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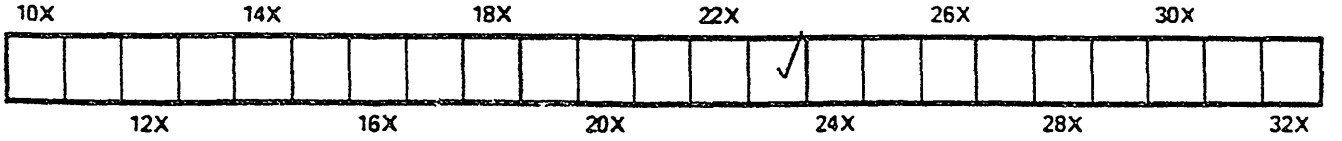

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CANADA HEALTH JOURNAL,

A MONTHLY MAGAZINE OF PREVENTIVE MEDICINE

—EDITED BY—

EDWARD PLAYTER, M.D.

Public Health and National Strength and Wealth.

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The Canada Health Journal

VOL. I. APRIL, 1888. No. 4.

THE HEATING AND VENTILATION OF PASSENGER COACHES.*

IN looking over the files of the *Railway Age* for the year just past I have failed to find a single article, either editorial or otherwise, on the subject of Heating and Ventilating Passenger Coaches.

Out of the many valuable "editorials" of that able journal during the past year, only eight are on the general subject of "Heating and Lighting of Passenger Cars," and one on "Heating without Burning," and in neither of these is ventilation taken into consideration.

In the "communications" to that same journal for the same period, I found only one article on "Heating and Lighting Cars by Electricity," while in the "miscellaneous" department I found eighteen different articles, under various titles, on the general subject of heating and lighting passenger cars, but not one article on the ventilation of these nomadic palaces, in which hundreds of thousands of people live daily.

You will observe that during a year in which, from a combination of causes, the subject of heating passenger coaches has been agitated more than ever before by the public, during which time one of the leading national journals devoted to the interest of the railway world has published an average of over an article every fortnight on this important subject; yet, with all this, I have failed to find a single article on the ventilation of passenger

* By R. Harvey Reed, M.D., Surg.-in-Chief, Trans. Dep't, B.& O.R.R., at a recent meeting of the Ohio State Sanitary Convention—from the Sanitarian.

coaches, which, from a sanitary point of view, is inseparable from perfect heating.

In the ideal heating and ventilation of passenger coaches there are, at least, five primitive factors to be taken into consideration—viz., efficiency, safety, simplicity, durability, and economy. By our present methods of heating and ventilating passenger coaches, the first two of these prime factors are certainly wanting; and without them (from a sanitary standpoint) you might as well try to sustain life in a man without either heart or lungs, as to endeavour to establish a system of heating and ventilating passenger coaches without efficiency and safety being first fairly stamped upon it.

The travelling public not only require these, but they have an inalienable right to demand them, and if their demands are not heeded by our railroads, and the voice of science is not allowed to be heard in these matters, it is to be feared that they will, in their haste, make commands through our legislators that will, for the time being at least, only make a bad matter worse.

That our present systems of heating and ventilating passenger coaches is faulty and insufficient is certainly beyond dispute; yet if there is a man here to-day who doubts it, I think I need only refer him to the personal investigations made by Professor C. C. Howard, of Columbus, and the author, less than a year ago, on this very subject, which, I think, are sufficient to convince any unprejudiced mind of the truth of this assertion.

In these investigations, which were conducted on four leading railroads, under a variety of circumstances, on first-class trains, while in active service, the results of which I reported in a paper presented to the section of "Public and International Hygiene, of the Ninth International Medical Congress," it was found that† "the greatest, least, and average difference of temperature observed between the inside and outside of passenger coaches while running, during the winter season, was 80° the maximum, 37° the minimum, and 54° the average in thirty cars, including smokers, ladies' coaches, and sleepers in first-class trains.

In the same series of examinations, it was found that the greatest, least, and average difference observed between the ex-

tremes of temperature in coaches while *running*, during the winter season, was 27° the maximum, 0° the minimum, and 7⅔° the average.

In following up the same line of investigations we found that the greatest, least, and average difference observed between extremes of temperature in coaches while *standing*, during the winter season, was 27° the maximum, 1° the minimum, and 7° the average.

Again, the greatest, least, and average difference observed between the extremes of temperature in coaches *running* and *standing*, during the winter season, was 29° the maximum, 5° the minimum, and 13⅓° the average.

When we compared the temperature at the bottom of the cars with that at the level of the head, we found the greatest, least, and average difference to be 30° the maximum, 12° the minimum, and 18° the average.

You will observe that we have made comparisons of temperature under five different circumstances and conditions, and with a remarkable sameness in the general results, all of which show a deplorable variation of temperature incompatible with health or a proper sanitary condition. . . .

In cars heated by hot water there was found to be a difference of temperature while running varying from 0° to 27°, with the mercury outside at 22° and 27°, respectively, above zero, and a difference of temperature between running and standing varying from 2° to 29°, with the mercury outside at 4° and 27°, respectively, above zero; while the difference between extremes standing varied from 1° to 27°, with the mercury outside at 16° and 27°, respectively, above zero.

By these same methods of heating, a variation of temperature between the bottom of the car and the level of the head while sitting was found to exist, varying from 12°, with the mercury outside at 18° above zero in one instance, and 12° above in another, to 30°, with the mercury outside at 12° above zero.

In those cars in which hot-air heaters were used, and which, as a rule, are usually at each end of the car, with a hot-air conduit running along each side and bottom of the car, there was found to be great uncertainty in the supply of warm, fresh air.

Being entirely dependent upon the motion of the train or the outside currents of air, all of which were undergoing rapid changes which were modifying each other with the onward course of the train, we found, as a rule, good draughts from the registers of those conduits which came from the heater at the front end of the car, while those coming from the heater at the rear end of the coach, there was a very great irregularity, with often little or no draught.

In those registers in the conduit coming from the heater at the front end of the car, the draught was often so strong and the air so hot as to necessitate the closing of the register by the party sitting next to it, while his neighbour on the opposite side of the car was as much too cold as the former was too hot.

The cars heated by hot water usually consisted in a heating apparatus placed at one or the other end of the car, with an arrangement for heating salt water very hot, usually by means of a coil of pipe, which was continued from the heater around the entire car, running back and forth under each seat as it encircled the car, and finally connecting with the other end of the coil at the heater. By this ingenious arrangement, a constant current of hot salt water is intended to be kept circling through these pipes around the entire car, which, as fast as it became cool, would return to the heater to be reheated. These are not only dangerous —often exploding with terrific force when out of order—but they were found to be inadequate to properly heat the coaches in cold weather, and certainly failed to keep up an even temperature throughout the car even when pushed to their utmost, which in turn would necessitate the closing of the ventilators, thus preventing the use of the limited and unsatisfactory means of ventilation provided in these cars, by the top system of ventilation, and hence were utterly useless so far as the ventilation of the car was concerned.

When we remember that these investigations were made on first-class trains, equipped with first-class cars, we are led to the natural and legitimate conclusion that the fault must be with our present system of heating and ventilation of these coaches.

Some of the present defects now found in the ladies' coaches

and the smokers might be, to a certain extent, remedied by building vestibules at the ends of each car, and thus economise the heat; yet when you remember that we found as much as 29° difference between the extremes of temperature even in a sleeper, with all the improvements of construction that science has suggested, you will certainly be convinced at once that there is something else at fault other than the mere construction of the car itself.

We found the greatest and really most important difference in temperature between that at the level of the head and that at the surface of the floor, which, in one instance, amounted to 30°, and that, too, in a sleeper, which is supposed to be the best and most comfortably equipped car we have, and for the privilege of riding in it the public has to pay an extra fee; yet in this travelling palace the minimum difference between these two extremes of temperature was 12°, and the average difference estimated from twenty-four cars in ordinary winter weather was as high as 18°. Nor were these great variations of temperature all; in the same report above referred to there was not only a great variety of temperature in the same car, but a polluted atmosphere.

