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THE CANADA MEDICAL RECORD.

VOL. IX.

MONTREAL, MARCH, 1881.

No. 6.

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Original Communications.

SOME REMARKS ON "HAECKEL ON THE EVOLUTION OF MAN," AND ON SO-CALLED BLOOD-POISONING.

By HENRY HOWARD, M.D., M.R.C.S. Eng.

Read before the Medico-Chirurgical Society of Montreal
January 21st, 1881.

MR. PRESIDENT AND GENTLEMEN,—A few weeks after I had read my paper on Man's Two Natures and Evolution, a friend loaned me the last edition of "Haeckel on the Evolution of Man." It is hardly necessary for me to say that I found it to be just such a profound and learned work as we would expect from such a naturalist.

The great object of the writer seems to have been to prove the truth of the Darwinian theory of evolution. I need not tell those who heard, or read, my previous lecture that, as to the simple question of the *modus operandi* by which God created man, I am entirely in accord with Mr. Haeckel, that is, that God, by his natural laws, evolved an ovum from the earth, from which ovum man was evolved, in virtue of the potentiality or latent power existing in all matter; (Mr. Haecke calls it an atom), and I based my theory upon the fact that, as the whole human race is evolved from ovums, so is it the most probable way by which God called into existence the first man.

I don't, however, consider because that I accept the theory as true of man being evolved from an ovum, that I am bound to accept Mr. Haeckel's conclusions, that the last act of evolution was for man to be evolved from an ape; not, as I have heretofore stated, that, if such were the case, do I consider it would take anything from God's honor and glory, or make man anything more or less than what he is, the highest order of animal, and rendered human because God endowed him with a human nature.

And most certainly I am in no way bound to accept Mr. Haeckel's conclusion that, because there are natural laws, God did not create them, or that they were not his established laws, by which he created all things. I see no proof, but the contrary, that anything happens by chance or accident, or that there can be effect without cause. What men call accident is simply natural laws. Fish cast their ovums upon the sea, but the male and female cells don't come together by chance, but by what *Mivart* calls an innate law modified by the subordinate action of natural selection, so that but few of the many female ovums are fertilized; and in this nature shows her wisdom, for naturalists tell us that, if all the fish ovums were fertilized, there would not be room in the sea for all the fish that would be propagated, notwithstanding the number of young fish that perish by becoming food for others.

And let us see how perfect is the law of nature

with regard to the procreation of man. Rarely is there more than one female ovum fertilized by the male sperm cell, and why is this? but simply for the protection of the mother, for in the woman the evolution from the fertilized ovum to the perfect child takes place in the uterus and within the abdominal cavity, and whenever there happens to be an exception to this rule, and there is a plurality of fertilized ova, nature, as it were to be revenged, either destroys the mother or part of the offspring. Here then again we observe the natural law of selection; one ovum is fertilized, the others perish.

It is different, however, with fowls whose offspring are evolved outside the uterus, and outside of the abdomen. Wild fowls, as a rule, only lay a certain number of ova for the purpose of procreation, and as their young all come out on or about the same time we have a right to suppose that all of the female ova are incubated by the male sperm cell at one and the same time. If this were not the case, the first laid egg would produce its young before the last laid egg, five or six days according to the number of eggs, which would be very inconvenient to the parent fowl, and in some degree dangerous to the life of her young.

We know that these fowls hatch their eggs for a certain number of days, but the commencement of the existence of the new creature is from the very moment that the cell of the female ovum is fertilized by the cell of the male sperm; therefore, if the different female ova were fertilized at different periods of time, we would naturally expect that there would be just that time between what we might call the birth of each of the young.

Let us suppose, then, a wild water fowl, say a duck, lays twelve eggs, one each day; if all these ova were not incubated at the same time, there should be a difference of twelve days between the appearance of the first and last duckling, so that the first duckling would starve before the last made its appearance, for while one remained in the shell the mother would not forsake her nest. This fertilization, or incubation, of many ova at the same time is the natural law where the young are reproduced outside of the abdominal cavity; for example, it is a well-known fact to naturalists that the queen bee leaves the hive six days after her birth for the act of copulation, when she is fecundated for her lifetime, which lasts about three years, and in the height of her season she will lay three thousand eggs in twenty-four hours, all of which reproduce. These naturalists who give us

this information add that, as soon as the drone or male bee fertilizes the queen, it immediately dies. We can understand this when we remember that the male or drone neither works nor makes honey like the working bee, and that he only exists for the one single purpose of procreation, and when he performs that act his usefulness is finished. For him to live would simply be to be a burthen to his community, so nature kills him off when his work is done. Does nature do the same with the placenta mammalia? Let us hope so, let us hope that none live longer than is necessary for the accomplishing of their work.

