produces decided effect upon the system. Some forms of dyspepsia are relieved, others are aggravated, and acids, both free

and in pickles, are instinctively taken. The various abnormal symptoms, generally coming under the term biliousness, are seldom met with, owing no doubt to the action of these alkalis in preventing torpidity or irregularity of action in the liver.

Like every other climate there are conditions which are unfavorable to some forms of disease. In cardiac affections if the derangement is merely functional, benefit will be derived, but should any organic disease be present, all the symptoms are aggravated, as the heart action is much increased and exercise cannot be well borne. This increased action, is of course, dependent upon the circulation through the lungs. As we rise above sea level the amount of oxygen in the air diminishes, and, as at great altitudes the density of the atmosphere is reduced, the quantity is still further lessened. At sea level a cubic foot of air contains about 130 grains of O, at 5,000 feet not quite 110 grains. The effect of this upon the lungs is two-fold. The air cells must become enlarged, with expansion of the chest walls, and the number of respirations per minute increased. This is what actually occurs, and until expansion has fully been accomplished the respirations remain quicker. Persons living in elevated regions thus gradually acquire a very large chest capacity. One other feature is often well marked with new comers, even in those with sound lungs; this is a sensation, as if sufficient air could not be drawn in, and involuntary and deep and prolonged inspirations are taken. This was my experience, especially at night during sleep, a time when the organic functions are slow in action, momentary wakefulness would occur and several profound inspirations taken.

Probably this deficient aeration and the retention of carbonic acid, explains why so much sleep is required by the majority of persons new to the climate. I found, at first, that ten or eleven hours was not at all too much for me to sleep soundly, and others gave the same experience. The greater the altitude the more the necessity for profound inspiration is observed, but as soon as acclimatization occurs, they are no longer noticed. In persons employed at laborious occupations, as in the mines, at elevations of 11,000 to 13,000 feet, the amount of air inspired, even with quickened respiration, is not quite sufficient to purify the blood. After a time miners are obliged to seek lower altitudes, and recover, owing to a gradually increasing dyspnea. Where death has occurred in these cases, post mortem examination has revealed ante mortem clots filling the pulmonary artery. The decreased oxidation

of the blood producing a stagnation in the vessel and favoring the deposit of fibrine. It is to this that pneumonia is a very fatal disease. A so-called epidemic occurred there this winter, but mostly above an elevation of 10,000 feet. The mortality, at first, was startling, being, I should judge, about 50 per cent. of those attacked.

Death occurred in some before the disease could possibly have reached an inflammatory stage.

In this way, a physician, druggist, and several others, died at Fairplay, within twelve hours of the onset, all within a few days of each other. Other cases, which survived longer, expectorated large quantities of blood; in one, two quarts of blood was thus brought up in a few hours. For some time previous to the outbreak, the weather had been exceptionally dry, thus predisposing the system to be affected by a change. The immediate cause of the outbreak was a sudden fall in temperature, with snow storms, at many points.

Here a small portion of lung becoming affected, would throw its functions upon the remaining, already doing full duty, the result being general congestion. Bleeding and antimony, at the outset, I believe, were the means of saving the first one who recovered, and many others. One would be led to expect that rheumatic affections would derive benefit; on the contrary, muscular and neuralgic rheumatism is very much aggravated, and acute articular rheumatism of frequent occurrence. Such cases are obliged to seek the lower valleys and take alkaline baths, before any benefit results. I have seen several who were completely crippled and obliged to come down to Canon City to find relief.

Nasal catarrh is another complaint frequently met with, and strangers suffering therefrom nearly always become worse. The lining membrane of the nose is nearly always in a dried state, especially in the warmer valleys of the south. The discomfort is increased at night, so that the mouth involuntarily opens during sleep to breathe. I have often woken up with my tongue as dry as a chip, and been obliged to chew it for some to get it softened again. The nasal mucus dries so hard that nearly every morning on blowing the nose, to get rid of it, a little blood would follow.

Children do well, and are seldom troubled with many of the ills which infantile flesh is heir too. Physicians and others have informed me that they have never known children to be troubled with worms. Scrofulous children are especially benefited, and teething seldom gives trouble. A question oft n

arose in my mind as to what will be the constitutional condition of succeeding generations. As there are so many phthisical parents begetting children, and many of these will no doubt intermarry, the future will, of course, testify whether the climate will be sufficient to eradicate this hereditary disease from such offspring.

No cases of sunstroke, as yet, have been reported. The quick evaporation from the skin being sufficient to equalize bodily temperature. Unless under severe exertion, sensible perspiration is seldom noticed.

What class of diseases is likely to be benefitted by this climate?

The absorption of oxygen is necessary for the healthy performance of the respiratory functions, but as I have shown, there is a lessened quantity, relative to bulk, in the atmosphere of great altitudes. It might be supposed that elimination of effete material by the lungs, would be retarded. The fact is established that mountain air promotes the formation of blood and aids nutrition by increasing the digestive and assimilative powers, while, at the same time it exercises a powerful stimulating action upon the nervous system. It is to these that recovery is effected in many chronic affections. The effect of mountain air is more permanent and beneficial than sea air, though not so rapid, especially in debilitated systems, where there is much nervous irritability and weakness of the organs of digestion and circulation.

The increased rarification of the atmosphere by removing pressure, diminishes the amount of gases in the blood, and this, with the great loss of moisture through the lungs, produces a decided effect on morbid conditions. A more active circulation through the lungs being produced.

In relieving certain morbid conditions of the lungs Colorado is fast acquiring for itself a well-deserved reputation. From personal observation, I believe, if there is any place where pulmonary consumption can be arrested or cured, it is there. Of course, many seek relief when it is already too late, and leave home and comfort to die in a strange land, and such cases affect the reputation of the climate unjustly.

I have seen such cases; one patient came under my care a few days after arrival. On examination both lungs were found to be completely diseased and in a state of softening, and although life, possibly, was prolonged a few weeks, yet, I consider it was criminal on the part of the physician who sent him, when there was not sufficient healthy lung left to carry on the functions of respiration. How many

enter that country but to die, is seen by the great amount of dead bodies carried back east over the different railways.

No reasonable man would expect that a climate could put new lungs into a patient, but many act as if they did.

It is astonishing, however, how some of these advanced cases receive a new lease of life, if there remain the least portion of healthy lung to carry on respiration. The disease appears to receive a check and remain in *statu quo*. Night sweats diminish or cease altogether, the cough becomes less troublesome, and expectoration lessens, and the loss by sputa is more than balanced by increased appetite and nutrition.

I have experience of two such cases.

On examining one, no possible hope could be given of even a temporary benefit. There was complete consolidation of the right lung, percussion eliciting universal hepatic dullness, and auscultation failed to detect any air entering beyond the larger bronchi. The chest wall remained passive on inspiration, and was much flattened. On the left side, auscultation revealed bubbling Ronchi over the whole lung, with signs of cavity at the upper part.

I did not suppose the patient could have lived a week, yet, under the continued application of flying sinapisms, with internal stimulants, the condition became greatly improved, and the right lung recovered its powers to a considerable extent. This case is an illustration of the danger of too sudden a removal from a low to a high altitude in these advanced cases. Here the small portion of healthy lung which remained to the patient was obliged suddenly to increase its action, and being unable to perform the requirements exacted of it, the non-purified blood became stagnated, and being continually augmented by the force of the pulmonary artery, pneumatic congestion resulted.

Possibly if this patient had gradually made his way upwards, this condition might not have come on. In such cases it has been found best to travel by waggon over the plains. A tedious process, which occupies some weeks, but one which many have tried with benefit.

The other case, which I recall to mind, had been living in Colorado for some years, had entered the country in an advanced stage, and had remained in the same condition ever since, always an invalid, but living with some comfort and able to take daily exercise and eat well. This man was originally associated with a party of six, who all had come for lung dis-

ease, and, at the time, was considered the worst off. Some of the party got tired of Colorado, went to California, quickly relapsed, and died there. Others tried Florida, with a like result, and he alone was left alive. Since my return, I have heard of him. Thinking he was well enough to travel east on a visit to his friends; he left there, but on arriving at a low altitude, and on his road, death overtook him. Here there is no doubt, death was directly due to a change of level, had he remained, life, in all probability, would have been still enjoyable for some time to come. I could enumerate other cases, but these will suffice as examples. It is a fact, well understood there, that advanced cases which enter Colorado, and improve, can never again with impunity leave it.

How many men have I met, all with the same story? To look at them, one could hardly suppose they had been victims of phthisis. No cough or expectoration, good appetites, and bodies well nourished. It seemed impossible that disease had ever attacked them, and that it was impossible for it to return.

But case after case has been cited me, where the disease, in just such persons, had broken out afresh on a return to their former eastern homes. In advanced phthisis, where but little lung is left, I should consider the climate of Florida or California better; but if there is a portion of the lung still left, and life sweeter than exile, Colorado is, I think, by all means the best. *Ubi bene, ibi patria*, where it is well with me, there is my country, should be the motto of such individuals. If, however, there is a necessity for returning, it would be better for such not to try Colorado, as the structural changes produced in the lung favour a relapse and accelerate the progress of the disease on a return to a low altitude and moister atmosphere.

In incipient phthisis, and where the disease has not progressed to any great extent, there can be no doubt but every benefit will be derived, and, in many cases, complete restoration to health.

How is this accomplished? Besides the general improvement to health occurring throughout the system, the direct local action affected is the chief factor. The air-cells undergo enlargement and their capacity increases. Does not this tend to loosen deposits formed on their surfaces and help to throw them off, while, at the same time, the dryness of the atmosphere prevents further exudation and deposit, promotes increased elimination of moisture, and induces a more active circulation through the lungs.

Of all the morbid conditions of the lungs, none receive more benefit than those in which hemorrhage is an urgent symptom, no matter what the cause. I have met with many persons who had suffered from repeated attacks of hæmoptysis previous to their residing in Colorado, but in whom there had been no return since. One medical gentleman has tried several times to resume his former position, but each time was forced to return, until now he feels it is useless to run any further risk, and, although he has been settled several years in Colorado, there has been no hæmoptysis or trouble since. In this case there was strong hereditary predisposition to phthisis.

It is not impossible, however, for hæmoptyses to occur. I know of one death directly due to it, but the person had imprudently overexerted himself at a ball and strange to say no attempt was made to arrest the bleeding by remedies; other cases are reported but all might have avoided its occurrence by ordinary precaution, why hæmoptysis should be benefited, I am at a loss to understand, unless it is because there is lessened arterial tension, a smaller quantity of blood circulating through the arteries and more through the veins of the lungs; as other forms of hemorrhage are not easily arrested at high altitudes. I have been told that miners working on Mount Lincoln, about 14,000 feet elevation when severely wounded must be removed to a lower altitude before bleeding can be effectually arrested.

Post partem hemorrhages appear to be of more frequent occurrence judging from the number of cases I heard of, more especially in the more elevated valley settlements. Asthma when not depending upon inflammatory conditions of the bronchi is invariably relieved, but the precise elevation required varies in different cases.