For example, Professor Howard found in his analysis of the air in car No. 319 (Pan Handle R. R.), which was a sleeper, and contained only twelve passengers, that the atmosphere in this car contained as high as 13·25 parts of carbon dioxide per 10,000—the highest in proportion to the number of passengers of any car examined—and at the same time there was a difference between the temperature at the bottom of the car and level of the head of 29°; and yet this car had all the ordinary provisions for ventilating found in the majority of such cars, and was heated by a Baker's hot-water heater, of which we found more in use than of any other kind.

Take another example: Car No. 356 (C.C.C. & I.R.R.) was a ladies' car, heated with a Baker's heater; one transom and eleven drop ventilators were open, and three analyses of the air made; one at the front end, when twenty-nine passengers were in it, which showed 14.26 parts of carbon dioxide per 10,000; another at the middle of the car, when twenty-nine passengers were

aboard, which showed 13.68 parts of carbon dioxide present; and finally, one at the rear end, when there were twenty-seven passengers in it, which showed 11.53 parts per 10,000 of carbon dioxide present.

At the same time this car showed a difference of temperature between the level of the head and surface of the floor of 14°, with a variation of 6° between the extremes running and standing, with the mercury outside at 15° above zero.

These examples, which were practically duplicated over and over again in our investigations, certainly demonstrate without a question a decidedly improper system of heating and ventilating, and remove all questions as to why so many people take colds and contract severe acute diseases while traveling in our modern passenger coaches.

In these investigations we found that all provisions for the ventilation of passenger coaches were either at the top of the cars at the ends, by the windows or doors, excepting the constant supply of air that found its way in around both the single and double windows in all running trains.

Of the cars examined, 43⅓ per cent. were ventilated with "drop sash" ventilators placed at the tops and sides of the cars and opening inward; 23⅓ per cent. with "registers" placed along the top of the sides of each car; 13⅓ per cent. with "side sash" ventilators placed at the top and sides of the car, and opening outward; 6⅔ per cent. were ventilated with transoms at each end and top of the car; 13⅓ per cent. had no ventilators at all.

In testing the currents of air circulating through these cars in the winter, we found almost a constant current of cold air coming in around the closed windows and descending toward the floor.

When the ventilators at the top of the car were open, the warm air at the top of the car rapidly escaped at these openings, and was replaced by a current of cold air, which rushed in at these same openings and rapidly fell to the bottom of the car, where it remained until sufficiently heated to again rise to the top and escape.

This process caused a constant out and in flow of air at these openings, which was modified by the pressure of air inside the car, the motion of the train, and the currents of air outside.

The carbonic acid thrown off by the passengers, being much heavier than the air, would rapidly increase, and lay as a stratum of foul, cold air at the bottom of the car, while the warm, pure air would just as rapidly ascend to the top of the car and find a ready means of escape at the open ventilators.

In this way you will observe that it is easy to account for the extremely foul air in the cars above referred to, notwithstanding they were apparently well ventilated according to the methods now in use, which puts one in mind of the old story of a man trying to lift himself over the fence by his boot straps.

We have merely hinted at the obnoxious, unpleasant, and dangerous practice of ventilating coaches by an open window or door, for we think no sane person would advocate that method at the present time, especially in the winter season; and if the cars were properly constructed they would have no occasion to. To properly heat and ventilate a passenger coach is a grave question, and one that is much easier asked than answered.

The ideal heating of a passenger car is to keep all parts of the car at a given temperature (say 70° to 75° Fahr.) at all times while in active use. The ideal ventilating of a car is to remove all the foul air as fast as it is exhaled, and immediately replace it with pure fresh air. Then to properly heat and ventilate a car is to so combine these two as to keep a regular temperature at all times in the car, with a free supply of pure air, and at the same time be so constructed as to remove all the foul, cold air as fast as it accumulates at the bottom of the car.

The system that approaches nearest to these ideals, and at the same time will guarantee safety against fire or other injury to passengers in the event of a wreck, is simple of construction, durable, and economical, must sooner or later be adopted and put into practical use by our different railroad companies.

It seems to me that many of the grave objections above enumerated could be remedied and an approximate approach made, at least, in the direction of the ideal, by adopting a system something like the following:

In the first place, if the car is to be heated by steam from the engine, which by recent trials has been demonstrated to be practical as well as safe and economical, then have an air conduit built along each side of the coach, in the walls if you please, constructed of tin or some bright metal, and made air tight, through which the steam-pipes are to be conducted.

This air conduit should now be connected with a pipe leading from the air chamber of an air pump, from which a regular given pressure of air could be obtained. Immediately above this hot-air conduit should be a second air conduit or chamber, which should be supplied with air in the same manner as its fellow, but not to be supplied with steam-pipes.

These hot and cold-air conduits should now be connected by short connecting conduits between each seat, in which should be an opening leading into the car, and so arranged by stop cocks as to allow either hot or cold air, or both, to flow through this orifice into the car, as desired. (Just as you would turn on hot or cold water, or a mixture of both, in your bath-tub.)

There should be no ventilators at the tops of the cars at all, of any kind, but, instead, a foul-air register at the bottom, at each end of every car, large enough to allow the free escape of all the foul cold air into a suitable flue leading to the top and out of the car. In the second place, if the car is to be heated by individual heaters, I would recommend a system in which the fire-box of the heating apparatus would be enclosed in a boiler-iron case, placed underneath the middle of each car, which case could easily be constructed to serve as the outer wall of a hot-air chamber, as well as a protection against fire in case of an accident.

To this hot-air chamber could be attached one branch of the air-pipe leading from the air-pump on the engine; the other branch going to the cold-air conduit, while the warm-air

conduit would be connected with this hot-air chamber and thus constantly be supplied with warm air.

By such a system you will readily observe that each seat would be supplied with a constant, fresh supply of either warm or cold pure air, or a mixture of both, by the simple turning of the stop-cocks opposite them, not only furnishing individual ventilation, which is so essential, especially in sleeping cars, but at the same time ventilating and heating the whole car, regardless of external influences, the temperature of which should be regulated by stationary thermometers hung along the sides of the car, accompanied with printed instructions regarding the proper average temperature the car should be kept at.

By such a method it will readily be seen that a constant supply of pure air, at any desired temperature, coming into the sides of the car, would soon enable it to acquire an even temperature throughout, and by its pressure would constantly drive the cold foul stratum of air at the bottom of the car out through the foul-air ventilators, and thus not only heat, but ventilate the car perfectly and scientifically as well as practically, and at the same time avoid all unnecessary draughts from open windows, doors, or top ventilators, such as are now usually found in almost every coach you enter, whether first class or the lowest grade of emigrant cars.

Such a system of heating and ventilating would certainly have several advantages over the present plans now in use.

First. It would provide for an equal distribution of heat throughout the car, regardless of the weather outside, or whether the train be running or standing.

Second. It would furnish a constant supply of fresh air to each seat, regardles of the external atmospheric pressure or the direction the train be running as compared with the wind outside, and in such amounts and at such a temperature as desired, and at the same time avoid the very objectionable habit of opening the windows, doors, or ventilators for a supply of fresh air.

Third. It would secure a systematic removal of all the foul, cold air through the proper channel.

Fourth. In case steam heaters were used, it would be safer by encasing the pipes in the hot-air conduits, which, in the event of their bursting, would thus prevent, to a very great extent, the scalding of passengers, or if the cars were heated separately by individual heaters, be much safer than having stoves or heaters in each end of the car without any case or protection in the event of an accident.

Fifth. In summer time it would furnish a ready and economical method of cooling and ventilating the coaches, by means of this constant air pressure, and at the same time avoid the dirt and dust so perplexing to travellers in warm weather.

If these few suggestions we have made, which were based on repeated and carefully taken personal investigations, crude and imperfect as they were, will only be the means of calling attention to and remedying in part even the heating and ventilating of our passenger coaches, I will feel that I am amply paid for all my trouble, and that my labors were not spent in vain.

WHEN SHALL SUMMER HOLIDAYS BE TAKEN AND WHERE SHALL THEY BE SPENT?