But, you may ask, why is it not with the domestic fowls as with the wild fowls, the chick, for example, that lays a greater number of eggs than she can possibly hatch? First, because that we have forced the hen to break natural laws to provide ourselves, with food. But, notwithstanding this, we find that after the hen has rejected a certain number of ova she determines to hatch her eggs and bring forth her young, and the careful guardian of the hen, from the notice she gives, will save up a certain number of her last eggs, and set them, and in doing so will be sure to be recompensed by a full clutch of healthy chicks; whereas the guardian who does not observe these natural laws, but purchases eggs in the market or elsewhere, and sets them under the sitting hen, with the impression that that is all he has to do to secure a clutch of chicks finds himself grievously disappointed and out in his calculation, so that we see one farmer having a hen with twelve chicks, another with a hen and two, or even one; so we can easily see who is the intelligent farmer, in the very number of his barn-door fowls. And I have learned lately from good authority that fowls that get their food too easily—those fowls that don't work for their food that their eggs when set don't bring forth chicks, consequently there is a custom now amongst those who keep fowls to throw the grain amongst straw, or sand to compel the fowls to scratch for and search for their food. I can only explain this seemingly extraordinary fact on the physiological supposition that the production of healthy semen in the male and ovulation in the female is dependent upon the spinal cord, and that this scratching labour of the fowls is, through the sensory nerves, a stimulus to the spinal cord, which reacts upon the male and female organs of generation, through their special nerves. You may say that art has found a means of hatching the eggs. Yes, but art or the hen herself will not

produce a chick from an egg that has not in it the male and female cell. There may be some excuse for Mr. Haeckel, but, for the sake of scientific truth, it is a great pity that he should have gone out of his way to attack religion. In so doing he has not only done an injury to science, but he has not done justice to himself as a man, in that he has shown his profound ignorance of the matter he wrote on.

In Vol. I, page 169, speaking of sudden variations in animals he says: "This is equally true of individual and phyletic evolution. This is also the explanation of a process of evolution which, above all others, is usually put under mystical veil as though it were a supernatural wonder, this is the process of fertilization or sexual generation. In all the higher plants and animals this constitutes the first act in which the evolution of the new individual begins. But it must be noted here that this important process is by no means as universally distributed throughout the animal and vegetable world as is commonly supposed; on the contrary, there are very many low organisms which always multiply asexually, the *aemeba*, etc. In these cases there is no form of impregnation, the multiplication of individuals and the preservation of species depend here simply on asexual generation under the form of fission, propagation by buds or by germ-cells; on the other hand, in the case of all higher plant and animal organisms, sexual propagation is the general law and asexual generation never, or but seldom, occurs; among vertebrates in particular, 'virginal generation' (Parthenogenesis) never occurs. This we must explicitly affirm in the face of the celebrated doctrine of the immaculate conception. Immaculate conception has never been observed either in man or any other vertebrate."

I have not read for you this quotation simply for the sake of explaining to you the dogma of the immaculate conception, but to show you that even so clever a naturalist as Mr. Haeckel, when he allows his reason and judgment to be clouded by prejudice and fanaticism, will write the most absurd and ridiculous folly. Mr. Haeckel, or any other man, if he so pleases, has a perfect right to protest against this dogma or any other religious dogma, but then he should know what he is writing about, and not leave it in the power of any school-boy to show he did not. Mr. Haeckel assumed that the dogma meant that the Blessed Virgin Mary had no father, but was procreated

assexually by her mother. Never was there such an absurdity. The dogma simply means that God exempted her from the stain of original sin that she might be an immaculate mother for Christ, who was to obtain, *through* her, His human nature. As I have already said, I have only drawn your attention to this absurd statement of Haeckel's to show you what a dangerous thing is prejudice, and how it will blind otherwise wise and well-meaning men, making them state the most unfounded falsehoods with unblushing effrontery. Such men never can learn from nature her great truths which she so willingly unfolds to those who humbly seek for truth for truth's sake.

Mr. Haeckel avows himself an atheist: if he be such, which I very much doubt, I am sorry for him; it is however his own affair, not mine. I am not afraid that God will hold me responsible for the religion or non-religion of Mr. Haeckel, and, seeing that I claim the right to my own religious opinions, why, I let Mr. Haeckel hold his. But, for the sake of science, I regret that he should consider it necessary to make such a declaration, for by so doing he has put a weapon into the hands of the bigots and fanatics, who try to impress, all who will listen to them, with the false idea that the Science of Evolution leads to infidelity and Atheism.

It is very possible that Mr. Haeckel is so constituted that he cannot believe, nay, cannot assent, to anything above his reason, but I deny he is an atheist in virtue of his science; but in spite of it, according to my idea, the more a man knows of natural science the nearer is he to the Supernatural Creator.