I was consulted by a Canadian shortly after his arrival, who had long been troubled with asthma and chronic bronchitis, it was for relief of the cough that advice was sought, I saw him but once as he left for one of the higher valleys to live with some friends. There he was laid up for two months with acute articular rheumatism, on his return to Canon, he again consulted me, the asthma very much increased and distressing. A more careful examination showed extensive emphysema of the lungs which had no doubt become very much aggravated by altitude and persistent bronchitis. If this condition had been recognized before being recommended to try Colorado, and the effect of altitude on the disease understood, much useless suffering and injury might have been avoided. Bronchitic affections are generally

somewhat aggravated at first, but subsequently become entirely cured. Even old chronic cases that have existed for years are permanently benefited. The morbid conditions mentioned are those chiefly benefited, but restoration to health occurs more rapidly in this invigorating climate than in other places, in constitutions broken down by debility or dissipation and especially after exhaustive fevers. A few more words and I will finish. There is nothing in Colorado which can ever attract a very large population beyond its climate and mines, and it is only in connection with these that any other resources can be rendered of value. The dryness of its atmosphere and uncertainty of rain-fall preclude all farming operations except where irrigation is available. Cattle breeding must soon reach a limit as the cattle require to roam over a large extent of country to find subsistence. It is on the mines that future progress depends and if these only prove one half in value of what is expected, that country will in the near future, not flow with milk and honey but will run such a stream of gold and silver as will deluge the world. I introduce this because we often see patients whose means will not permit them to remain in enforced idleness in a country where living is very expensive, and as life is sweet to all, there is many a young man who might be rescued from disease could he obtain sufficient employment to enable him to pay his way. To a great extent this can be done now, and there are many such who have left good situations in the East and now earn with increasing health sufficient to support them. To the consumptive invalid who has the means no better place can be found, outdoor exercise is always available. If a sportsman he will find plenty of game to attract him, if a geologist or naturalist, new fields to explore which will yet yield rich and rare specimens. If not inclined for these pursuits there remain to excite him to exertion scenery the most varied and grand, even developing new features as his standpoint is changed. It is not by stopping at Denver or other places where large hotels exist and staying about the same, that the greatest benefit is to be obtained, but by seeking the solitudes and wandering in the free untainted air away from the haunts of man that furnishes the best results.

There are but few days throughout the year that are not fine and bright, and the nights are cool and pleasant so that sound and refreshing sleep is always insured.

As to the locality to which patients should go,

much will depend on the season. In summer the Northern portion of the territory is most pleasant and cool, but the higher valleys of the south are equally so during the hot season. As it is likely that most invalids will leave for Colorado in the fall, I am decidedly of opinion that the southern portion of the territory is best, especially in the lower valleys which are enclosed in the mountains.

Denver, Colorado Springs, and other places situated at the junction of the foothills and the plains are not as favorable on account of being liable to heavy winds and snow storms. Pueblo further south is more favorable, but the place which far exceeds any other in climatic advantages for a winter residence is Canón City. This place is situated on the Arkansas River where the latter emerges from the mountains, and is enclosed on all sides by mountains and bluff upland so as to effectually protect it from very strong winds. Its altitude is 5,700 and during my residence there I experienced a continual summer. While the local papers recorded snow storms and rain at Denver and other localities we saw none at Canón and it certainly was remarkable that while we were basking in bright sunshine the railway about 60 miles off was blocked by ten feet of snow, stopping all travel for some days. This occurred last April. As yet the merits of the situation are not fully known, owing to the efforts of Denver and other places to keep tourists from going there by discouraging reports, but I have no doubt that soon its advantages will be understood especially as the newly built railway up the Arkansas valley carries passengers directly there.

One feature in regard to this place as a winter resort should not be overlooked, as showing that its climatic conditions are distinct from any other portion of Colorado, excepting Pueblo. I refer to its botanical productions. There are some sixteen (16) varieties of Cactus, four or five of which are not found growing native elsewhere in the territory and they are not met with again until the lower and more southern region of New Mexico or Arizona is reached. One variety grows in bush form to the height of five or six feet, often covering acres in extent. This certainly has some bearing upon the question of locality, for the seasons resemble those of New Mexico with the advantage of altitude and facility of travelling. I will close by briefly summarising the results of my experience. Advanced cases of phthisis should not be sent to Colorado, although some do tolerably well and have life prolonged, others have the end hastened, such should

I think try the milder climates of Florida or California.

In less advanced cases, that is, on the advent of softening or previous to it, every advantage is to be gained but unfortunately though many such cases become to all appearance completely well, yet experience proves that in some at least this is delusive, the disease being kept in complete abeyance and not cured. Such persons are well so long as they remain in Colorado and may die of old age, but a return to lower and moister altitudes inevitably causes relapse and death. In incipient and threatened disease, especially if there is hereditary predisposition I believe a residence there, especially if prolonged, will effect an entire cure.

The suggestion has been made that I should append a few remarks regarding the expenses of travelling and living there. As this is a very important question to many invalids, I do so here.

Now that the new route up the Arkansas Valley from Kansas City is opened, travellers can go direct to the southern portion of the Territory. If desirous of going to Denver and the northern portion, the old route by the Kansas Pacific, from Kansas City, is best. By either route the fares are about the same. Through tickets can be had at any chief station and should always be obtained as they are much cheaper, and allow a reasonable time for stopping over at way stations. In going through no time is lost as the railway connections are splendid, an hour for changing being the utmost. I would have gone from Montreal to Denver in four days when I started, but owing to the G.T.R. having missed connection at Detroit by being an hour late we lost 24 hours.

First class railway fare through ticket, is \$75, the same to return. If a Pulman is taken only three changes are made en route, a whole section cost \$24, but a half section is sufficient for one or two persons. I would advise taking a Pulman car as the extra cost is small compared with the comfort. Good meals are obtainable all the way at from 75 cents to a dollar per meal. In this way the expenses en route to Colorado are within \$100.

In Colorado good hotels are found at all points, terms, \$2.50 to \$3.00 per day, if transient, \$12 to \$15 per week if permanent; good private board can be obtained for \$9.00 per week and possibly less.

I would suggest, if leaving in the fall, going direct to Canón City and winter there, and if returning in May (earlier is not advisable) to return by way of Colorado Springs and Denver, by so

doing the chief places of interest can be visited and the tourist will see a great deal of the country and much magnificent scenery.

Such clothing should be taken as is worn in Canada during the fall, especially under flannels and over clothes, the latter will seldom be required, but there are occasions in which they will, be especially in travelling. Let the invalid going there be content to enjoy the climate and scenery while he regains health and he will find I have not overdrawn the picture, but if he is like some I have met with, forever grumbling at trifles, he may be disappointed, for such would not be happy in paradise. Colorado is now a State.

Two Cases of Poisoning, by Oil of Cedar. Reported by F. CHARLES LAURENCE, C.M., M.D.

On the evening of the 14th July, 1873, I received a very urgent message to visit immediately P. M., of Dudswell.

On arriving at the house I found my patient suffering from severe convulsions, resembling strongly in character those produced by the administration of strychnia in poisonous doses.

Patient was a farmer, aged 35, of temperate habits, family history good, except some indications of insanity on mother's side, general health good; was, however, at the time, suffering from indigestion, and was under treatment for same.

I made up my mind I had a case of poisoning to deal with, and upon closely examining the patient I detected a strong odor of oil of cedar in his breath. On enquiry, patient's friends denied having any in the house, which fact, I soon afterwards found, to be a *mistake*.

The convulsions were very severe in character, with scarcely any intervals between, so violent, in fact, as to require the united efforts of several strong men to hold him on the bed.

Pupils of eyes dilated, and not responding to a strong light, pulse frequent and irregular, and body bathed in a profuse perspiration.

Having made several attempts to give an emetic of zinc sulph., with the effect each time, apparently, of bringing on a more severe paroxysm, I decided, as the case was becoming more urgent, to administer chloroform in sufficient quantities, to produce partial anæsthesia, and in this way break up the paroxysms.

After some difficulty, owing to the excited condition of my patient, I succeeded in stopping

he convulsions, and in a few moments more, violent emesis took place, and the vomited matter consisted of a greenish fluid, containing mucus, blood, ingesta, and as near as I could judge, about $\frac{3}{4}$ ss. of an oily substance, resembling in odor and appearance, oil of cedar.

The patient being now able to swallow, I kept up the emesis by administration of warm water and olive oil, in order to not only wash out the stomach, but to soothe the irritated mucous membrane of the stomach and œsophagus, by means of the oil.

Midnight.—No return of convulsions, patient quiet, but complains of a sense of burning in stomach, pupils normal in appearance, feels an inclination to sleep.

July 15th, 7 a.m.—Rested tolerably well since 3 a.m., symptoms of gastric irritation still present, headache, pulse 115, regular, inability to retain on stomach even small quantities of cold water, urine scanty, high colored, voided with difficulty and considerable smarting, patient remembers nothing of last night, says everything is a *blank* since yesterday 3 p.m.

Treatment.—To swallow small pieces of ice every $\frac{1}{2}$ hour, also lime water and milk in small quantities.

Noon.—Patient very restless and gastric symptoms still present. Same treatment, also $\frac{1}{4}$ gr. morph. acet placed dry upon tongue, bowels to be moved by enemata.

8 p.m.—Bowels moved about 3 p.m., stools liquid, dark color and very fetid. Ice and lime water and milk to be given during night, and morphia $\frac{1}{4}$ gr. if restless. Has not vomited since noon.

July 16th, 9 a.m.—Passed a pretty comfortable night, gastric symptoms less severe, pulse 105. Same treatment as yesterday, omitting morphia.

9 p.m.—Patient sleeping, vomited once since morning, urine still scanty and passed with pain.

July 17th, 10 a.m.—Gastric symptoms much improved, urine passed with more ease, bowels moved spontaneously, and he rested well during night, at least since midnight. Feels very weak, ordered a little cold beef tea in addition to lime water and milk.

July 18th.—Much improved in every respect. From this time patient steadily gained, and in about a week from this time was able to leave his room. He now confessed to have taken the

oil, and, judging from the appearance of bottle found in the house on the night of my first visit, I think he must have taken nearly ʒss. I suspected he had taken it with suicidal intentions, and warned his friends accordingly, which conjecture was seemingly verified, for singular to relate, on the evening of the 14th July, 1875, after an interval of two years, almost to the hour, he again made a desperate but unsuccessful attempt to destroy his life, by wounding the throat, and stabbing himself in the side.

My second case was a child 2½ years old, quantity taken about ʒij. Before I reached the house an emetic had been given, and my little patient was quite easy, but I was informed that the convulsions were very severe until the emetic had acted. Symptoms of gastric irritation followed, but subsided in a few days under appropriate treatment.

Oil of cedar is obtained by distillation from the tops of the common red cedar, *juniperus virginiana* and resembles in order and appearance, the oil of Savine.

It has the reputation of being used frequently in rural districts, to procure abortion, and is used both externally and internally, by *rural quacks* for many disorders, and in this locality can be found in nearly every house. The great wonder is that more cases of poisoning do not occur from it.

I take the liberty of submitting to the Profession through the Record, the report of these two cases, and although they may be not uncommon in some parts of the country, they are the first I have ever seen or heard of in this portion of the Townships.

Marbleton, Wolfe Co., P. Q.,

July 5th, 1876.

Progress of Medical Science.

PUERPERAL SEPTICÆMIA.

By Hugh Miller, M.D., Fellow Obst. London Soc., Physician-Accoucheur to the Glasgow Maternity Hospital.

The following notes of an epidemic which attacked the patients in the hospital during the month of January last are submitted as a contribution to the recent interesting inquiry into the existence of puerperal fever as a zymotic disease. The confinements followed so closely one upon the other that six patients were brought under the influence of the infec-

tion before rigid measures could be adopted for stamping it out. I am indebted to Mr. Thompson, the house surgeon, for the reports of the cases of which I present the following brief details:—

I.—M. C., aged twenty-four, was near her full time when admitted to the hospital on the 19th of January last. Eight years ago she was attacked by scarlatina, and since then she has been weakly and delicate. Her first confinement took place on 19th October, 1874. She was in labor, she says, for five days. The child was stillborn. Her recovery was favorable till the fifth day, when her left leg became swollen. Under treatment it improved, but it has felt weak and has remained swollen since. During this pregnancy she has been almost free from any sympathetic derangement, and her general health continued good until two days ago when she sustained a shock from a severe fall in the street. When admitted she was in labor, and on examination it was found that the head was presenting along with the funis. The cord was pulseless. Eighteen hours after admission she was delivered of a male child, still-born, and evidently of a syphilitic taint. After waiting two hours the placenta was found to be adherent. The usual means were employed for its removal, and it is believed that it was entirely taken away. During the next few hours, the patient did well, and appeared as if making a good recovery. Without being preceded by a rigor, a sudden rise of temperature was observed fifteen hours after childbirth, and on examination it was found that the temperature was 103°, and that her pulse had risen from 90 to 160, and was dicrotous. She complained of severe pains in her legs and arms. The uterus had not enlarged and the lochial discharge continued. In my absence Dr. Sloan kindly saw her, and ordered her to have half a drop of the tincture of aconite (B. P.) every hour, and with the first dose to have also a mixture of sweet spirits of nitre with liquid acetatis ammonia. Next morning the temperature was 101° and the pulse 120. An erythematous rash was now observed over the lower limbs. She had no sore throat, but she complained of a harassing laryngeal cough. Her tongue was furred and dry, but it did not present any specific febrile character. She was not aware of being near any case of scarlatina recently. Directions were given to have the diaphoretic mixture repeated with a dose of Batley's sedative liquid added to it. In the evening the temperature and the pulse were unaltered, but she felt more exhausted and was allowed small quantities of whisky at intervals. A solution of the chlorate of potass was given to allay thirst. Next morning at 8 A. M. the temperature was 99° and the pulse 96. By the same evening her general condition had been greatly improved: with the exception of the cough, which was frequent and very harassing, she had nothing to complain of. The cough gradually improved under the use of tartar emetic and tincture of hyoscyamus. That night she slept well, and next morning the temperature was normal. The pulse was 90 and weak, and the patient expressed herself as feeling much improved. Next day she

was freed from any unusual condition, and two days afterward she was dismissed quite convalescent.