THE large number of people who now leave their home in the summer and seek a "change" may be divided into two classes:—those who can afford to go quite or almost when and where they choose and those harder working, poorer people whose constitutions need a rest and who must consider when and where they can for a brief season best go. The first named class consists of two sorts of people, the one, as Mr. A. W. Greely, in Scribners magazine for April, gives it, "the fashionable folk, who follow their leaders and are to be found as the latest freak of fancy demands," the other, "those who search mainly for comfort and pleasure, seeking to pass their summer under such conditions as will either guard them against the discomforts which would be experienced during the heated term at their homes, or will insure them pursuit of, or indul-

gence in, favorite sports or pastimes." It is the great second named class—" the greatest and poorest "—composed of those whose strength and systems, sapped and undermined by toil and trouble," often even more by unhealthy surroundings, who " are compelled to seek out for their brief vacations of a few days or weeks such spots as offer conditions best suited to renew physical vigor and mental " tone."

When shall they go ? Heat being relaxing and enervating, it is usually most desirable that the holiday of this larger and poorer class should be taken during the hottest period of the summer. The hottest time cannot be absolutely foretold, because more or less violent atmospheric changes cause what would naturally be the hottest time to vary somewhat. The sun is nearest the earth at the summer solstice, the 21st of June, but the amount of heat received then by the earth by day continues for a considerable period after the solstice to be greater than that given off by radiation during the night, and reaches its maximum only when the amount received by day and given off by night become equal. Mr. Greely, writes : " The series of observations made by the Signal Service of the Army [U. S.] have been continued for such a number of years that we can speak with certain confidence, based on the normal daily temperatures as to the dates on which the hottest days should fall. While these dates vary in different sections of the country, it is sufficient to say that the hottest three days East of the Missippi River should occur between the 12th and 17th of July." This then, it would appear, is the best time to rest, and consequently, if a cool place can be found the best to renovate the warm body ; for renovation requires rest :—for a holiday of a month, the month of July ; for that of a week, commencing about the 10th of July.

Where shall they go. As stated in an article on " Country Resorts " in the Canada Medical and Surgical Journal : " The opinion commonly prevails in the mind of the laity that the country is the place for health, and that a residence amidst the green fields or by the river-side for two months in the year will go far to increase the general health of the family

and restore the bodily and mental wear and tear induced by the long winter—and truly it will. But, like many of the good things of this world, care and caution must be exercised in indulgence in it. Pater and mater-familias, before they decide upon a country-house, must bear in mind that other considerations are necessary in selection beyond the prettiness of the scenery, the boating advantages, or the time of starting of the trains. Most medical practitioners have found that when their patients return from these annual migrations many bring unpleasant reminiscences of their journeying in the shape of fevers and sore throats and often the town doctor has to visit outlying villages to find his child-patients stricken with one of the preventable diseases. Our object is to point out to parents the wisdom of devoting their attention to the sanitary condition of our watering-places. Many of these villages are filled to repletion by an annual influx of thousands of new comers. Drainage does not exist in any of them. Water is drawn from that prolific source of disease, the shallow well, which drains a surface on which the universally prevalent privy pit is situated, and which in so many instances has been found to provide a water highly charged with organic matters. In many of our country places dirty farm-yards, undrained stables and offensive cattle-sheds are found to exist. The intending visitor should take the precaution to see that in addition to pure air, pure water is supplied to the family. The character of the milk supply should be looked into. Greater care should therefore be taken in seeing that the dairy department is conducted upon true hygienic principles. The village to which the townsman and his family are going may itself contain cases of zymotic disease. We all know that diphtheria is rife in country parts, and typhoid disguised under various names is never entirely absent. A judicious exhibition of care in selection would not only benefit the townsman, but would exert a most salutary influence in enlivening the energies of the village folk, teaching them the wholesome lesson that an unsanitary state of their municipality and the existence of preventable disease will tend to diminish the revenue from summer visitors."

Clearly, much more is to be considered besides simply going to the country. Few so called " health resorts " are in a good sanitary condition or safely habitable. The first essential is a healthy locality, and the next, for the hot season, a cool locality.

To secure healthy rooms or a dwelling healthily situated often requires now a great deal of careful investigation. Better far to camp out on high ground near a wood than to risk, without much caution and enquiry, the average village or Farm house, with their accumulated filth and consequent foul air and water.

Forests by equalizing the heat, tend to make the days cooler and the nights warmer, while near the bases of mountains there are often descending cool currents which agreeably modify the temperature of the atmosphere in hot weather. The sea heats slowly and cools slowly and near it the temperature is usually cool and the daily range small. But only a few comparatively can go to the sea. In the lake regions in summer, south and south westerly winds usual prevail and a residence on their northern or eastern shores will usually be found agreeably cool.

For those who can afford to travel some distance for change and recreation, there is not probably on this continent a pleasanter route nor a cheaper than a trip down the St. Lawrence to the Saguenay and up this wild and rugged river. It affords a most delightful change and recreation—literally, a re-creation, in mental clearness and physical vigour. As we have stated on a former occasion, there is not probably in the world a route presenting so many natural attractions to the tourist or excursionist and affording at the same time such comfortable accommodations as this one, from the head of Lake Ontario, down the St. Lawrence to Tadousac and thence up to Ha ! Ha ! Bay, 60 miles up the Saguenay. The trip, to and fro, is almost equal to a " sea voyage " as to time, and although not affording the pure sea air, this to many is more than compensated for by the constant and delightful changes of scenery, to say nothing of the freedom from the turmoil and

sickness so common on the ocean. To most people it proves to be a far nicer and more pleasing trip than one on the Northern Lakes. The Thousand Islands, the many "rapids," with the innumerable other points of natural interest, especially below Quebec, the many cities and towns and handsome villa residences, with the far famed Victoria Bridge, make this trip, for the majority of recreation seekers, a most desirable and charming one. On the luxurious boats of the Richelieu and Ontario Navigation Company—the "Royal Mail Line," and only daily one, the tourist finds every essential or desirable accommodation ;—the best of wholesome, substantial food and most comfortable beds.

THE EFFECTS OF SEA AIR.

THE following remarks from the British Medical Journal will be appreciated by many at this season who contemplate a visit to the sea shore :

The Roman noble sought refuge from the summer heat of Rome at Baiæ and Paestum, but he was not followed thither by the trader or farmer, and still less by the artisan and mechanic. In modern times, however, almost all classes, except the poorest, participate, more or less, in the custom of seeking to exchange for a time the heavy and vitiated atmosphere of large cities for the refreshing breath of ocean. It is worth while to inquire the *rationale* of this custom, the benefits to be expected from it, and the classes of individuals to whom it is especially applicable. We have, first of all, to take into account the simple element of change. Monotony of occupation and diet is, in the long run, injurious to the organism ; and change of air operates beneficially by inducing change of habit and of food, and by turning the current of life into fresh channels. It is not desirable that such a change should be from one extreme to another, such as from a very damp and relaxing atmosphere to a dry and stimulating one, or from a confined and sedentary life to one of boisterous activity. By

such extreme changes the system is apt to be overtaxed, and, instead of renewal of health, too often the result is disturbance of sleep and digestion, and the induction of nervous exhaustion.

But the resort to the seaside means much more than mere change of air. It involves the exchange of a more or less vitiated atmosphere for one of almost perfect purity, and the substitution of tonic and bracing conditions for those that are usually relaxing and depressent. Sea air is free from all sources of organic contamination; it possesses much azone, and traces of bromine and iodine. Hence, it is highly tonic and alterative, if we may still use a somewhat objectionable term, for which we are yet without any satisfactory substitute. The air at the seaside is also in almost constant motion; and this factor has its influence in increasing the tonic and bracing effect. In favorable cases, sea air produces a marked augmentation of appetite, increased desire for sleep, and a proportionate improvement of nutrition. These three factors are usually closely associated, and the effect of sea air may be accurately gauged by its influence upon appetite and sleep. The increased drowsiness at the seaside is often, for a time, accompanied by a feeling of agreeable languor, which usually gives place to one of renewed energy. The purity of the air, the presence of azone, and the stimulation of appetite, afford the requisite conditions for improved sanguification; while the fresh-air life and habits of healthful activity tend to the improvement of muscular and nervous tone.