Mr. Haeckel shows us by his beautiful attested plates taken from nature that in the early period of gestation in the different species of placental mammalia, hog, calf, rabbit, man, it is impossible to see the slightest difference between the different embryo, and, as I said in my former paper, the first stage resembles more a small worm than anything else, then a fish, then a fowl, then a quadruped, and finally each embryo assumes its own peculiar shape, so that in the last stage of evolution we can distinguish, but not very distinctly, which is which. We distinguish the embryo of the woman, however, from all others, because that in the latter stage it loses its tail, an appendage which all the others retain even after birth.

I have been told that, after having read my

former paper, the question was asked of me, which I certainly did not hear, if that Adam had an umbilicus. If he was evolved I would say he had, because in all placental mammalia there must be a placental circulation before a breathing one; if he was not evolved, but made after the manner that the image maker makes images, primary creation, which I believe is the theory held by many, creation of substantial form, then an umbilicus would not be necessary, although he might have one. As I conceive he was evolved from an ovum, I believe that like unto his offspring he had an umbilicus; no man, however, knows positively, or perhaps ever will know, how God created the first man, that is, the *modus operandi* by which he was made, therefore it is a lawful subject for discussion. Evolution appears to me the more reasonable theory, because it is in accordance with existing natural laws; the question to me, however, is only interesting as bearing on the science of development, and fortunately we have not to go back to the first man for that, seeing that we who are procreated attain all our animal and vegetative organs by the process of evolution, and that this evolution is taking place in us all as long as we have a living existence. Indeed, evolution continues in our material bodies even after death, for that which once is may undergo change, but cannot be annihilated; it always remains in one form or another, always perpetual evolution. As Dr. Bucknill, in his criticism of Mickle on the General Paralysis of the Insane, says: "We may reflect, as Hamlet did, how that a man may eat of the fish, that had fed of that worm, that had eat of a king, to show that a king may go a progress through the guts of a beggar." Not a very choice but a very expressive expression, proving the indestructibility of matter, and continual evolution.

I shall now quote for you what I consider the most interesting passages of Mr. Haeckel's work, interesting because the most practical; before doing so, however, I will give you the meaning of the many terms he uses, for certainly there are very many of them by no means familiar terms, or household words:

- "Phlyctic," impregnation by the male.
- "Parthenogenesis," virginal generation.
- "Ontogony," germ history.
- "Biogony," evolution of organisms, life.
- "Embryology," germ science.
- "Phylogony," tribal history.
- "Palengensis," new birth inheritance.

"Morphology," science of forms.

"Physiology," science of the functions of forms.

"Physiology," } united, forms the science of
 "Morphology," } biology.

"Biology," the science of organisms, or science of life.

I confess to you on the first reading of Mr. Haeckel's book I was puzzled as to the meaning of terms, but when, I came to comprehend them, I was satisfied that each term represented a science, and, moreover, that the knowledge of each and all of these sciences was necessary to the perfect comprehension of the sciences of anatomy, physiology and pathology.

Mr. Haeckel, after giving a sketch of the life of Baer, says: "Baer especially perfected the fundamental theory of germ layers as a whole, as well as in detail, so clearly and completely that his idea of it yet forms the safest basis of our knowledge of ontogony.

"He showed that in man and the other animals, as in the chick—in short as in all vertebrates—first two, and then four, germ-layers are formed, always in the same manner, and that the modification of these into tubes gives rise to the first fundamental organs of the body. According to Baer the first rudiment of the body of the vertebrate, as it appears in the globular yolk of the fertilized egg, is an oblong disc, which first separates into two leaves or layers. From the upper or animal layer evolve all the organs which produce the phenomena of animal life; the functions of sensation, of motion and the covering of the body. From the lower or vegetative layer proceed all the organs which bring about the growth of the body: the vital functions of nutrition, digestion, blood-making, breathing, secretion, reproduction, and the like. Each of these two original germ layers separates again into two thinner layers, or lamellæ, one lying above the other. First the animal layer separates into two, which Baer calls the skin or dermal layer, and the flesh or muscular layer. From the uppermost of these two lamellæ, the skin layer, are formed the outer skin, the covering of the body, and the central nervous system, the spinal cords the brain, and the organs of sensation. From the lower, or flesh layer, the muscles, or fleshy parts, the internal or bony skeleton—in short, the organs of motion—arise. Secondly, the lower, or vegetative, germ-layer, parts in the same way into two lamellæ, which Baer distinguishes as the vascular and mucous layer. From the outer of the two, the