II.—On the 20th, the next day, M. H. was admitted; she was confined that evening of a stillborn child, which appeared to have been dead for some time. On the 22d I found her suffering from acute peritonitis, which did well under the treatment with turpentine stupes and Dover's powder. She left the hospital eight days after admission, quite recovered.

III.—On the same day A. B. had in every way an easy labor; next day she had a rigor followed by febrile excitement with pain over fundus uteri, and with a scanty and purulent discharge. The patient received similar treatment to that given in Case II., and, in addition, after a consultation with Dr. J. G. Wilson, the consulting physician of the hospital, we ordered the intra-uterine injection of a solution of chlorozone. On the 9th of February she had quite recovered, and left the hospital.

I directed that all the patients should now have the bisulphite of magnesia regularly. These three patients were to be placed in one ward, and new cases were to be placed in another room. The next case was admitted on the 24th of January.

IV.—A. McD., a primipara, was the next case admitted. She was delivered of a still-born child. The placenta being retained was removed by introducing the hand forty-five minutes after the birth of the child. She was then removed to a freshly disinfected recovery ward. In due time she exhibited similar symptoms to Case III.; she received identical treatment, and recovered sufficiently to leave on the 9th of February.

V.—G. H. was delivered about the same time as Case IV. She was put in the same recovery ward, suffered from similar symptoms, and recovered under the same treatment.

VI.—J. McD., a primipara having a weak intellect, was seized after her labor with a similar train of symptoms, which, however, were more intense. She received the same treatment as the others, and was able to leave with them on the 9th of February. So many cases occurring within a few days and presenting similar symptoms led me to seek for the exciting cause in the state of the hospital itself. I was satisfied that the wards had been kept scrupulously clean, that strict attention had been paid to the ventilation, and that every opportunity had been seized for fumigating the wards with burnt sulphur or with carbolic acid. The beds are made up of chopped straw, and are frequently renewed. On admission the patients themselves had always to submit to a hot bath including a good wash, and they have a comfortable change of clothing provided for them. The nurses could not have been the means of transmitting the vitus, for new nurses were appointed to wait on the fresh cases admitted without the patients (IV., V. and VI.) being freed from the influence of the infection. It appeared to me that if any infecting influence was present it must have its origin in the confinement ward. I ordered therefore the bedding to be destroyed. The room

was thoroughly disinfected, and after being well cleansed, new beds were put in, and patients again admitted. The hospital record says that "since then the patients are making excellent recoveries."

Many questions arise in one's mind while endeavoring to account for this rapid spread of disease. Could miasmatic influence produce it? The patients were kept only an hour or two at most in the confinement ward before their removal into the recovery one. Thorough ventilation meanwhile had been maintained, and every sanitary means employed to protect the mother and her offspring. Supposing even that the earliest taint had been produced there, was it possible in such circumstances to become so virulent as to affect each succeeding case? In labors similar to No. I. we find the poisoned condition of the blood a result of the absorption, and not a precursor of the disease. Indeed, as an example of auto-infection (Schroeder) due to a portion of the placenta becoming poisonous, and of afterward being absorbed, Case I. should have been very slow in developing and infecting material. Previous to the admission of Case I. the wards of the hospital were healthy.

These records will at least demonstrate how easily and how rapidly a puerperal epidemic can spread. Whatever influences may be at work to originate the poison, it evidently requires only a nidus that it may spread rapidly. Especially do we find this to be true in hospital experience. I am of the opinion that in all cases where manual interference may be necessary it is our duty to exercise extra precaution against septic poisoning; and that where interference is necessary we should employ a disinfecting solution soon after delivery to the vaginal and intra-uterine regions. Thus the parts will be kept clean, and the discharges prevented from taking an unhealthy action, or of acting by absorption through the lacerations frequently produced by childbirth. —*Obst. Journal.*

THE THERAPEUTICS OF HEADACHE.

A Lecture delivered at Bellevue Hospital Medical College, by A. A. Smith, M.D., Lecturer Adjunct upon Clinical Medicine. (Phonographically reported by Dr. W. M. Carpenter.)

GENTLEMEN:—We take up to-day the therapeutics of certain forms of headache, a very important subject. Headache may be divided into organic and functional; but I believe you will get a better idea of the treatment by dividing the cases according to the causes.

You will remember we took up purely neuralgic headache at the last lecture.

A headache, when due to nervous disturbance, such as occurs in hysterical or excitable subjects, is associated with plethora, often yields to a saline cathartic. The most agreeable is the solution of citrate of magnesia, and should be given, a full bottle of it, on an empty stomach. In addition it is well

to give one of the bromides combined with valerian. The following prescription I frequently use:

R Sodii bromid..... 3 vi.
 Flix. valer. amm..... 3 iv.
 M. Sig. 3 i. every hour until relieved.

If such nervous headache be associated with anæmia, after relieving the immediate attack with the bromide and valerian prescription, give iron, and give it for weeks, until there is a decided improvement in the patient's condition. Always give the iron after meals. In these anæmic cases it is often advisable to stimulate the heart's action. For this purpose I have found the following useful:

R Amm. muriat..... 3 ss.
 Tinct. actææ racemos.,
 Aquæ..... āā 3 iij.

M. Sig. 3 ij. after meals in a wineglass of water.

If there be despondency and depression of spirits, phosphorus, with nux vomica, is a good combination. The unpleasant taste of the phosphorus has been overcome by being made into sugar-coated or gelatine-coated pills. I frequently prescribe a pill containing phosphorus gr. $\frac{3}{8}$ with ext. nux vomica, gr. $\frac{1}{2}$ t. i. d., with the happiest results. These pills can be obtained of any reliable druggist. This despondency is apt to occur in those who have been overworked mentally, or are harassed by business cares, or who suffer great mental anxiety. If in addition to these symptoms there be sleeplessness, I employ the following pill:

R Camph. pulv..... gr. xxv.
 Ext. cannab. ind..... gr. x.
 Ext. hyoseyami..... gr. xx.

M. Div. in pill No. x.

Sig. One at night. Repeat in two hours if necessary to produce sleep.

It is important to attend to the general health of the patient. Remove all causes of excitement; encourage exercise in the open air; let the food be simple but nutritious; let the sleeping room be large and well ventilated; in short, let the patient be surrounded by the best possible hygienic influences. These general remarks will apply to almost all forms of headache.

SICK HEADACHE.

I usually recognize two forms of sick headache (so called), the one neuralgic in character, as hemicrania and trifacial neuralgia, the other a dyspeptic headache. In the neuralgic variety the pain in the head precedes the nausea, while in the dyspeptic variety the pain in the head succeeds the dyspeptic symptoms. In the neuralgic, vomiting does not relieve the pain, while in the dyspeptic an emetic or laxative often relieves the pain in the head by removing the cause. In addition to the treatment given in a previous lecture for neuralgic headache, which often occurs at intervals of a few days, or a week or two, sometimes coming on at sunrise and disappearing at sunset, I have good results from the use of guarana, or paullinia sorbillis as it is sometimes called. I give it usually in powder, grains fifteen

every fifteen minutes, until six doses have been taken. It is best given in a little sweetened water; and if six doses do not relieve do not continue it; it will probably not relieve. It is well to give these powders in any headache (not malarial) of long standing and prone to return at certain intervals.

MALARIAL HEADACHE.

Malarial poison may produce pain in any portion of the head, but the most frequent locations are the sub cocipital region, the frontal and on either side (hemicrania). Begin your treatment by the use of quinine. If distinctly periodical, give ten or fifteen grains two or three hours before the expected attack. It may be necessary to push the quinine in divided doses until cinchonism is produced, and kept up for several days, and then gradually diminish the dose. If the pain still continues to recur, and it frequently will, resort to arsenic and belladonna, five-drop doses each of Fowler's solution and tincture belladonna, after meals, increasing the Fowler's one drop each day until œdema arsenicalis is produced. This will seldom fail to give relief.

I have found the following prescription beneficial in a headache dependent on gout:

R Vin. colch. sem..... 3 iij.
 Lithii bromid 3 ss.
 Syr. zingib..... 3 ss.
 Aq. cinnamoni, q. s. ad..... 3 vi.

M. Sig. 3 ss. in a tumbler of Vichy water every four hours.

Such patients will be benefited by the regulation of the hygiene, tonics, a partial discontinuance of stimulants, particularly those which have been found by experience to aggravate the gouty symptoms.

It is hardly necessary that I should tell you that the headache of syphilis is more severe at night, and is quite apt to waken the patient after twelve by its increasing severity. The use of calomel in one-tenth grain doses every hour, for twelve hours immediately preceding the time that it awakens the patient, gives more rapid relief than the ordinary constitutional treatment. The calomel treatment may be continued for two or three days, and then stopped and iodide of potassium given. I usually begin the iodide in fifteen-grain doses after meals, and gradually increase it until iodism is produced or irritation of the stomach occurs, provided the symptoms do not yield earlier. It may be necessary to push it to 350 or 400 grains a day before the symptoms yield.

The headache of rheumatism is characterized usually by tenderness of the scalp, which is increased on pressure or motion. Use the mild faradic current on the scalp, and internally the following:

R Potass. iodide aa .ss.
 Amm. muriat..... aa 3 ij.
 Infus. humuli..... 3 vi.

M. Sig. 3 ss. four times a day in a wineglass of water.

In some cases of rheumatic headache, which have not yielded to the above treatment, I have found bromide of ammonium in twenty-grain doses every two hours effectual.

There is another form of headache which is of great importance as a symptom of serious disease. The pain in the head may be the first evidence you will obtain that there exists renal disease, and that you really have to deal with uræmic headache. The judicious plan of treatment in such cases has for its object the removal of the abnormal amount of urea from the system. To accomplish this, you may call into action one or all of the three great emunctories of the body, the kidneys, the intestines, and the skin. Make the kidneys act if you can; apply dry cups over the region of them, and give internally the following:

℞ Potass. acetat..... ʒ vi.
 Infus. digitalis..... ʒ vi.
 M. Sig. ʒ ss. q. 3 h.

The infusion should be made from fresh English leaves. Give this until the kidneys act freely, if you can make them do it within twenty-four hours. You cannot always rely on this, however. If the kidneys do not act freely, and the headache is not relieved within twenty-four hours, give a saline cathartic. A treatment almost domestic, and often very effectual, is to put an ounce of cream tartar in a quart of water, and have the patient drink this in eight or ten hours. It acts both as a diuretic and cathartic. Do not use hydragogue cathartics unless convulsions are threatened, they are too irritating to the intestinal canal. Some prefer to eliminate the urea by the skin. This can be done by diaphoretics and the hot, moist, or dry air bath. Do not think that you must use diuretics, cathartics, and diaphoretics in all cases of Bright's disease: use them where there is deficient quantity of urinary secretion, and where you have reason to believe urea is accumulating, and that you can relieve the patient by ridding the system of it. There are other causes of headache in Bright's disease which I believe occur independent of the presence of an abnormal amount of urea in the blood, and yet which are dependent on the results of the kidney disease. These causes may be anæmia, neuralgia, œdema of the brain itself, serous effusion into the ventricles and, in acute Bright's disease, or cerebral congestion in addition to accumulation of urea. Under the last condition, if the headache be very severe and convulsions threaten, take blood, if the patient's condition will admit of it. Take twelve to twenty ounces, if necessary to relieve distressing symptoms. The best way to take it is by means of wet cups over the region of the kidneys.