Thus, in a very large proportion of cases sea air is beneficial. It suits especially those who are organically sound and merely exhausted by excessive work or prolonged confinement in impure air. It affords the desired fillip to the energies of those who require a little recuperation for the performance of fresh labors. In most cases it is admirably adapted to the needs of children, who delight in the fresh atmosphere, the easy, careless life, and the facilities for out-of-door amusement. We may lay down, in general terms, that sea air suits the majority of people who are in average health,

and tends to promote the increased well-being of those who are already well. Its application to cases of disease is more difficult and disputable. That sea air is, in many cases, an admirable restorative and a powerful means of changing morbid action, and hastening convalescence, is undoubted; but as little can it be denied that it is often improperly recommended and fruitful in mischief. The chief therapeutic effect of sea air is its stimulating property; and in considering its application to disease, the first point to be determined is whether the patient is in a condition to bear stimulation. Many diseases require soothing rather than stimulating; and, in such cases, sea air is contraindicated. Thus, in all cases of nervous excitement, hysteria, and allied conditions, the desideratum is to quiet nervous action rather than stimulate an activity which is already abnormal. Here sea air is likely to do nothing but harm, and should be avoided.

Again, in convalescence from acute disease, it is always a nice point to determine when the patient has rallied sufficiently to be able to react to the stimulation of sea air. In retarded recovery from typhoid-fever, pneumonia, and other acute specific maladies, few things are more worthy of the nicest consideration of the practitioner. On his accurate diagnosis of this point will turn his decision, whether his patient should continue to enjoy the rest and quiet of his home, or try to hasten recovery by recourse to the seaside. Two points seem of special importance in the determination of this question—viz., temperature and the condition of the nervous system. If the temperature be normal, and the nervous system fairly quiet, sea air may reasonably be expected to operate beneficially. If pyrexia and nervous irritation be still present, it is very apt to promote a recrudescence of disease.

What is safer than a safety-pin? was the conundrum asked at a recent mothers' meeting. The answer was "stitches." There are thousands of fond mothers who sew on the baby clothes knowing that even small safety-pins, when placed in the little flannel band, annoy the tender skin of baby.

THE MORTALITY IN THE CANADIAN PARLIAMENT.

NINE members of the Canadian House of Commons have died since the general elections about fourteen months ago. There were in all 215 members and there has been therefore among them a mortality at the rate of about 39 per 1,000 per annum; or quadruple that among average of well to do people between the ages of 25 and 60 years. We have no knowledge of any statistics of the mortality among the legislators of other countries, nor have we learned that the death-rate is larger in this class than in any other. There is no natural reason why it should be. What can have operated as the cause of so many deaths in this class in Canada? one may very naturally enquire.

Some weeks before the last general election this JOURNAL sounded a note of warning; warned those seeking Parliamentary honors that "the excitement and turmoil of a general election were liable to give rise to serious consequences. The great extra strain thrown upon a number of individuals, some of whom are past their most vigorous period of life, can hardly fail to result in a collapse of a certain number, whose more or less enfeebled heart and brittle arteries are not equal to the extra excitement; and hence the loss by death of some of our ablest men may result." Few at that time would have believed that ere the second session of the Parliament were over, nine of the number would have collapsed entirely and fallen out in the race of life, to be no more seen. Just after the last general election in Great Britain, the British Medical Journal said: "Already we hear from different localities of the sudden death from apoplexy, pneumonia, etc., of would-be-members and their more energetic partizans; and before calm is re-established others will doubtless succumb. It would be interesting to tabulate the deaths ascribable to political excitement."

In this JOURNAL, at the time alluded to above, we also stated that: "It is possible that more hygienic modes of living of the candidates would secure them greater immunity from mishaps" of the kind referred to. We have thus fairly

indicated above what is most obviously the cause of the great mortality among this body of men.

A good many have questioned the sanitary condition—the drainage and especially the ventilation—of the Parliament Buildings in Ottawa. We have made close enquiry of the officials in charge of the machinery for ventilating the buildings, who declare it to be the best possible—the foul air being forced out and the fresh air from a pure source forced in by artificial means—and that the machinery is kept continually in active operation. Air in the Chamber is also kept at a regular temperature. The drainage, too, is said to be in good condition. Moreover, in a large proportion of the cases the cause of death could not fairly be traced to, or associated with, the buildings in Ottawa. It therefore seems evident that the cause of the mortality must be looked for in the habits of life of the individuals. Probably in many cases the excitement of the political contest may have been the primary cause or starting point. With a large proportion of the members the habits of life in the Capital are quite different from those practised when at home. The late hours and want of natural sleep are not without their effects. With some it appears the duties of their parliamentary position are added to their ordinary other duties, or those connected with their usual occupation. With one at least too close application for a long time to Ministerial duties, with too little relaxation, doubtless was a predisposing cause of failure to throw off an acute attack of disease.

We would urge upon legislators who may be too in different as to their health, to have more regard for ordinary hygienic rules. Few of them are young men, and all who are past the meridian of life require greater care than those who are in, or have not yet reached, their prime.

A book agent lately presented himself at the N. Y. Polyclinic affected with small-pox. He said that during the ten days he had been ill he continued to go from house to house in the prosecution of his work.

THE EFFECTS OF PRESENT EDUCATIONAL METHODS ON THE HEALTH OF WOMEN. *

IN a practice covering the last fourteen years devoted largely, and latterly exclusively, to the treatment of diseases of women, my attention has been attracted to the relative frequency of a class of cases of which the following are typical;

A young girl of fourteen of robust physique and excellent previous health begins to lose her appetite, is restless at night and fidgety by day; her expression changes, and instead of the radiant countenance her face bespeaks care and anxiety; she now has headaches, and there is tenderness along the spine; indefinite pains declare themselves in an erratic way in various parts of the body. In short, she has neurasthenia. She is ordered from school; is given a change of surroundings with rest, and returns quite restored.

A young miss of sixteen who has always enjoyed good health is now fairly in the high school course. She is bright and precocious. She runs and romps and plays and in various ways shows the physical as well as mental vigor with which she is endowed. But there comes a change. She begins to complain of pains low down in the back, and she begins to have serious trouble each month. After a short time that periodic function is but scantily performed or not at all. The roses now fade from the cheeks, the ruby from the lips, and the sparkle from her eyes. She develops a slight cough, has some fever in the evenings, and toward morning she may sweat a little. She looks pallid and worn in the mornings, but at this stage or a little later, as evening approaches, a flush is again on her cheeks, the red is again on her lips, and a bright light is again seen in her eyes.

But these delusive scintillations of apparent health deceive nobody, for they are but the evanescent play of colors on a ghastly background. There are patches of consolidation in both her lungs, and she is pronounced the victim of incipient consumption. She is now taken from the school-room when

* By Chas. A. L. Read, M.D., at the recent meeting of the Ohio State Sanitary Association—From the Sanitarian.

it is too late, and is started in quest of a health which has been forever lost. A young lady comes to me complaining of all that lot of symptoms which physicians know indicate disease within the pelvic cavity. Her general health is largely impaired. She is given a tonic, some advice as to the local management of her case, takes a month's rest from the school-room—for she is a teacher—and returns quite restored. Another lady, of the same calling, comes to tell about the same story, only she has another chapter to add. In addition to the backache, the front pain low down in the abdomen, constipation and painful urination, and painful menstruation, too. She tells of great soreness in the pelvis when she walks. She feels the jar when she makes a misstep. She has to stop a few times as she makes the ascent to her room in the third or fourth story of the school-house; and the enforced standing while teaching is almost unbearable. She applies for treatment only when her physical discomfort makes such a course imperative. She is subjected to all the so-called "conservative" measures of treatment, both local and general, for from six months to two years. But all to no purpose, for there is now irreparable disease of the uterine appendages, and she finally purchases immunity from pain and restoration to health by going upon the surgeon's table, having the abdomen opened, and the diseased organs extirpated.

I could multiply the list of cases, but it would take too much space. I could cite instances in which both girls and women, pupils and teachers, had contracted diseases while in the discharge of school duties, and diseases, too, from which they had died. And just here I want to emphasize the fact that in the instances which I have cited I have painted you no mere fanciful pictures; they are cases from my note-book, where many more can be found. I bring them forward in this connection only that the discussion in which I purpose to indulge shall have a basis of fact.

Taking the schools with which I am most familiar as one basis of calculation and the alleged vital statistics and the school statistics of the State as the other elements, I estimate

that more than two thousand five hundred school children in Ohio die of causes emanating from the school-room.

It is the central fact in the foregoing cases, and in others of which they are types—viz., that they occurred in individuals subjected to conditions and influences which obtain in school life to which attention is drawn....

In this country we can put down on the side of conditions promotive of vitality, good food, warm clothing, and comfortable abodes. We may take note, too, of an early childhood unrepressed with either undue restraint or responsibility. In short, the school age generally furnishes us with a child of fair physical endowment and surrounded by fair hygienic conditions at home. The child is, however, just entering an arena in which it is to encounter antagonistic influences. The schoolhouse itself furnishes the first adverse element in the conflict. Within its walls the child first sighs for the air which has placed the bloom upon her cheeks; she pants to resist the oppressive heat, the odors offend her yet untried olfactories; her hand is tremulous from nervous timidity....

Now what can be said by way of remedy—for I take it that you have concluded, with your assayist, that an evil exists, and that a remedy is demanded? The public-school system is by all odds the largest and most potent single instrumentality in the United States. It illumines more minds, irradiates more homes with the sunshine of intelligence, it prolongs more lives and fills more untimely graves than any other one power in the land. It is the purpose of progress to retain that which is good and to eliminate that which is bad. I am aware that the philosopher would say, "Hands off; this is a fight for the survival of the fittest; let Nature's laws have their sway."

This is wrong; the feeble minority have their rights, and it is the business of the humanitarian to respect them; it is the business of the humanitarian to see that the conflict is a fair one; and it is particularly his business to see that the feebler combatant in the arena be not placed at a disadvantage by man-made conditions; and this brings me directly to

the point. I would strip our school system of everything that is artificial and adventitious, and bring it back to natural ways and natural methods. I would see to it that a curriculum of study was arranged with reference to the physiological synthesis of the mind. It should be remembered that a precept is the necessary antecedent of a rational concept. The senses should, therefore, be cultivated in an easy and gradual way, and should be made to contribute to the growth and development of the superior or intellectual centres before those centres are called upon for original work. But I am not dealing now so much with the psychical as with the physical phase of these hygienic topics. Turning, therefore, to this other phase of the question, I would have a school-house something better than a "Black Hole of Calcutta." The air is free—except to school children—and I would give it even to them. The greatest of all mental and cerebral stimulants is oxygen, and I would furnish it to them in wholesome and generous quantities. The brain work of the world is done north of the frost line. I would therefore take the hint which Nature and history furnishes, and keep the temperature of the room within normal limits—70° Fahr., or less.

It is preferable to generate the heat within the pupil than outside of her, and it is vastly more economical to use her lungs as a furnace, with pure air as a fuel, than the stove as a radiator and even natural gas as a combustible. In the particulars of house construction, I beg to observe that it is a penny wise and pound foolish policy which prompts the saving of ground in our cities to such an extent that to secure rooms our temples of learning are converted into veritable towers of Babel. But if from necessity they are built high, girls of from twelve to seventeen should never be called upon to climb the long flights of stairs.

And while I am not now pleading the cause of the youngster, I must say that neither is it fair to send a little tot on such a journey. Numerous cases of irreparable heart strain have had their origin in this way. The high school-house is in every way an evil, and should be abolished.

I have never yet recovered from my dread of stated examinations, and I shall never cease to inveigh against the custom. Aside from making me unhappy, it did me a positive hurt, and it is doing the same for children everywhere to-day. I have no respect for that bumptious specimen of egotism called a superintendent, who fancies he can guage the mental growth and devolopement of a class by putting a few questions to a lot of timid children whom he has already scared out of their wits by the advance announcement of his majestic approach. That teacher is unworthy her calling who cannot, at the end of the year, indicate with accuracey and precision just which pupils are and which are not ready for promotion, and her dictum should be final. The farce of final examinations should be done away with. Published grades do more damage than good in the cases of sensitive girls of moderate capacity.

The running criticisms which I have made are sufficiently suggestive of the various remedies which I would propose for special evils. But here I beg leave to make one more general criticism, if for no other purpose than to pave the way for one general remedy which I consider of great importance. The criticism is that our present school system, relying almost exclusively on books as the media for the communication of knowledge, tends to develop the reflective centres rather than the perceptive faculties ; and, through the imposition of inordinate tasks, brings on an ultra-mental mood which is inimical to the physical welfare of the pupil. In the cases of sensitive girls this wear and tear brings on a state which a scholarly friend of mine has aptly designated as one of "morbid subjectivity." The remedy which I would suggest for this state of affairs is more attention to physical culture, not in our select schools and endowed colleges, but in the public schools, the university of the people.

Do not think from what I have written that I take a gloomy view either of the present or the future. On the contrary, I am a pronounced optimist on this as on every other topic, and accordingly believe that the schools of to-day are

better than those of any previous day; that the health of school children is better, and that the teachers have a finer physical stamina.....My present complaint—that contained in this essay—is but a protest against the longer continuance of certain remaining evils viewed from my particular standpoint as a specialist in medical practice. These evils are less striking than they were, and, I am happy to believe, are gradually receeding before the new order of things. This new order involves the adoption in our schools of the axiom taught by Beecher, that the successful man must first be a good animal; it involves recognition of the principle that education, to fulfil its true end, must effect the co-ordinate developement of the physical and the mental organisms, if indeed, they be capable of separate mention. Germany ignored this principle until she was whipped by the French; she returned to the north of the Rhine, built what we call a gymnasium by the side of each school-house, renewed the conflict, and triumphed over the great Napoleon. It was Wellington who, speaking of the triumph of the English arms ir that conflict, said that it was the manly sports of Eton that won the battle of Waterloo. Shall we not also say that it was the soldierly bouts of West Point that triumphed at Vicksburg and Appomattox? But if physical culture has had such an influence on history through the medium of men, what possibilities are not in store when the effort is made effective to influence our race through the more conservative organism of women! The tendency is already more than marked. Wellesley, Vassar, Brown, "The Annex," and Smith's colleges have excellent gymnasia, and, as a consequence, are doing much toward eradicating that angular and barren type of womanhood which was the joint product of New England schools and Puritan asceticism. I would that our Western colleges were following the examples of their Eastern competitors, but so far as I can learn, they are making no satisfactory effort in that direction.

But my special plea on this occasion is not that our select colleges, but that our common schools, through legislative enactment, come to the rescue of pupils who are now dying,

the victims of defective educational methods. This can be done only by imitating the example of Germany, and estab lishing facilities for physical culture at each school-house. This will, at least, turn the attention of a rising generation toward an ideal manhood and womanhood, and start them on the way of attaining its realization.

TUBERCULAR CONSUMPTION IN MAN AND ANIMALS—EXTRACTS FROM AUTHORITIES.

"OF all the domesticated animals known, none is so intimately or closely related to the human race as the cow. We are veritable parasites on this animal. We milk her as long as she will give milk, and we drink it; then we kill her, eat her flesh, blood, and most of the viscera; we skin her, and clothe ourselves with her skin; we comb our hair with her horns, and fertilize our fields with her dung, while her calf furnishes us with vaccine virus for the prevention of smallpox. Strange it would be, indeed, if, under all these circumstances, we did not acquire from her some malady; she has tuberculosis, and we have tuberculosis. .....

"Fleming reckons that 5 per cent of all the bovines in England are infected. We have no complete statistics on this matter. I have been told by inspectors of the Bureau of Animal Industry that a much larger percentage of our cows are affected. Indeed, among the thoroughbred Jerseys in the Northern States 20 per cent. are affected, as I have been told by Professor R. A. McLean, the chief of this district from the bureau. Now, with this large percentage of tubercular cows, and assuming that it is a fact that tuberculosis is communicated from the bovine to the human race, and considering our close relationship to the animal, why are not more of the human race killed by this disease?

"The total number of cows in the United States for the year 1887 was 14,522,083—that is, one cow to every four and three tenths (4-3) persons. There exists, according to Lynt, a true parallel between bovine and human phthisis; the curves

of double mortality are the same for different districts in the Duchy of Baden. Now this must mean that a larger proportion of the bovine race dies from phthisis than of the human race, because of the difference in the length of life between the races. We have no statistics of this kind in the United States, but Professor R. A. McLean, the authority before referred to, tells me that where cows are affected by tuberculosis in great numbers, the death-rate from phthisis is correspondingly large in the human race in the same districts; this is his observation from his large experience among diseased cattle.