If the patient be anæmic, improve the general condition by the use of tonics, good nutritious diet, stimulants, exercise in the open air, etc.

If the headache be dependent on serous effusion into the ventricles or on cerebral œdema, here too improve the vitiated condition of blood and stimulate the heart and kidneys by potass. acetate and infus. digitalis. There is apt to be with this effusion and œdema general anasarca.

The headache of acute alcoholism, or inebriety, follows a debauch. The first indication is to remove the alcohol from the intestinal canal. For this give

of rhubarb and magnesia calcined each a half drachm, and then give the following:

℞ Spts. amm. aromat..... ʒ ij.
 Tinct. camph..... ʒ iss.
 Tinct. hyoscyami..... ʒ iiss.
 Spts. lav. comp. q. s. ad..... ʒ ij.

M. Sig. ʒ j. q. 1 h. until the headache is relieved, and then give capsicum gr. ij. and quinine gr. iij. before each meal for several days. If there be sleeplessness, give,

℞ Sodii bromid..... ʒ ss.
 Chloral hydrat..... ʒ iiss.
 Syr. aur. cort..... ʒ ss.
 Aquæ..... ʒ iiss.

M. Sig. ʒ ss. at night, repeat in two hours if necessary to produce sleep.

Dyspepsia is a frequent cause of headache.

If there is indigestible food in the stomach, and it has been there some time, give an emetic, as mustard and warm water, or sulphate zinc gr. xv, and remove it. If there is evidence of indigestible food in the alimentary canal beyond the stomach, give gr. xx. of rhubarb and magnesia each, and remove it from the bowels. If the headache be frontal, and the pain is located immediately over the eyes, give dilute nitromuriatic acid in ten-drop doses, well diluted, after meals. If the pain is located about the roots of the hair, give an alkali before meals, as gr. xx. bicarbonate of soda or magnesia. The dyspeptic headache oftentimes is not confined to these regions, but spreads over the entire head. In such cases I combine an acid with an alkali, and add to these nux vomica, as in the following prescription:

℞ Sod. bicarb..... ʒ iiss.
 Ac. nitro-mur. dil ʒ ij.
 Tinct. nuc. vom..... ʒ iss.
 Syr. aurant. cort..... ʒ vi.
 Aquæ, q. s. ad..... ʒ vi.

M. ʒ ss. after meals in a wineglass of water.

If there be gastric pain, a mild counter irritant, as a mustard plaster to the epigastrium will often relieve the pain in the head as well as the pain in the stomach. If flatulence be a troublesome symptom, give the following:

℞ Bismuth subcarb..... ʒ iss.
 Tinct. nuc. vom..... ʒ iiss.
 Tinct. card. co.,
 Spts. lav. comp., aa q. s. ad..... ʒ iv.

M. Sig. ʒ ij. before meals in a wineglass of water.

If there be constipation, the following pill may be given, one in the morning:

℞ Aloes pulv..... ʒ ss.
 Ext. nuc. vom..... gr. v.
 Ex. belladonna gr. iv.

M. Div. in pil. No. xv.

In some forms of headache associated with stomach indigestion I have found small doses often repeated of tinct. nux vomica effectual. I give a single drop every fifteen minutes, and continue this two or three hours if necessary. In other cases, where the headache comes on soon after a meal and seems to depend on delayed stomach digestion, large doses of

pepsin are effectual. Give a half drachm saccharated pepsin in a wineglass of sherry wine, t. i. d., and let it be taken during meals.

Cerebral congestion as a cause of headache may be divided into two varieties, active and passive. These claim almost directly opposite plans of treatment. In the active variety the patient should be kept in a darkened room, perfectly quiet, cold and evaporating lotions applied to the head. A saline cathartic may be given, and the following prescription:

R. Sodii bromid ʒ iiss.
 Fl. ext. ergot ʒ iiss.
 Syr. zinzib ʒ ss.
 Aq. aurant. Flor. q. s. ad ʒ iv.
 M. Sig. ʒ ss. q. 2 h.

If the skin be hot and dry, and the pulse full and rapid, give Fleming's Tinct. Aconit. Rad. gtt. ii. q. 2 h. until the heart's action is sensibly diminished. Sometimes a hot mustard foot-bath will give relief.

The passive congestive variety demands a different mode of treatment. In many cases this variety is found associated with cardiac disease, and most frequently where there is predominant dilatation. Hypertrophy gives rise to the active variety. Improve the condition of the blood by the use of iron, quinine, bitter tonics, alcoholic stimulants, good food, and stimulate the heart's action by the use of the following:

R. Tinct. digitalis ʒ iii.
 Spts. amm. aromat ʒ vi.
 Spts. lavand co.,
 Syr. simp. ʒ q. s. ad ʒ iii.
 M. Sig. ʒ i. q. 4 h.

Cerebral anæmia produces a headache, which is often mistaken for the passive cerebral congestive form. It is often associated with general anæmia, nervous exhaustion, and may occur in heart disease in consequence of enfeebled heart power, such as is met with in enlargement with dilatation, fatty degeneration, and myocarditis. Improve the general condition of the patient, and stimulate heart's action as recommended in the passive cerebral congestive variety. Nitrite of amyl will relieve the immediate headache. Let the patient inhale three to five drops of it on a piece of cotton, placed within one nostril while the other is held closed. When associated with nervous exhaustion, I employ the following:

R. Strych. sulph grss.
 Tinct. fe. chlor ʒ ij.
 Glycerine ʒ ss.
 Infus. gentian q. s. ad ʒ vj.
 M. Sig. ʒ ss. after meals, in a wineglass of water.

A word as to alcoholic stimulants. These are beneficial in headache dependent on cerebral anæmia. Champagne is a specially favorite form, and is much relished by those who suffer from nervous exhaustion. You should use caution in recommending it to such patients, as it may lead to serious results. Give it always as a remedy and not as a beverage. A safe plan is to recommend brandy, a tablespoonfull after each meal, and limit the champagne to one glass and let it be taken with the dinner.

Cerebral tumors give rise to headache, often severe. In all cases of cerebral tumors, give iodide of potassium; for it cannot be safely said that in any given case the tumor does not depend on syphilis, and by administering the remedy you give the patient the benefit of the doubt.

There is reason to believe, too, that patients with cerebral tumors, dependent on other and unknown causes, are benefitted by the use of iodide of potassium. I have previously given you directions as to the method of giving the iodide. Sometimes the pain is so severe that you are justified in resorting to opium to relieve it. If there be much sleeplessness, give sleep by the use of the bromide and chloral mixture.

The headache of cerebral softening may be palliated by opium and rest. Such patients should have the best possible hygiene surroundings. If there be sleeplessness and much irritability of the nervous system, the combination of bromide with chloral is indicated. Ergot has been used for the relief of the headache, in these cases, by those having charge of insane asylums, where this condition is frequently met with, and the testimony is in its favor as a valuable remedy. It is usually given in large doses, beginning with ʒ j. of fl. ext. ter in die, and gradually increasing to ʒ ss. ter in die.

Almost all cases of increase of temperature of the body above 103°, are attended with headache. To relieve it reduce the temperature, according to the plan given in a previous lecture; apply cold and evaporating lotions to the head, and keep the patient free from noise and excitement. A full opiate will often relieve such a headache, save the patient much suffering, and effect favorably the progress of the fever.

The mere mention of worms in the alimentary canal, hemorrhoids, uterine and ovarian disturbance, and optical defects, as causes of headache, will suggest the remedy.—*New York Medical Record.*

SOME FORMS OF DYSPEPSIA.

Dr. F. Delafield (*Amer. Clinical Lectures*, Vol. 2, No. iv.), under the above title, gives some valuable suggestions: (1). Dyspepsia confined to the stomach has the following symptoms, viz.: attacks of pain and vomiting, coming at first at long and then at short intervals—the attack always excited by the ingestion of food and the pain ceasing when the stomach is emptied. The disease lasts for years, and steadily grows worse. Medical treatment alleviates the symptoms for longer or shorter intervals, but never permanently.

The most rational and effectual treatment of these cases is the systematic use of the stomach-pump. The pump, as a rule, is not to be used till three hours after a meal of solid food. The patient soon learns to use the pump at home. (2). Dyspepsia due to functional derangement of the small intestine, the stomach being unaffected. Symptoms—pain is the most troublesome and may be referred to any part of the abdominal cavity. It is usually described as a constant dull pain—has no special relation to

the ingestion of food or its quality. It occurs when the stomach is full or empty—whether the food is spare and simple or abundant and rich. The use of liquor will usually stop it for a short time. There may be some particular time of the day at which the pain comes on with tolerable regularity. There may be nausea, but not vomiting. Appetite is often good and food causes no distress. Some cases are easily relieved by treatment: others prove obstinate.

Drugs indicated are, cubebs, ipecac, and assafoetida. Horseback riding is often of great service.

(3). Dyspepsia from disordered functions of the liver. Clinically these cases can be divided into two classes: (a). Those of florid complexion and of well-developed adipose and muscular tissues. (b). Those of pallid complexion, spare figure and feeble muscles. In the first class the symptoms are due to derangement of those functions of the liver which should effect the destructive metamorphosis of albuminoid substances, so that patients receive a full supply of the nutritious portions of the food, but do not get rid of the excrementitious. In the second class, the functions which should assimilate the fat and peptones are so disordered that the patient is imperfectly nourished. In one case the tissues are overmanured, but badly drained: in the other they are well enough drained but not manured at all.

Symptoms of the first class of cases are—depression of spirits, liability to attacks of vertigo, bowels more or less irregular, urine apt to contain an excess of uric acid or of the urates, partial loss of memory, an inability to apply the mind to business. Treatment—an entire abstinence from every kind of alcoholic drink; also from tobacco; vigorous outdoor muscular exercise; drugs as indicated.

Symptoms of the second class of cases—flatulence, headache, curious nervous feelings in various parts of the body, sleeplessness, hypochondria often, irregular action of the heart, pain in the precordial region and a dull pain in the right hypochondriac region, extending to the back and shoulder, constipation, emaciation, urine normal usually. Treatment of this condition is different. Diet must be carefully regulated—full and nutritious; wines, etc., are often of service; cream and cod-liver oil are sometimes indicated; constipation must be relieved, nervous symptoms allayed, appetite improved by the mineral acids, exercising in the open air, bathing the entire body daily in cold water.

PUERPERAL FEVER—IS IT GENERALLY SPREAD BY THE MEDICAL ATTENDANT?

This is a question of far-reaching import. Dr. F. Churchill (*Brit. Med. Jour.*, March 25, 1876) presents the following facts:

1. We know that a person going directly from a post mortem examination to a lying-in case may excite puerperal fever in that patient. Surely this opportunity for mischief is of very infrequent occurrence.

2. We know that medical men attending cases of erysipelas have excited puerperal fever from attend-

ing lying-in women at the same time, especially if due precautions had not been taken.

3. We know that nurses going from attending on puerperal fever to lying-in women have conveyed the disease.

4. We also know that in some cases the disease has followed in the track of some particular doctor, and this in spite of minute and thorough precautions. There is no explanation of such cases, and they rather show the failure of quarantine.

5. In the course of forty years of practice I have had puerperal fever cases, but the most rigid inquiry has failed to show me any connection between any two patients. My precautions were (a) Never to attend a confinement in the clothes I had worn at my visits. (b) I always saw recently confined patients before seeing the fever cases, and on returning home always changed my clothes. (c) I was scrupulously careful about the frequent and thorough washing of my hands before leaving the patient's house. These precautions are certainly successful with me.