"Now let us see what the conditions of the two races are, how they differ, and how this difference modifies the disease under consideration. Without going into detail in comparing the two races, you will find, after due comparison, the most marked difference to be that of the normal temperature. . . . We find in published tables the following figures: Cows and oxen during confinement, 100-8° F.; during work and liberty, 101-8°; calves and stirks during confinement, 100-9°; during work and liberty, 101-8°; sheep during confinement, 102-5°; at liberty, 104-5°; lambs at liberty, 104-9°; pigs in confinement, 101-6°: at liberty, 103-2°; dogs in confinement, 99-3°; at liberty, 101-9°; and horses in confinement, 99-2°; at work and liberty, 100-3°; rabbits, 103°; guinea-pigs, 102°; the common fowl, 106-7°. Now, if you compare this table with all the recent inoculation experiments on bovine tuberculosis, you will find that the success of such experiments is in direct ratio with the temperatures—that is, commencing with the lower temperature, that of the dog, we find the resistance lessening as we go up the scale till we come to the common fowl, with the highest temperature, where there is no resistance whatever. Feeding with tubercular matter is always positive with this bird.

"We can now see why the human race is not more extensively affected with tuberculosis, which, in my candid opinion, is all derived from the bovine race. A germ cultivated in the cow is a tropical growth, because her average temperature is

between 101° and 103° F. The human race, by this mode of illustration, represents the temperate zone. Coffee will not grow in Connecticut unless you put it in a hot-house.....

"My occupation brings me into close contact with dairy cattle, and I have therefore been compelled to devote my attention to the subject of the diseases afflicting dairy stock. That there is a large number of dairy cows afflicted with tuberculosis I can affirm.

"One simple fact that strengthens my belief that human bacillary tuberculosis is all derived from the bovine species is, that where this animal does not exist, pulmonary consumption is unknown. The Kirghis on the steppes of Russia, who have no cows, have domesticated the horse, using its milk, meat, and skin, and a case of pulmonary tuberculosis has never been known to exist among the tribe. The Esquimau has no cows, neither has he pulmonary phthisis, and I think it can be laid down as a fact that where the dairy cow is unknown pulmonary consumption does not prevail.—Dr. E. F. Brush, in N. Y. Medical Journal, Mar. 24, 1888.

Says the American Lancet, the part which bacteria play in disease is an open question. Is their effect due to some specific action or qualities, mechanical or chemical, of their own, or to some poisonous substance which they produce,or to the destruction of some substance which they consume? Who shall answer these questions?

The United States Government, it is said (Am. Lancet), has paid more money in the investigation of the diseases of hogs than it has for all the diseases affecting the human race. It regards practical hogs as of more value than human beings.

Hippocrates said "Life is short, art is long, opportunity fugitive, experience deceptive, judgment difficult. It is not enough that the physician himself be right; he must try and make his patient, nurses and surroundings harmonize.

THE PUBLIC HEALTH FOR MARCH.

THE total record of deaths in March in the twenty-six cities and towns which make regular monthly returns to the Department of Agriculture in Ottawa was 1413,; or only 83 more than in February; a mortality rate of about 24 per 1000, of population per annum. March being longer by two days than February, the rate of mortality last month in these 26 places was really a fraction lower than in the previous month. According to the mortuary record in Ontario during the last fifteen or more years, it is a very unusual thing in this climate for the rate of mortality in March not to considerably exceed that of February. But it must be remembered that the record of February last was high, and exceeded by 15 per cent that of February 1887.

Although satisfactory to find the death rate of March lower than that of February, we find nevertheless that it was higher than in March 1887, by about 6 per cent; a greater increase than any probable increase in the population.

In each one of the nine largest cities except Montreal and Winnipeg, there was an increase in the mortality in March as compared with February, while much the largest increase was in Toronto and St. John, N. B.

Windsor, Ont., has been added to the list and hence there were 27 places from which there were returns in March. The deaths recorded in this town were 18, making the total record 1431.

From scarlet fever there were 20 deaths in March; in February there were 12 and in January 9. Of these 20 deaths, 8 were in Winnipeg and 3 in Windsor.

Forty-six deaths from this disease have been recorded in Winnipeg during the last five months.

From diphtheria there was a total of 95 deaths (only 3 more than in February); 44 in Montreal, 14 in Toronto, 9 in Hamilton, 6 in Peterborough, 5 in Winnipeg, 4 in Ottawa and 4 in Hull.

Of the 33 deaths from diarrhœal diseases, 10 were in Ottawa, 6 in Montreal and 6 in Toronto.

The total number of deaths from zymotic diseases increased from 186 in February to 210 in March.

The chief increase in the mortality in March was from constitutional and local diseases.

Deaths in Canadian Cities and Towns in March as Reported to Depart. of Agriculture, Ottawa—Causes, &c.

	Total number of deaths.	Deaths from Small-pox.	Measles.	Scarlatina.	Diphtheria.	Diarrhœal Diseases.	Fever, Typh'd	Total from all Zymotic Dis's.	From Constitution'l Dis's.	Local Diseases	Development'l Diseases.	Violent Deaths.	Estimated Populat'n r'nd numbers.	Rate per 1,000 of pop. per an.	Rate in previous month.	Rate, correspond'g month last year.	Rate for year end'g 31st Dec., '86.
Montreal	489	....	....	1	44	6	6	67	69	212	127	14	186,000	32	32·	.....	.....
Toronto	214	....	....	1	14	6	2	31	37	110	29	7	110,000	23	18·6	.....	.....
Quebec	118	....	....	1	1	1	4	14	24	46	31	3	69,000	20	20	.....	.....
Hamilton	64	....	....	1	9	....	2	12	13	32	7	....	41,000	18	16	.....	.....
Halifax	65	....	....	1	....	....	....	1	20	35	8	1	39,000	20	17	.....	.....
Ottawa	73	....	....	....	4	10	....	15	20	20	14	4	36,000	24	22	.....	.....
St. John, N.B.	50	....	....	2	....	3	....	6	9	28	6	1	30,000	20	15	.....	.....
London	38	....	....	....	1	1	....	4	5	25	3	1	22,000	20·7	19	.....	.....
Winnipeg	36	....	....	8	5	....	1	14	5	15	2	....	22,000	19	24	.....	.....
Kingston	19	....	....	....	3	....	....	3	3	9	3	1	15,000	.....	.....	.....	.....
Charlottetown	12	....	....	....	....	1	1	2	1	5	4	....	12,500	.....	.....	.....	.....
Brantford	17	....	....	....	....	....	....	....	5	12	....	....	13,000	.....	.....	.....	.....
Hull	34	....	1	....	4	1	1	8	3	9	13	1	12,000	.....	.....	.....	.....
Guelph	13	....	....	....	1	....	....	1	2	5	4	1	12,000	.....	.....	.....	.....
Belleville	11	....	....	....	....	....	....	1	4	3	2	1	11,000	.....	.....	.....	.....
St. Thomas	13	....	....	1	1	....	1	3	3	6	....	1	12,000	.....	.....	.....	.....
Three Rivers	21	....	....	....	....	3	1	6	5	7	3	....	10,000	.....	.....	.....	.....
Chatham	8	....	....	1	....	....	....	1	3	4	....	....	9,000	.....	.....	.....	.....
Sherbrooke	15	....	....	....	....	....	....	1	1	8	5	....	9,000	.....	.....	.....	.....
Peterborough	19	....	....	....	6	....	....	6	3	7	3	....	8,000	.....	.....	.....	.....
Victoria, B C.	16	....	1	....	....	....	....	2	4	9	1	....	12,000	.....	.....	.....	.....
Fredericton	8	....	....	....	....	....	....	1	5	1	1	....	6,000	.....	.....	.....	.....
Sorel	19	....	....	....	1	1	1	3	4	9	3	....	6,000	.....	.....	.....	.....
Windsor	18	....	....	3	....	....	....	4	2	9	2	1	.....	.....	.....	.....	.....
Woodstock	14	....	....	....	1	....	....	1	3	9	1	....	6,000	.....	.....	.....	.....
St. Hyacinthe	14	....	....	....	....	....	1	1	2	6	5	....	6,000	.....	.....	.....	.....
Galt	13	....	....	....	....	....	1	2	4	6	1	....	6,500	.....	.....	.....	.....
Total	1431	....	2	20	95	33	22	210	259	647	278	37	720,000	.....	.....	.....	.....
London, Eng	....	....	....	....	....	....	....	....	....	....	....	....	.....	.....	.....	.....	.....