6. If the ordinary attendant is to be put in quarantine, what about the consultant? Is he not as likely to carry the infection? The doctor hopes that before the portability of the disease is assumed, some effort will be made to collate examples to show how often notwithstanding due precautions, the sequence of the disease proves it to have been conveyed from one patient to another by a third person. If well authenticated cases of this kind be numerous, then puerperal fever is more infectious than typhus, scarlatina or even plague, and the doctors must go into quarantine. If not, neither the profession nor the public need be alarmed, and with proper precautions the doctors may pursue their avocations in peace and security.

BILIARY COLIC.*

By THOMAS HAYDEN, F.K. & Q.C.P.I.

Physician to the Mater Misericordiae Hospital, &c.

The details of seven cases were given, in which the paroxysms of colic were very severe, and repeated, and in some, of the most aggravated character. The symptoms were pain at the epigastrium and right hypochondrium, extending over the abdomen to the back, with fixed pain at the right scapula, great prostration, amounting in one case to syncope, vomiting, slight jaundice, with bile, pigment in the urine, and constipation. From five of the patients gallstones were obtained, and in one instance large quantities of the seeds and core of fruit.

The calculi were of the most varied character as to size and figure, but composed mainly of cholesterine and inspissated bile; 45 were obtained from one patient, and 10, not larger than duck-shot, granulated on the surface, and evidently examples of hepatic calculi, from another.

* Abstract of a paper read at a meeting of the Medical Society of Dublin, February, 1876.

Death occurred in two of these cases, preceded by symptoms of pyæmia, and in one of them a biliary fistula had been long previously formed.

The other five patients recovered perfectly, and one of them has been for more than sixteen years free from recurrence of his symptoms.

An attack of biliary colic is usually preceded, for several months, by flatulence, acrid eructations and a sensation of fullness and discomfort in the region of the liver some hours after meals. The bowels are constipated, and the urine exhibits from time to time a copious deposit of urates. Anomalous pains of a remittent character, referred to the back and nucha, are likewise frequently complained of. The earliest intimation of an actual seizure consists in a thrilling sensation at the epigastrium. This is soon followed by colicky pain radiating through the hypochondria, and extending to the inferior angle of the right scapula, where it is felt with especial severity. The abdominal muscles become rigid, the stomach inflated, and gaseous eructations and vomiting occur without relief to the patient's sufferings. The pain is remittent and paroxysmal, and of the most excruciating character; it usually lasts several hours, but may continue for a much longer period, and then ceases quite abruptly. The pulse, during a severe paroxysm, is slow and very feeble; the surface cold, and bathed in perspiration. Within twenty-four hours after the attack there is usually jaundice and the urine is coloured with bile, whilst the feces exhibit a want of it.

The recurrence of these attacks is uncertain as to time, but liable to be determined by indiscretion in diet, and by violent succussion of the body. The earliest are supposed, on theoretical grounds, to be the most severe; but I think those which occur at a somewhat later period, the third or the fourth, are usually attended with still greater suffering and prostration.

Jaundice is not unfrequently absent after the earlier paroxysms. But even in such case the diagnosis cannot be difficult if due weight be given to the special symptoms, thrilling at the epigastrium followed by pain of a spasmodic character, extending to the right scapula, accompanied by sudden inflation of the stomach and vomiting, and abruptly ceasing after some hours; hepatic dullness being somewhat extended, with corresponding tenderness to pressure.

The smooth, round, and yielding tumour mentioned by authors, as formed by the distended gall-bladder, cannot be felt during a paroxysm owing to the tension of the abdominal muscles; and even during the intermissions, except in cases of extraordinary distention, the evidence furnished by this symptom is eminently inconclusive.

In cardialgia there are other symptoms sufficiently distinctive or gastric dyspepsia; the pain due to this cause commences soon after food has been taken, whilst that of hepatic colic not for some hours.

During a paroxysm the bowels should be unloaded by a turpentine enema, and the patient

should be placed in a warm bath of 105 deg. F. If relief be not thus obtained, an event which I have never witnessed, or if the bath cannot be readily provided, a hypodermic injection of a quarter of a grain of morphia should be given. In the intervals, a few grains of blue pill with extract of belladonna and dried soda should be given thrice daily, and occasionally a rhubarb or seidlitz draught. Chloroform may likewise be administered by inhalation, but short of anaesthesia, during the attack; it is, however, less efficacious than morphia given as proposed, and the relief which it affords is of shorter duration.

I have not tried sulphuric ether and spirits of turpentine, as recommended by Durande, nor do I think the stomach would be likely to tolerate it; neither have I, for the same reason, given chloroform by the mouth, as suggested by Bouchu, or Prout's favorite remedy, large doses of a dilute solution of bicarbonate of soda. The general treatment, with a view to cure, should have reference chiefly to diet and exercise. Fats, sugar, hot bread, malt drinks, highly-spiced dishes, and rich soups, should be avoided. Claret and the alkalide effervescing drinks, soda and seltzer water, should be freely used. Green vegetables, especially spinach and broccoli, likewise fresh ripe fruit, and plain pudding without fruit, may be used. Food should be taken in moderate quantity and frequently, the bowels should be moved at least once daily, and, above all, active exercise out of doors, as far as practicable, should be systematically pursued. The natural alkaline waters should be used, both internally and by the bath, for one or two seasons; those of Vichy, Carlsbad and Marienbad are the best.

The great preponderance of biliary colic amongst females, as compared with males, has been remarked by most writers on the subject. Of the seven examples which I have given, the patients were females in five instances, and the great majority of the other cases which have come under my notice belonged likewise to the female sex. Furthermore, in every instance except Case V., the female patients were of the better classes. It is not unreasonable to conclude that the sedentary habits of ladies, and their highly artificial dietary, are, in a great measure, chargeable with this result.

It will be observed that in this paper, which is of a purely clinical character, I have eschewed the pathology and the chemistry of gall-stones. The subject in its general bearing is much too large for a brief memoir. It has been adequately and ably treated by Fauconneau, Dufresne, Frerichs, Trouseau, Prout, Budd, Murchison, and quite recently by Dr. Hilton Fagge, all of whose writings may be consulted with profit.—*Dublin Medical Press.*

Cholera Infantum. By A. G. CRAIG, M.D., formerly resident physician of Cincinnati Hospital.

Cholera infantum, or, as it is generally called, summer complaint, is not as supposed by some a disease peculiar to this country. English writers describe the morbid phenomena of this affection.

under the head of infantile diarrhoea. Trousseau adopts the term infantile cholera. By other French writers it is usually called choleric form. It is an affection that occurs in this country from the month of May to October, its maximum frequency and severity correspond with the degree of heat, the disease increasing or decreasing as the mercury rises or falls in the thermometer. The disease is most prevalent in the months of July and August. It is not a disease confined almost exclusively to large cities, as is generally taught in our text-books. It is frequently met with in the rural districts, under the most favorable hygienic conditions. By some writers the term cholera infantum has been extended so as to include all the diarrhoeal maladies of infancy, during the hot season. I shall restrict it to that form of infantile diarrhoea in which the stools are frequent and watery, accompanied by vomiting, great thirst, high temperature, and rapid emaciation.

Cholera infantum occurs commonly under the age of two years, and generally during the period of early dentition. For this reason the malady is associated with teething in the popular mind, and even some practitioners consider dentition a cause. The eruption of the teeth is doubtless often retarded by this affection, and the disease frequently aggravated by irritation of the gums, but dentition will not of itself produce it. During infancy, which extends from birth to the age of two and a half years, there is great functional activity and rapid development of the intestinal follicles, and the disease should be attributed to this cause, rather than to dentition. But the most obvious cause of this malady is the intense heat of summer, and the anti-hygienic conditions to which it gives rise. In the large cities the heat is greater than in the country, the atmosphere is loaded with noxious vapors, especially gases arising from animal and vegetable decomposition. Children of the poorer classes, in insalubrious locations, living in crowded tenement houses, and in an atmosphere rendered impure by personal and domiciliary uncleanness, are peculiarly liable to be affected, but the children of those surrounded by the most favorable hygienic circumstances, by no means escape. In many cases another cause co-operates, namely, indigestion induced by the use of improper food, which tends to impair the whole alimentary tract. Bottle-fed infants are especially subject to this affection. In some cases malaria contributes to the intensity of the disease.

Cholera infantum in the great majority of cases is preceded by simple diarrhoea, the dejections being more or less numerous and copious, but not such as to excite much alarm. In other cases the attack commences abruptly. The diarrhoea is profuse, the stools often of a green or yellow color, but more commonly light-colored and watery, and almost always contain particles of food, especially undigested milk. The discharges are generally offensive from the onset, and when the disease is protracted, they are frequently streaked with blood. The

diarrhoea rarely continues for any length of time before an extreme irritability of the stomach manifests itself. Vomiting is a prominent and persistent symptom, everything taken into the stomach being immediately rejected, sometimes with great violence. In other cases there is constant retching without vomiting. In many cases the irritability of the stomach continues throughout the attack; in others the vomiting ceases while the purging continues unabated, or even increases in violence, and whatever food or drink is taken passes off rapidly without undergoing much change. In some cases the dejections are so thin and watery, as to soak into the diaper, and scarcely produce more of a stain than does the urine, and occasionally are almost odorless.

Thirst is a prominent and persistent symptom, the little patient craves constantly cold drinks, and ice is taken with great avidity. The appetite is gone, yet the infant seizes the breast eagerly in order to relieve the great thirst. The tongue in the commencement of the attack is covered with a white, slimy mucus; in protracted cases becomes red and dry. The pulse is usually quick, frequent, small and tense, and the respiration somewhat increased in frequency. The skin is dry and harsh, the head and abdomen are hot. The thermometer indicates a temperature of 103° to 107° , and in one case under my care, which proved fatal, $110\frac{1}{4}^{\circ}$. The infant is restless, and fretful, and generally sleeps with its eyelids partially open. The emaciation is more rapid than in any disease, except Asiatic cholera. The eyes are sunken, languid and glassy; the countenance pale and shrunken; the lips thin, dry and shriveled. As death approaches, the infant rolls its head about; utters plaintive, scarcely audible cries; the abdomen becomes tympanitic; the hands and feet of leaden hue, and sometimes cedematous; the skin has a clammy coldness; the discharges from the bowels frequent and very offensive; urine scanty or suppressed; complete coma results, death being in many cases preceded by convulsions. In some cases effusion takes place in the brain, and the patient has all the symptoms of acute hydrocephalus.

Cholera infantum is essentially an inflammatory malady. In inflammation of mucous surfaces the redness is apt to partially disappear in the cadaver. After death an examination reveals turgescence of the intestinal follicles. The mucous membrane is vascular and softened, and the solitary glands, and the patches of Peyer, present an inflammatory hyperæmia; and sometimes ulcerated patches are found throughout the intestinal canal. When the brain is involved there are found softening and injection of the cerebral tissue, and congestion of the cranial sinuses, veins, and capillaries.

Treatment.—This remains a *questio vexata*. The great variety of treatment instituted for the relief and cure of this affection, is evidence of the difficulty experienced in the management of it. I am, from no limited experience, a believer in calomel in the early stages of this disease. Given at

nce, so soon as the disease manifests itself, nothing else will so promptly restore the healthy action of the stomach and bowels. The medicine is best administered dry on the tongue, for being tasteless it is swallowed without repugnance. It is one of our best remedies for the relief of sick stomach in this affection. I have known it to succeed after all other means had failed. I administer from one-fourth to two grains, two or three times daily, or every two or three hours in urgent cases, when the discharges are frequent and exhausting. A spice poultice, wet with brandy, should be kept over the abdomen so long as the vomiting continues, and should be renewed frequently, so as to maintain its strength. A sinapism to the epigastrium is often necessary. Pounded ice may be given to quench the thirst. When the stomach is very irritable, water should be given sparingly or withheld altogether. In a majority of cases opiates are indispensable. The paramount object is the arrest of the exhausting discharges, and to relieve the griping, until the calomel has had time to effect a change in the secretions. The remedy on which most dependence is to be placed in effecting this object is opium. Laudanum is a most eligible preparation. When the stomach is very irritable, and the discharges frequent and exhausting, and attended with griping, it should be given by the rectum in starch-water. Sometimes acetate of lead injections—from two to four grains, in starch-water—may be further needed, for the same intent. So soon as the irritability of the stomach is sufficiently quieted as to allow of its administration, the remedy which I have found generally to promptly restrain the disordered action of the bowels, is a combination of calomel, prepared chalk, acetate of lead and opium.

℞. Hydrarg. chlor. mit., gr. iv.
 Crete præp., gr. xxxvj.
 Plumbi acetat., gr. xij.
 Opii pulv., gr. j.

M. ft. ch. No. xii. One powder every two to four hours to an infant one year old.

I have also used the following formula with the best results in this affection. The dose is for an infant of one year:

℞. Tinct. opii, gtt. xxiv.
 Bismuth subnitrat., ʒ ij.
 Mistur. cretæ, ʒ ij. Miscæ.

Shake bottle thoroughly, and give one teaspoonful every three or four hours.

In some cases I have used with gratifying results the subnitrate of bismuth and the compound powder of chalk with opium, combining as it does an astringent, alkali, and opiate. The bismuth is an efficient anti-emetic, and is a valuable remedy, not only in this disease, but in all of the diarrhoeal maladies of infancy. Its effects are entirely local, namely, upon the gastro-intestinal surface. It undergoes same chemical change with the secretions, which turns it black, and gives more consistence to the discharges. There is no positive evidence of its absorption.

Creasote is a valuable anti-emetic in this affection, counteracting as it does fermentation in the alimentary mass. It is best given in mucilage. Lime-water and milk, besides being nutritious, are efficient in relieving the irritability of the stomach. There are exceptional cases of cholera infantum in which we are left in no doubt as to their malarious nature. Such cases will require quinia or cinchonidia in conjunction with other remedies.

In protracted cases the vegetable astringents are of service. A decoction of the root of geranium maculatum, sweetened to the taste, is the best; it checks the discharges, and promotes digestion.

If the head be hot, and stupor or coma be threatened, with other marked cerebral symptoms, the opiate should be omitted. In these cases a few leeches behind the ears, and the application of cold water to the head, may be proper.

In every case the gums should be carefully examined, and if found to be swollen and inflamed, they should be freely lanced.

Attention to diet and regimen is of the greatest importance. If the milk of the mother, from pregnancy or other causes, is found to disagree with the infant, it must be weaned, and fed upon rich cow's milk, sweetened but not diluted. Pure milk is generally considered by physicians as the most appropriate article of food in this affection; but I have frequently met with cases in which the vomiting and purging were increased by confining the little patient to a milk diet, large masses of caseum being ejected from the stomach, and passed from the bowels. Egg-water, made by dissolving the whites of four eggs in a pint of iced water, to which a teaspoonful of bicarbonate of soda has been added, is, in my opinion, one of the very best articles of diet in cholera infantum. By the use of this drink I have seen patients rescued from imminent danger of collapse. It is taken with avidity by very young children, and is very seldom ejected, is readily digested, the albumen passing into the circulation and replacing that element of the blood exuded in the watery evacuations. In some cases I have administered, with the best results, the white of an egg beaten well with a spoon, to which a lump of ice had been added. Arrow-root, farina, chicken-water, essence of beef, strong broths, and broiled tender beef, have been found to answer best with some. Trousseau and others recommend raw meat made into a kind of *purée* by being reduced to a pulp in a mortar and pressed through a fine sieve, so as to separate the vessels and areolar tissue. I have no experience in the use of raw meat, but the liability to *tœnia* and *trichina*, as a result of eating uncooked meat, is not to be overlooked. Vegetables and fruits, and every kind of food which is not readily digested, should be prohibited. Many children will require alcoholic stimulants, preferably with their food, for support. Pure brandy, if it can be obtained, is the best stimulant. Elixir of calisaya bark is an eligible preparation, combining as it does a tonic and stimulant, agreeable to the taste. Pepsin is often beneficial.

The child should be bathed daily. Its apartment should be clean, dry, and freely ventilated, and so arranged as to be darkened during the day. The clothing should be sufficient to protect the child against the sudden changes of the weather, but not so warm as to overheat the body. The custom of dressing the child in flannel and other warm clothing, cannot be too much reprehended. During the extreme heat of the day, a thin cotton dress is all that is required. The babe should be carried into the open air in the shade of trees, but should not be exposed to the warm rays of the sun.

In the close built parts of a large city, all treatment may fail in some cases of cholera infantum, but the patients will speedily recover on being carried into the salubrious air of the country. The details of the treatment above indicated, must, of course, be left to the judgment of the medical attendant. Protracted summer complaint affords scope for perseverance and contrivance in finding remedies to control the vomiting, to restrain the exhausting discharges, and to improve the digestive powers of the little sufferer.—*American Practitioner*, August, 1876.

DILATATION OF THE CERVIX UTERI—A NEW METHOD OF USING SPONGE TENTS.

BY THEODORE H. SEYFERT, M.D.,

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The mechanical dilatation of the cervical canal of the unimpregnated uterus is one of the most valuable resources of the gynæcologist, both for diagnostic and therapeutic purposes, affording him the opportunity to explore freely a region that is, under ordinary circumstances, closed to all investigation, and to treat understandingly any pathological condition which may there exist. In the treatment of many derangements and diseases of the womb dilatation has been successfully used in place of the cautery and knife, and one might suppose, from the great frequency with which this operation is resorted to, that it is one almost wholly devoid of danger and productive only of good results. This, however, is far from being the case, and, although its dangers are not so great as to make one hesitate in having recourse to it on proper occasions, yet they are sufficient to give to the operation a degree of importance not always accorded to it, and to deter one from its employment if the desired results can be attained by other and less dangerous means.

The use of tents may be traced back to the earliest ages; the one composed of compressed sponge, with which we are so familiar, being described in a passage in Aëtius relating to the treatment of sterility dependant upon a contracted os uteri. Cotton, tow, wool, the roots of certain vegetables, ivory deprived of its earthy matter, india-rubber, and many other substances, have been used in their manufacture, particularly the root of the *Gentiana lutea*, which was among the earliest and most frequently employed. The bark of the slippery

elm is occasionally used, but it is almost valueless as a dilator, though it may sometimes be employed with advantage as a means of stimulating the diseased mucous membrane of the cervix and body to an altered action. Of all materials, compressed sponge and the laminaria digitata, or seatangle, are the most extensively used in the making of tents. The former is undoubtedly an excellent dilator, but there are serious objections to its use. It retains the secretions, allowing them to decompose in the uterus, and the cervical mucous membrane sinks into the cells of the sponge and is lacerated upon the withdrawal of the tent, thus increasing the risk of causing inflammation and those deplorable results which have too frequently followed their employment. Neither is the conical shape of the tent desirable, since it distends the canal very unequally, the external os being freely dilated, while the os internum is often only moderately so.

The laminaria digitata has much to recommend it, and is by some considered to be "the most cleanly, efficient, and convenient tent in use." It can be made smaller than the sponge tent; it has a greater *distending* power, other things being equal; it does not retain the secretions to the same extent as sponge, and is therefore less irritating to the uterus. In from ten to twelve hours it will expand to about three times its original diameter, and if soaked in water for a little while previous to introduction it will act more rapidly. These tents, however, are not without their drawbacks. It is difficult to retain them *in situ*, and their rigidity often renders them less suitable than sponge, particularly in those cases where the uterus is very tender and bleeds readily, or where the os is partly distended by abnormal growths. They are also slower in their action, and, although their ability to overcome resistance is greater than in sponge, they do not expand to the same extent.

Forcible and rapid dilatation is advocated by some practitioners to the exclusion of all other methods. For this purpose instruments are used so constructed that they may be made to expand their calibre after introduction into the cervix. Dr. Ellinger, of Stuttgart, employs a sort of modified *po'ypus* forceps, which can be introduced into the narrowest cervix without preliminary dilatation. He uses this instrument in all cases where it is desirable to dilate the womb, either for exploratory purposes or for treatment, and generally allows his patients to go about their business immediately after the operation. Dr. John Bull (*N. Y. Med. Jour.*, Oct. 1873), who narrates the history of a number of cases of dysmenorrhœa successfully treated by rapid and forcible dilatation, believes that its effects are threefold. "First, by breaking up all adhesions, which are often firm and unyielding, it relieves the constriction entirely, and, acting as a derivative, it cures the hyperæmia of the cervix; and, further, it establishes a radical change in the nutrition of the whole organ." This method of dilatation, though boldly and apparently successfully practised by a few, is in reality too dangerous to come into general use.

Besides that, cases of constriction which cannot be permanently overcome by the use of tents may be treated more safely and with the promise of better results by enlarging the canal by *incision*, as practised by Drs. Sims, Barnes, and others.

No matter by what method dilatation is accomplished, it is always well to bear in mind that it is always accompanied with danger. Those who are fully persuaded of this fact—and they may be found among the most eminent gynecologists—rarely resort to the operation if it can be avoided; and when they do determine upon its necessity, they are extremely careful to guard the patient against all extrinsic influences which might by any possibility affect her injuriously. I would lay stress upon this point, because I know that many physicians are disposed to underrate greatly the danger connected with dilatation of the womb; and I am fully convinced that serious troubles may often be attributed to their injudicious proceedings. It is true that the womb will sometimes submit to severe treatment without much evidence of resentment, but were metritis or pelvic cellulitis to occur in a patient after having a tent introduced at the doctor's office and then allowed to go about her business, with instructions to withdraw it after so many hours, I should think that the physician might be justly charged with being the cause of her illness. Metritis, peritonitis, septicæmic fever, tetanus, hysterical convulsions, etc., are not of extremely rare occurrence, and, although the judicious management of the patient will greatly lessen the liability to such unfavorable results, they will nevertheless occur despite the best efforts to prevent them. In other words, the trouble may not be occasioned by a want of skill on the part of the workman, but by serious defects in the instrument which he is obliged to use.

In order to avoid as far as possible the evil consequences arising from the use of tents, it is necessary that the physician should exercise a proper amount of discrimination in the selection of his cases and use a certain degree of care in the performance of the operation itself. As a rule, a tent should never be introduced during the menstrual period, nor immediately before or immediately after it. The reason for avoiding this time must be obvious to every one. Neither should it be employed when there are any evidences of recent inflammation of the womb or circumjacent tissues, for under these circumstances the irritation and excitement in and around the uterus occasioned by its dilatation would be apt to light up a flame of the most undesirable kind. We should also be assured that the patient can remain in the recumbent position so long as may be desirable. This time will vary with different patients, but in all cases it should be from the moment a tent is introduced until some hours have elapsed after its removal. This is a matter of importance, for too much care cannot be taken in this respect in order to guard against the development of inflammatory action, particularly if dilatation is carried to a considerable extent. The irritation will continue for some days,—sometimes for a week or more,—and if

excitement of any kind arises it is apt to increase until it assumes a serious aspect. Dr. J. Braxton Hicks, in dilating the cervix, always insists upon the patient being kept perfectly quiet, and in his hospital practice enjoins *a week's rest*,—a procedure greatly in contrast with that adopted by those gentlemen who do not hesitate to introduce a tent at their office and send the patient away, leaving its subsequent management to her care.

The placing and removal of a tent do not call for the exercise of much skill, but always demand care and gentleness. Pain is often inflicted unnecessarily by using a tent so large that it cannot be placed in position without employing force,—a proceeding that is never justifiable; therefore it is well to select one not larger than the canal intended to receive it, which, if introduced gently, will give no pain at all. It is also important to ascertain the direction of the cervical canal, and to have perfect control over the movements of the womb when about to introduce a tent. The one may be accomplished by the use of the probe, and the other by firmly fixing a tenaculum into the anterior lip of the uterus, which will enable one to draw down and steady the organ while the tent, having its tip slightly anointed, is slipped in on a line with its axis. It is best not to cover the tent with grease, since it will prevent it from absorbing fluids freely, and render it liable to slip out of position. The pain which usually accompanies the process of dilatation will demand the administration of a sedative of some kind, since, if it is allowed to continue, it may set up an inflammatory action in the womb or adjoining serous membrane.