THE EDITORS SPECIAL CORNER.

A QUESTION of very great and far reaching importance has just been brought before the Committe on Agriculture and Colonization of the Canadian Parliament. It is that of the wisdom of permitting the bringing into the Country of the pauper children from the streets and charitable institutions of the cities of England and other countries. During the consideration of the question of the Government assisting immigration of any kind, Dr. Ferguson, M. P., for Welland, brought up this subject and stated that from his own knowledge and experience a large proportion of these children were diseased physically and mentally, many of them with hereditary disease of the most loathsome character, and he thought they should not be permitted to come to the country ; that as they grow up and mix and marry with the healthy young people of the country, the effects of their tainted condition upon future generations is likely to prove of a most objectionable and serious character. Other medical gentlemen present, Drs. Wilson, Macdonald, Sproule and Room, agreed in the main with Dr. Ferguson ; while other members—Gen. Laurie and Messrs. Trow, Cockrane and Fisher although not prepared to dispute the medical evidence just given, bore witness to the general usefulness of the children in the country. It was suggested that a system of medical inspection would remedy the evil. There is now, the Secretary of the Department, Mr. Lowe, stated, a system of inspection by which six or seven per cent of those desiring to come to Canada are rejected as unfit.

THERE can be no doubt about the gravity of this subject and that it demands early and serious attention; the wonder is that it had not been brought up long before now. Certainly the young people who are being brought out to this continent from the overcrowded cities of Europe by some charitably disposed persons are of the least desirable class. Among them no doubt are some who may make very desirable citizens indeed, useful in any country. The great difficulty is in eliminating these from the objectionable ones. And the difficulty would not be so much in adopting a system of selection as, in view of the strong desire on the part of many to get the waifs across the Atlantic, to have the system carefully and honestly carried out. Careful medical inspection would greatly lessen the danger of diseased children being sent out, but it would not prove an absolute safeguard. Hereditary physical taints would be overlooked or be unrecognizable and criminal and insanity tendencies could not as a rule be detected by the closest medical supervision. A careful investigation in relation to the family history and antecedents, outside of and beyond the individual subject altogether, would in many cases be of more value than a medical inspection. The two together might secure only good and suitable subjects ; but would the result be worth to this country the trouble and expense it would involve? Certain it is, there are already quite enough causes of disease and deterioration of the people of this continent without deliberately importing diseased and degraded youths of both sexes

from abroad, where the people are at least quite as able to educate and properly bring up these poor little creatures (whom every Christian must deeply sympathise with and feel tenderly for) as are the people on this side of the Atlantic. We trust early action will be taken to check this evil, which appears to be a growing one, and that only the best and purest children will be permitted to come out to Canada or the United States to mingle with the youth of these countries.

OBSERVATIONS AND ANNOTATIONS.

CELLAR cleaning time is at hand. It should be so, we could almost write, that no such job as cellar cleaning would ever have to be done. There should not in fact be such a place as a cellar, at all. If, in places or circumstances where frost is difficult to avoid and ice to obtain, a cellar seems necessary, it should be *kept* scrupulously clean always. A damp or foul cellar under a dwelling is a very dangerous thing, and has caused many a sad death.

THE Packet, Orillia, strongly urges local cleanliness. A Mr. Thompson intends having a large burner erected on the esplanade for the disposal of sawdust &c., from his mill. Would not this, says the Packet, be a splendid opportunity for the corporation to test, at a comparatively small expense, the utility of the crematory system, for the disposal of garbage and offal? It would certainly add much to the health and comfort of the residents of the more crowded portions of the town, if a scavenger cart were to make a cleaning out of back yards, &c., a couple of times per week during the summer.

DR. LICHTY a general practitioner of Rockford, Ill., an exchange asserts, has seen the mother, who was the housekeeper and only nurse, leave a large wooden bowl full of butter, in which her hands and arms had been immersed nearly to the elbows, and follow him through two adjoining rooms, in which her children were sick with scarlet fever, to give him the history of their illness the night previous, receive directions and instructions, and then return to her butter packing without stopping to wash her hands. And this butter was bought by local dealers, shipped to city markets, where well watched and carefully isolated innocents developed those mysterious *de novo* cases of scarlet fever.

BULLETIN number 3 of the Laboratory of the Inland Revenue Department of Canada States that it appears that 48 per cent of 85 samples of coffee recently analysed were impure, "but it is not to be supposed that this proportion represents the exact amount of adulteration which prevails. In many of the towns mentioned the collectors of the samples were known to the vendors as revenue officers, and may have been intentionally furnished with articles very much better in quality than those usually sold. There is good reason for supposing that even when pure coffee is asked for by ordinary purchasers they do not always obtain it. In order that, hereafter, the samples collected,

not only of coffee but of other articles of food, may correctly represent the character of the goods sold, the Minister of Inland Revenue has arranged to have the samples taken by persons quite unknown in the locality where the collection is made. It may, therefore, be expected that, in future bulletins, the figures published will give a more exact representation of the characters of the various foods sold throughout the Dominion.

Among the 41 samples of adulterated coffee above described it will be observed that nineteen were mixed with chicory or other substances free from starch, while twenty-two, besides nearly all containing chicory, had considerable amounts of roasted grain, peas or beans in their composition as well. It has not been, in all cases, found possible to distinguish the origin of the starch, and it is quite possible that some, ascribed to roasted grain, has really been added in the shape of roasted peas. In fact the latter substance is one of the chief adulterants, for it is well known that considerable quantities of it, in a coarsely ground or "cracked" condition, are imported into Canada to be used for mixing with coffee. Whatever some persons may say in favor of using chicory for this purpose, it is plain that the use of roasted peas can have no defenders. Nor does it bring to the working man such a reduction in the price as would justify his purchasing a mixed coffee containing it. It appears that frequently the price of the adulterated is almost as much as the pure article.

AFTER the baby's first teeth appear there is no infants food equal to good pure milk and bread, (bread 48 hours old), and this alone with a little fruit after the second year is all a child requires for many years. A lady who believed this, an exchange says, carried her plump, rosy, but teething baby through the second summer in a city boarding house on three meals a day, of bread and milk alone, without an idle day. But her hard heartedness afforded a constant topic to her fellow boarders.

MANY at this season will be glad to learn that Dr. Andeer, an old Transatlantic traveler, according to The N. Y. Medical Times, claims he has found a positive specific for sea sickness in resorcin, fifteen or twenty grains of which will in almost every case abort the trouble in its first symptoms and a relapse is seldom observed. Where vomiting has set in and there is tremor, a heavy feeling in the back of the head, and constipation, two or three doses should be given daily until entire relief is obtained. Should the sickness return during a heavy sea a single dose should be taken.

THE Nineteenth Century for March (Sanit. Rec.) contains an interesting article by Dr. J. Burney Yeo on 'Long Life and How to Attain It,' which embraces the results of a wide range of inquiry. Some illusions are dispelled, and the lessons set forth are chiefly based on experience. Centenarians, we are told, 'are for the most part, found amongst those who have led calm, quiet, untroubled lives "far from the madding crowd," and who have never encountered strain of mind or body.' Of the professions the Church takes the lead in healthiness and longevity.

SALICYLIC ACID, it is well known, is commonly used as a preservative agent in articles of food and drink. In frequently repeated small doses it has been pronounced by commissions of medical men injurious to the health. To test the matter Kolbe took fifteen grains daily in his drink for nine months without suffering any inconvenience. Dr. Lehman gave to two laborers in Munich during three months about half this daily dose, without inducing any apparent derangement of the system. The Pharmaceutical Era says : " It seems probable from these experiments that the prejudice against salicylic acid as a preservative agent is not well founded." But these two or three instances of exemption from apparent injury from its use are not evidence of any real value. Half of the next score so experimented upon might soon manifest unpleasant results ; and besides, effects lastingly injurious may have been produced within the organism of Kolbe and of the two others without manifest symptoms. As the Era stated, however, we have in benzoic acid an agent equally efficient, against which no such prejudice exists.