In removing the tent it should not be pulled away through the speculum, for by so doing air would be admitted to the uterus through the distended vagina and might occasion trouble; furthermore, the finger would not be able to reach far enough through the instrument. Instead of pulling away the tent by the string which is always attached, it is better to loosen it gently with the finger, and when it becomes detached, the exploratory finger should be ready to take its place. No force should be used in this operation, and if the cervix is found to be insufficiently dilated another tent will be required. Here it is that due caution must be exercised, for serious illness and sometimes death have followed their successive application without allowing proper intervals of rest. There is not only a continued irritation which may result in inflammation, but also the danger of an extensive laceration of the cervical mucous membrane that may lead to a fatal termination of the case by septicæmia, a result which has occurred more than once to my knowledge.

If the beneficial results attained by dilatation warrant us in using tents without hesitation whenever they are positively indicated, a knowledge of the dangers accompanying their employment, some of which I have briefly alluded to, should induce us to dispense with their use when it can be done without disadvantage to the patient, and to regard the operation of dilating the cervix uteri as one of no trifling importance. Sponge tents are the best dilators at

our service, but they are especially dangerous for the reasons which I have already stated. Dr. Marion Sims writes, "He who will give us an efficient, safe, and cheap substitute for sponge tents will confer a great boon upon surgery. I know of no complete substitute, or I would be too willing to adopt it." What is required in an instrument of this kind is readily determined. It must not abrade the mucous membrane or retain secretions, and it should dilate equably and not too rapidly. More than one ingenious contrivance has sought favor as a substitute for compressed sponge, without succeeding in taking its place. To my mind, the nearest approach to a safe and reliable tent has been made by my colleague Dr. J. A. McFarran, whose inventive brain conceived the idea of preserving the use of compressed sponge whilst doing away with its dangers. It consists of a small metallic or hard rubber tube, holding upon its perforated extremity a sponge tent which is completely enveloped by a closely-fitting, thin piece of india-rubber. The rubber, while permitting the sponge to dilate to its fullest extent, prevents it from absorbing fluids from the canal and protects the cervical mucous membrane from abrasions. Water reaches the sponge through the tube, which has upon its vaginal extremity a distensible rubber ball for its reservoir. Instead of limiting the rubber covering to the tent, it may be made to envelope the entire apparatus, thus keeping the tube in constant contact with the water, which, by entering the perforations made in the tube, readily finds its way to the sponge.—*Philadelphia Medical Times*.

CHRONIC PSORIASIS, OR LEPROUS VULGARIS. (a)

By A. S. MYRTLE, M.D., Consulting Physician to the Harrogate Bath Hospital.

This disease has been and still is looked on by some authorities as identical with that leprosy we read of in the Bible, and which proved a "plague" to the ancient Israelites, requiring for its treatment the enforcement of the most absolute separation of the sick from the healthy, and the destruction of every material which had exhibited the smallest sign of having been smitten with it. Without doubt many of the symptoms of the lepra of to-day correspond with the description left us of that of the time of Moses. The scales are white; when removed there is the raised red spot. These spots spread; the parts of the body affected are the same; but the hairs do not whiten, and the lepra we now see is eminently non-contagious, and its white scales do not attach themselves to the skins of beasts and walls of ho uses. I think it highly probable that psoriasis was as common among the ancient Jews as it is among ourselves, and that it would be found side by side with cases of contagious lepra; but owing to the impossibility of recognising the one from the other from want of diagnostic power the subject of psoriasis would be treated exactly as if he had been a leper. All skin affections must have met with the same fate, even boils, and we cannot wonder that this one in

particular should have had the word unclean pronounced against it. At the present time psoriasis is frequently seen in many parts of the East, and the modern Jew shows evidences of its presence as often as his Gentile neighbour; but we shall seek in vain for a cutaneous disease to answer the description of the leprosy of Scripture, which possibly depended on the presence of a parasite, a white fungus which had the property of attaching itself and spreading, propagating on structures differing so widely in their nature as wool and stone, as well as on man and beast. The traveller now as he passes from one Eastern city to another meets at its gates poor wretched objects, modern lepers, but these have nothing in common either as regards the history of their disease, the local and constitutional symptoms it presents, or its inevitable consequences to their retrospective namesakes.

Psoriasis stands next to eczema as regards frequency. It is very seldom seen in children under ten; frequently after that age, where it is hereditary, we may detect one or two insulated patches of a slightly reddish hue, not very scaly. These often disappear without treatment, return again in the spring or autumn, until puberty is passed, when the eruption becomes more pronounced and persistent, showing a decided preference for the knees, elbows, outside of thighs, legs, and hairy scalp, but seldom affecting the face or hands. If the scales are allowed to accumulate, they become white and of a pearly lustre; but as they are liable to removal from the friction of clothing, washing, &c., they seldom present this peculiarity, and for the most part are of a yellowish colour and opaque. No constitutional disturbance precedes or accompanies the eruption, and barring its unsightliness, the individual is in perfect health. Of the cause of this disease we know nothing. Why certain little patches of skin should become over-vascular, and why this should lead to excessive cell growth, and cell growth of a normal character, although in too great abundance, is a problem still to solve. Of all diseases of the skin I believe it to be the most capable of transmission from parent to child, with a tendency to increase in virulence as it descends. However virulent, I also believe no disease is so little apt to impair the general health if left to itself, and that in time—it may be a very long time—it wears itself out, leaving the patches of skin in a perfectly healthy condition. This I have also noticed, that some cases respond to treatment readily; others presenting the very same features defy all medicines; and often in these cases I have seen great mischief result from too prolonged courses of powerful and poisonous drugs. Some medical writers have affirmed that psoriasis is very often associated with pulmonary consumption. I agree with them, but connect the lung evil with the remedies employed to cure the rash—not with the rash itself. It is not possible that the economy can permit the exhibition of accumulative poisons for months and years without suffering in one or other of its parts; above all arsenic and mercury ought to be administered so as to avoid their doing permanent injury to the constitution, whilst they can in most instances effect but

temporary good to a harmless eruption. Others look on it as a sure indication of gout, and I admit that the two are frequently found to exist at the same time in the same subject; yet I hold them to be perfectly independent as regards causation, and therefore requiring at our hands some discrimination in their treatment. Perhaps the reason that psoriasis has been so often looked on as of a gouty nature may be accounted for by the fact that when it makes its appearance for the first time it very generally does so after adolescence, the very period when gout is apt to show itself. When it is hereditary it very often appears at an early age, and continues to maintain its hold till the individual reaches that time of life when gout may be expected, and so we have the two running in couples. Yet I am inclined to view them as distinct diseases, and when they do exist in the same individual, in order to deal with them successfully they must be dealt with separately. I have often found that, although the patient got rid of all traces of gout, his skin remained as full of scaly patches as ever. This, I think, would not be the case if there was that intimate connection between the two which some maintain. My experience leads me to believe the psoriasis is little under the influence of any other disease, whether chronic or acute; these run their courses, leaving the patient, as far as the eruption is concerned, just as they found him. Certain seasons have much more power over it; in some it disappears entirely during the winter months, in others during the summer; but I rather think a hot dry summer is more apt to aggravate it than any kind of weather, and I have frequently seen it affect parts during or after such a season which it had never encroached upon before. If psoriasis is not affected by the superaddition of other aberrations from health in any one suffering from it, however extensive it may be, it does not in any way interfere with the general health, or even comfort of the patient. It must have a depressing effect on the spirits, especially when females are the subjects, but that is often greatly increased by the lowering effects of arsenic and iodide of potassium, and might be very much lessened were they made aware of the perfectly innocuous nature of their complaint, and the possibility of its being kept within bounds. In this country psoriasis is much more frequently met with in people with fair and fine skins than among dark, and shows a decided preference for the strong and healthy. Various writers maintain that it is usually associated with some form of debility of a constitutional character; but this has not been my experience. It is confined to no race or country, and presents the same features wherever it is found. As to the varieties of psoriasis, I have nothing to say; they all present two or three very distinguishing features in common, the first being cell proliferation, the second that this excessive growth neither injures the general health nor leads to any ulterior change in the skin itself; third, that it is most difficult of cure, and when cured, apt to recur; and lastly, that it is hereditary.

Two cases have just presented themselves in proof

of the two last facts. I have been called to a gentleman, *æt.* 78, on account of bronchitis. I also find him the subject of extensive and continuous patches of psoriasis, and he tells me he has never been free of it since he was fourteen years of age, that he has never been treated for it, and that the only application he ever used was a rag soaked in cold water. He is a hale, active man, and rides and walks as vigorously as he did when in his prime. The other case is a girl of eleven covered with psoriasis. The spots vary in size from a pin's head to a sixpence, involving the whole skin except hands and feet. Two years ago her brother, when eight, suffered in the same way. Last year a sister, twelve, had it and now the mother, for the first time in her life, shows a few places on one cheek, and one patch on left shoulder. She tells me that her sister is affected likewise, and that they can trace it back to the grandfather. All are fair-skinned, very healthy and robust.

As to treatment, this involves constitutional and local remedies. Of the former, by far the most powerful and specific against this cell growth are the different preparations of arsenic; in fact, these are the only medicines which act directly on this eruption; other medicines may do so indirectly by improving the digestive organs, and giving tone to the system generally. But arsenic alone seems to be able to cause its disappearance. Unfortunately, this medicine cannot be borne by all patients alike, and many even refuse to get well under protracted courses of the drug. In all its exhibition must be carefully watched, as, if pushed too far, or given where from idiosyncrasy it is not admissible, most unpleasant and occasionally serious symptoms arise. Local remedies may be divided into two kinds, soothing and stimulating. Among the soothing, baths of different kinds must be held as holding the first place, and if properly carried into action, they prove of immense value. They soften the skin, remove the accumulated scales, and thereby enable other applications to reach the hyperæmic vessels. I have known a three months' course of the mild sulphur baths completely remove every vestige of psoriasis in cases of very long standing and extent. I have repeatedly found that the daily immersion in a bath of cold water summer and winter at the ordinary temperature, remaining under the water as long as the patient can bear it (in very cold weather one minute to two, in very warm twenty minutes to thirty may be borne), has had a very decided influence in keeping this disease in check. But this treatment requires a vigorous constitution to start with and above all, a strong heart to ensure reaction.

Where baths cannot be had, water dressing with oil-silk coverings, act much in the same way. Of the many soothing ointments, I give preference to cocoa butter, as the most cleanly and least apt to oxidise. Where stimulant local measures are needed, we use soft soap, the preparations of tar, vegetable and mineral, mercury, iodine and their combinations, all possess great virtues, and if judiciously applied,

may keep the disease in subjection. Change of climate frequently proves eminently curative; sometimes from the sea coast to inland, or the opposite, very generally from a low to a high situation, will be followed by a rapid subsidence of the rash. I have met with many patients who assure me that as soon as they get into the mountainous regions of Switzerland their skins become free from every spot. Unfortunately this does not last longer than their sojourn among the heights, for as soon as they return to the plains the eruption again shows itself.

Whenever psoriasis is accompanied with symptoms of derangement of the stomach, liver, or other organ, the treatment must first be directed to that quarter, as it would be unreasonable to expect that the skin should respond to remedies when its condition was aggravated by the presence of such complications. Should there be general debility, measures for restoring strength must be first put in force in the form of tonics and nutrients. If the blood has become loaded with impurities, these must be got rid of by the exhibition of medicines which act as depurants, and thus having restored strength and eliminated morbid elements from the blood, we may fairly hope to obtain satisfactory results from the local and constitutional remedies which experience has proved useful in the treatment of this affection.