CIGARETTE smooking by boys, it is hoped, may receive a check by the action of Congress. On April 23rd. Senator Chace presented a petition signed by 267 physicians, including the most prominent ones in Washington, urging the passage of the bill making it unlawful for anyone to supply cigarettes or tobacco in any form to boys under 16 years of age. Mr. Chace dwelt with much force upon the terrible results of the habit of cigarette smoking, which, according to the testimony of doctors everywhere, is rapidly sucking the life blood out of the growing youth of this country, and urged that in order that the people might read for themselves what eminent physicians say of the deadly work being done by the cigarette, the petition be printed in the *Record* or as a public document. Senator Stewart, emphatically endorsed all that had been said, and added his testimony to that of the physicians. Senator Harris strongly objected to the printing of the matter and requested a division. Every Republican it is reported voted against the cigarette, and every Democrat, except Brown, in its favor. The opponents of the cigarette won, and the warning of the physicians will be printed for public distribution by the Senators. Yet it appears the President is wisely in favor of taxing tobacco while Republicans would make it free.

DR. JAEGERS' Sanitary Woolen System Co., of 827-9 Broadway, New York, will send by mail free on application full particulars of Dr. Jaegers theory and system, with illustrated descriptions, samples, price list, &c. The advantages to health of wearing flannel next the skin are yearly becoming more and more apparent. The soft, smooth goods of this company can we believe be worn next rhe most sensitive skin.

TRAVELLERS between New York and Montreal or Ottawa would do well to see that their tickets are marked for the Delaware and Hudson River Road between Rouse Point and Albany. There are other routes but we believe this to be much the best.

NOTES ON CURRENT LITERATURE.

THE MODERN TREATMENT OF PLEURISY AND PNEUMONIA, by G. M. Garland, M. D., Instructor in Chinical Medicine Harvard Medical School, is the last issue of "The Physicians Leisure Library," published by the Enterprising Geo. S. Davis of Detroit, Mich. Price, in heavy lithographed paper, only 25 cts. a copy (monthly $2.50 a year) ; cloth 50 cts. ($5 a year). This volumn consists of over 100 pages of practical interesting matter, which no practicing physician should be without, especially when the very low price of it is considered.

THE ILLUSTRATED LONDON NEWS, (American edition : Potter Building, New York) has provided many excellent things during the month. We find Illustrations of the interior of "Apartment occupied by the Queen" ; "Cyclists at the Easter Volunteer Review" ; "The Armies of the Continent," large and striking ; "Scenes in Georgetown, Demerara" ; "Canadian Artillery"—testing a field gun at Quebec ; "Amusements at Government House, Ottawa : The Maypole in Winter," a lively scene ; "Sketches in Florence" ; "The Empress's Mourning Court," Berlin, double page ; "A gang of Assassins startled by Butterflies," very good ; and of numerous other subjects, with many life like portraits of prominent men and women. The reading matter under the heads of "Our note Book," by James Payn, and "The silent Member," is always good.

HARPERS WEEKLY is always a very welcome visitor. Late numbers contain current articles on "Uniform state Legislation," "The Chief Justiceship," "The Tariff Debate," "The Colored Vote," "Indiana Independents,"

"The preservation of the Forests" and other subjects of present interest. The Weekly is giving large portraits of the different republican Nominees for the presidency; with the usual number of portraits of other men of prominence, along with many other sketches and illustrations of much interest.

THE CENTURY for May gives the first of Mr. Kennans Siberian papers. The author in his preface writes: "To the average American, Siberia was (in 1879) almost as much a *terra incognita* as central Africa or Thibet. In 1881, the assassination of Alexander II. and the exile of a large number of Russian revolutionists increased my interest in Siberia and intensified my desire not only to study the exile system on the ground, but to investigate the Russian revolutionary movement in the only part of the empire where I thought such an investigation could successfully be made,—namely, in the region to which the revolutionists themselves had been banished. The Siberian expedition of The Century sailed from New York for Liverpool on the second day of May, 1885. It consisted of Mr. George A. Frost, an artist of Boston, and Mr. Kennan. They both spoke Russian, and both had been in Siberia before.

THE POPULAR SCIENCE MONTHLY for May is a strong and promising opening of its thirty-third volume. It contains Hon. David A. Well's closing paper on "The Economic Disturbances since 1873," which is a masterly review of the whole situation. The outlook is regarded as hopeful; wages have increased and a better style of living is obtained by the wage-earners. This number contains also the first of three articles which recently appeared in the leading Church journal of England, discussing "Darwinism and the Christian Faith" from the orthodox side, in an unusually clear and competent manner. The same subject is treated from a different standpoint by Prof. Joseph Le Conte, under the title "The Relation of Evolution to Materialism." MR. EDWARD ATKINSON will open The Monthly for June with an incisive paper on "The Surplus Revenue." He suggests a way, apparently overlooked, of solving the great problem. The June number will also have an article on "The Effects of Moderate Drinking," by George Harley, M.D.

HARPER'S BAZAAR is THE ladies' literary, fashion and patern paper of the world, and gives some excellent things. Recent illustrations are: "An Irish Beauty," full page, very fine and chaste; "Confidence," full page, charming; a double page one, for Ester; "Jesus Saith unto Her, 'Mary'"; and 15 pretty scenes, "Through the Engadine."

THE WEEKLY GRAPHIC is a good and useful periodical, at a moderate price ($2.50 a year; 39 & 41 Park Place, New York), which has much improved during the past year. It gives illustrations, and discusses topics, of current social, rather than political interest. It takes strong ground against some social abuses and evils, and gives a large amount of newsy reading matter and many illustrations in its 16 large pages.

IN ST. NICHOLAS for May, Thomas Nelson Page begins "Two Little Confederates," a serial story of Southern boy-life during the war, full of amusing and stirring incidents. Mrs. Spofford has a charming story, "Little Rosalie," which will delight both young and old; and Sophie Swett contributes the amusing and seasonable sketch, "A moving Story." John Burroughs contributes "Ginseng-hunting." Celia Thaxter has a delicious story of the experiences of a spider, entitled "Madame Arachne," finely illustrated. Noah Brooks tells us how a little boy "Ran Away to Home" fifty years ago, with quaint illustrations. There is an exciting narrative of "An Adventure with a Man-eater," strongly illustrated. John Preston True's serial, "Drill," is continued; with the usual complement of pages and pictures which delight the you' and please the older.

THE NOVELIST is a novel enterprise. Novel in name, form, purpose and method. It undertakes to give the worthiest fiction that American authors can be tempted to produce. Foreign authors not admitted. It is not sentimental talk about justice to American authors, but is bold, practical action. It is very convenient in form, excellent in mechanical qualities, and low in price; well suited in all respects to meet the wants of the intelligent millions who are capable of appreciating "the best"—"it will not stoop to compete with the 'gutter-fiction' of the sensational periodicals and libraries." Terms, $1.00 a year, at which rate it will give over 2,500 pages, equal to from eight to twelve ordinary American dollar novels. The stories will follow successively, one at a time, a novel of ordinary length thus being completed in from four to eight weeks. For 10 cents one can get the first chapters of every story published during the year, which can then be ordered separately, if desired. A specimen copy of The Novelist will be sent free on request. Address, John B. Alden, Publisher, 393 Pearl street, New York.

LITERATURE, an Illustrated Weekly Magazine ($1.00 a year), has successfully taken the field as one of the popular literary journals of America. Its great variety of contents, handy form and choice illustrations, make it highly attractive. Foremost American authors are among its contributors. Mrs. Susan E. Wallace, wife of the author of "Ben Hur," and quite as charming a writer as her husband, has papers in two recent issues on "The Poetry and Music of the Arabs." For a specimen copy (free), address John B. Alden, Publisher, 393 Pearl street, New York.

THE CLIMATOLOGIST is a new Quarterly, of 64 large pages, emanating from Washington, D.C., at 50¢ a year. Its list of promised contributors include the names of a large number of the leading physicians of the age. The first number contains some valuable papers, and promises able editorship. It is devoted to Climatotherapy, Medical Geography, Epidemiology, Demography, Preventive Medicine, and the Investigation of Mineral Springs and Health Resorts.