In dealing with all skin diseases, more attention ought to be paid to the character of the skin itself than is generally the case. There is too much routine practice here, and the different forms of cutaneous disease are very often treated according to their names, without reference to the varieties of texture and functional activity which we meet with so frequently. The skins of the young will not bear the same treatment as those of older growth, and I have found, or imagined I have found, that the skins of patients coming from the northern parts of our own country stand rougher treatment than do those from the southern. Dr. Tilbury Fox, in speaking of the different modes of treating skin diseases in England and the Continent, points to the fact that here we could not use the same strong measures which are resorted to in France and Germany, and he further observes, "Differences in the pathological conditions of the same disease, as seen in London and Vienna, are observed, and such being the case, merely even *à priori*, one may expect that some differences of treatment may be required to suit the respective constitutional conditions which result from the operation upon individuals of different modes of life, climatic influences, particular diet habits, and a dozen other like things."

My remarks apply to true psoriasis only, the distinguishing feature of which is that in almost all cases you have the knees and elbows exhibiting spots, and these generally occupy the very centre of the joints, where they will remain stationary for great periods of time, in spite of everything. The eruption, wherever it appears, is of the same character, and generally shows a disposition for the skin on the outside of the extremities. The scales are deposited in layers, and are very adherent, and when the hairy

parts of the body are affected, the hairs themselves remain perfectly healthy. The diseases of the skin most frequently mistaken for psoriasis are syphilitic eruptions and ringworm. Of the former, we have a very common form of syphilitic psoriasis, but the rash may be easily distinguished from true psoriasis by attention to a few of the following facts:—1st. The fact of previous syphilitic poisoning; 2nd. The presence of febrile symptoms; 3rd. The character of the eruption, which in the syphilitic form generally appears most abundantly in those parts of the skin least affected in the true—the insides of the extremities, palms of the hands, and soles of the feet. The scales are smaller, less adherent, and vary in shape. The colour of the hyperæmic patches is of a dusky brown; and on examining the mucous membrane of the mouth you will generally find patches on the tongue and throat, with fissures. These I have never found in true psoriasis. Then we have the action of remedies to assist in our diagnosis. In syphilitic psoriasis mercury and iodide of potassium soon pronounce in favour of a specific origin, whereas in the other they exercise no power except for mischief. In tinea circinata we have circular patches, as in psoriasis, but these are slightly raised. The rings are found to consist of small vesicles or papules, giving off a furfuraceous dust, unlike the scales of psoriasis, and if examined these will be found to contain traces of the trycophyton tonsurans; the rings widen in circumference, leaving healthy skin in their centres; and when they encroach on any part covered with hair, the hairs dry up, bend, and are speedily nipped across by the parasite.

DIPHTHERIA.

At the New York Academy of Medicine, on the evening of March 16, Dr. C. E. Billington read a paper on this disease and its treatment, which was especially valuable as it was based entirely upon clinical and personal experience; his observations having been made with great care and extending over a large number of cases. The Records of the Bureau of vital Statistics showed, said he, that in 1873 there were over four hundred deaths from diphtheria in this city, in 1874 over one thousand, and in 1875 no less than two thousand three hundred and twenty-nine. This terrible epidemic he thought could not be checked by any therapeutic methods, but could only be stamped out by the most revolutionary and active sanitary reform. Dr. Billington has enjoyed unusual facilities for the study of the disease, as he is one of the district physicians of the Demilt Dispensary, and has seen altogether about three hundred cases; of which he has careful records of about one-half.

As a result of his observation and study he has become fully convinced that diphtheria is a local disease, at least primarily; and, though this is the opinion of a minority of the authorities on the subject, he is glad to have his views corroborated by such observers as Drs. Jacobi and J. Lewis Smith. This conclusion is based upon the following points:

First. The local affection commences first.

Second. The gravity of the general symptoms is in proportion to the severity of the local manifestations.

Third. The results of treatment seem to substantiate this view.

In the study of the nature of the disease, he said, three elements were to be considered :

(1) The *contagion*, which he did not propose to discuss on this occasion.

(2) The inflammation, denuding the fauces of epithelium, and resulting in membranous exudation ; and

(3) The effects reflected from the inflammation upon the system in general, are, to a greater or less extent, septicæmic in character.

Dr. Billington's treatment consists mainly in local disinfection, together with the most careful and unremitting watching and attention. The agents which he regards as most useful are following, in the order in which they stand in his estimation : tincture of the chloride of iron, lime water and glycerine ; and after them, salicylic and carbolic acids, sulphite of sodium, chlorate of potassium, etc. One formula which he uses in almost every case is as follows :

℞ Tinct. ferri chlor., fʒ iss ;
Glycerinæ.
Aquæ, aa fʒ j.—M.

S. Teaspoonful every hour or half-hour.

Besides being very effective, it has the merit of being pleasant to the taste, which is a great desideratum for children, especially when the dose has to be so frequently repeated. If the child is under two years, one drachm of the tincture of the chloride of iron is enough, and if vomiting follows the administration of the medicine, it should not be given so often.

In connection with the above, Dr. Billington formerly employed the following :

℞ Potass. chlor., ʒ iss ;
Glycerinæ, fʒ ss ;
Liq. calcis, fʒ iiss.—M.

A teaspoonful of this was alternated with a dose of the former ; so that the patient would receive one or the other every half-hour. As a substitute for the chlorate of potassium mixture, he now generally uses the following :

℞ Acid. salicylic., gr. x.—xv.
Sodii sulphit., gr. xxx—xlv ;
Glycerinæ, fʒ ss ;
Aquæ, fʒ iiss.—M.

Here the salicylic acid is rendered soluble by the addition of three times its weight of sulphite of sodium (borax also has the same effect) so that in this prescription we have the advantages of both these reputed antiseptics, which are indicated theoretically, and really seem to be of considerable practical benefit. It is of great importance that in every case in which it is practicable some sort of spray should be used upon the throat ; and the most convenient instrument with which to accomplish this is the ordinary little perfumery spray apparatus now in such general use. In order to annoy the child as little as possible, it is best to employ the spray immediately after a dose of the medicine is admin-

istered. The combination generally used by Dr. Billington is the following :

℞ Acid. carbolic., m x.
Liq. calcis, fʒ iv.—M.

He believes that the nasal douche or syringe has saved many lives : and even when the nasal passages, apparently, do not seem affected, it is often useful in reaching portions of the mucous membrane inaccessible to the spray. If therefore the breath should remain fetid after the employment of the latter, it ought to be resorted to ; and the mixture mentioned above, containing the salicylic acid, is as good as any other for the purpose.

In adults or large children it may occasionally be of service to apply carefully strong tincture of iroa (say two parts of the tincture to one of glycerin) to circumscribed patches of membrane ; but, as a rule, topical applications of caustics or astringents by the probang or camel's hair brush do much more harm than good, as they cause exhaustion of the little patients from their struggles to resist, excite an increased flow of blood to the part, and really occasion further thickening and spread of membrane.

Dr. Billington expressed the opinion (which is hardly substantiated by other observers) that quinine is worse than useless in diphtheria in children ; being objectionable, if for no other reason, on account of its bitter taste, which makes every dose dreaded by the patient.

In cases attended with high secondary fever, a full dose of quinine, he thinks, may occasionally do good, but five grains of calomel has worked better in his hands. He cannot subscribe to the prevalent opinion that diphtheria will never bear antiphlogistic treatment.

Dr. Billington then proceeded to give an interesting summary of the cases which he had personally observed, prefacing his statement with an allusion to the well-recognized disadvantages to be encountered in dispensary practice. According to his observations, about sixty-five per cent. of all cases of diphtheria occur in persons under five years of age, and it is quite a rare affection among adults (except in the peculiar experience of certain irregular practitioners,) even when individuals are constantly and to the fullest extent exposed to the disease. He has also found that about sixty per cent. of all the cases will recover without any treatment at all, and that about five per cent. will prove fatal whatever plan may be adopted. Out of one hundred and two carefully tabulated dispensary cases treated by him, fourteen died, and eighty-eight recovered ; while of seventeen cases in private practice, one died, and sixteen recovered.

The usual duration of the attack, from the commencement of the treatment to the disappearance of the diphtheritic membrane, was only from four to six days. Twenty-four cases in private practice, treated on the same principles by Dr. Wm. Darken, house physician, to the Demilt Dispensary, show even a better result ; not a single death occurred directly from the disease, though one of the children died several

weeks after the acute attack from some unexplained cause.

A still later series of fourteen cases treated by Dr. Billington in conjunction with Dr. W. E. Bullard (in order that the patients might receive the fullest possible amount of attention) all recovered, so that we have fifty-five cases altogether, with only one death directly attributable to the disease. In a large number of these the attack was of very great severity.

From his observations, Dr. Billington has been induced to believe that a laryngeal or tracheal complication can often be prevented or aborted by the use of the spray, and that even after the membranes have been fully formed in this locality it is of very great service. Calomel has also proved useful in many cases. The inhalation of *hot* vapor, he thinks, renders the surface more favorable to the absorption of septic materials, and therefore injurious.

He did not express a positive opinion as to the identity or non-identity of croup and diphtheria, but apparently seemed to hold to the former view.

—*Phila. Med. Times.*

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TO OUR SUBSCRIBERS.

With the issue of another number the fourth Volume of the Canada Medical Record will be completed. We therefore desire that all who have not yet remitted us their subscription will do so at once. We have placed the *Record* at the very lowest possible rate, and we think we are only asking our due when we request prompt payment.

THE WOMAN'S HOSPITAL, MONTREAL.

This institution, hitherto under the immediate control of Drs. Hingston and Leprohon, has been transferred to the Medical Faculty of Bishop's College, and will in future be managed by it. The Lying-in Department has been placed under the control of Dr. Trenholme, Professor of Midwifery. A ward has been also set apart for female diseases, and a daily out-door clinique will be conducted by Drs. F. W. Campbell, Trenholme, Kennedy and Wilkins. Dr. Hingston has been elected consulting Surgeon, and the Medical Faculty of Bishop's College are its consulting Physicians. We understand that the private wards of the Hospital can be occupied by the patients of any regular

physician in good standing. This arrangement will be found a convenience, for it is often a matter of much difficulty to find comfortable private quarters, especially for lying in cases from the country.—*See Advertisement.*

THE CANADIAN MEDICAL MUTUAL Benefit Association has elected the following officers for the ensuing year:—President, Dr. Hodder, Toronto; Vice-Presidents, Dr. Canniff, Toronto; Dr. Jas. H. Richardson, Toronto, Sec.-Treas., Dr. Bridgman, Toronto; Directors—Drs. Winstandley, Pyne, Agnew, Rosebrugh, De La Hooke, and Oldwright, of Toronto; Dr. Jukes, St. Catharines; Dr. Lander, London; and Dr. Henderson, Ottawa.

A SANITARY UNDERTAKER.

A newspaper, published a couple of centuries ago, contains the following advertisement:—

"James Maddox, coffin maker, and clerk of St. Olave, Jury, London, at the sign of the Sugar Loaf and Coffin, in the Old Jury, secureth the corps of any dead body from any ill scent or annoyance, without embalming, embowelling, or wrapping in sear cloth, for as long time as shall be required, or for as long time as they shall keep them above ground; and if it be desired, they may have a view of the face for three or six months, which he hath performed, as is well known to several persons of quality and others in and about the City of London. This is he that took up the corps at Painswick, in Gloucestershire, after it had been 13 weeks buried. He hath also an excellent way to take up any corps that hath been some time buried, and preserve the same from any ill scent for the conveying of it to any other place, as hath been eminently performed by him. He also (by God's blessing) hath cured several persons of quality of the gout, and giveth ease within half-an-hour, though the pain be never so violent."

PERSONAL.

We were in error in stating in our July number that Dr. Gilbert, jun., son of Dr. Gilbert of Sherbrooke, had passed his final examination before the Royal College of Surgeons of England, in April last. It should have read "primary examination." The final examination was passed, and the Diploma obtained on the 28th of July. We congratulate Dr. Gilbert.

BIRTHS.

At Compton, Que., on the 11th August, the wife of Reginald A. D. King, M.D., of a daughter.
In Montreal on the 31st July, the wife of George F. Slack, C.M., M.D., M.R.C.S.E., of a daughter.