vascular layer, proceed the heart and the blood-vessels, the spleen, and other so-called blood-vessel glands, the kidneys and the sexual glands. Finally, from the lowest and fourth, or mucous, layer, arises the inner alimentary membrane of the intestinal canal, with all its appendages, liver, lungs, salivary glands. Baer traced the transformation of these four secondary germ-layers into tube-shaped fundamental organs as ingeniously as he had successfully determined their import and their formation in pairs by the segmentation of the two primary germ-layers. He was the first to solve the difficult problem as to the process by which the entirely different body of the vertebrate develops from this flat, leaf-shaped, four-layered original germ, the process was the transformation of the layers into tubes. In accordance with certain laws of growth, the flat layers bend and become arched; the edges grow towards each other, so that the distance between them is continually decreased; finally, they unite at the point of contact. By this process the flat intestinal layer changes into a hollow intestinal tube; the flat spinal layer becomes a hollow spinal tube; the skin layer becomes a skin tube, etc."

Again, speaking of Baer, he says: "yet the ova of man and other mammals were not actually known till the year 1827, for the egg is exceedingly small, a spherical vesicle or bladder of only one-tenth of a line in diameter, which can be seen with the naked eye only under very favourable circumstances. This spherical vesicle, when in the ovary of the mother, is enclosed in a number of peculiar spherical vesicles of much larger size, called Graafian follicles, after their discoverer "Graaf," and these were formerly universally regarded as the actual eggs. It was not until the year 1827, not fifty years ago, that Baer proved that these Graafian follicles are not the actual eggs, which are much smaller, and only imbedded in the Graaffian follicles. Baer was also the first to observe the so-called germinal vesicle of mammals, that is, the little spherical bladder which is first developed from the impregnated and the thin wall of which consists of a single layer of uniform phylogenical cells."

"Another discovery of Baer's, of great importance in understanding the types of the lineage of the vertebrates and the characteristic organizations of this group of animals, in which man is included, was that of the chorda dorsalis. This is a long, thin, cylindrical, cartilagenous cord, which in all

vertebrates passes lengthwise through the whole body of the embryo. It is developed at a very early stage, and is the first formation of the spine, the firm axis of vertebrates." So much for Baer. I will now quote Mr Haeckel's own statements on the brain of the mammalia. He says "Though in general features of growth the brain of the mammals correspond with those of birds and reptiles, yet striking differences very soon appear between the two. In birds and reptiles the mid brain and the central part of the hind brain develop considerably. In mammals, on the other hand, these parts remain small, and, instead, the fore-brain begins to grow so rapidly that it covers the other bladders from in front and above. As it constantly grows further back, it eventually covers the whole of the rest of the brain above, and also encloses the central part from the sides. This process is of the greatest importance, because this fore-brain is the organ of the higher mental activities—because in it are accomplished those functions of the nerve cells, the sum of which is generally designated as the mind, or the 'spirit' in the narrower sense. The highest activity of the animal body, the wonderful manifestations of consciousness, the complex phenomena of the activities of thought, have their seat in the fore-brain. It is possible to remove the great hemispheres of a mammal, piece by piece, without killing the animal, thus proving that the higher mental activities, consciousness and thought, conscious volition and sensation, may be destroyed one by one, and finally entirely annihilated. If the animal thus treated is artificially fed, it may be kept alive for a long time, for the nourishment of the entire body, digestion, respiration, the circulation of the blood, secretion, in short, the vegetative functions, are in no way destroyed by this destruction of the most important mental organs.

Conscious sensation and voluntary motion, the capacity for thought and the combination of the various higher mental activities, have alone been lost.'....." "The extremely complex and perfect active phenomena within the nerve cells, summed up the word 'mental life,' can no more exist without their organs in the vertebrate, including man, than can the circulation of the blood without a heart or blood. As, however, the central marrow of man has developed from the same medullary tube as in all other vertebrates, so also must the mental life of man have had the same origin. All this is, of course, true of the conductive marrow or the so-called 'peripheric nervous system.' This con-

sists of the *sensitive* nervous fibres which convey the impressions of sensation from the skin and the organs of the senses in a centripetal direction to the central marrow, in a centrifugal direction to the muscles. By far the greater part of these peripheric conductive nerves originates from the skin-fibrous layer, by peculiar local differentiation of the rows of cells into the respective organs.

"The membranous coverings and blood-vessels of the central marrow are identical in origin with the greater part of the conductive marrow; these membranous coverings are the inner membrane (*pia mater*), the central membrane (*meninx arachnoides*), and the outer membrane (*dura mater*). All these parts are developed from the skin-fibrous layer."

"Important as is the vascular system in the more highly developed and differentiated animal body, it is not, however, an apparatus as indispensable to animal life as is generally supposed. In the older theory of medicine the blood was regarded as the real source of life, and humoral pathology referred most diseases to corrupt blood-mixture. Similarly the blood plays the most important part in the prevailing obscure conception of heredity. Just as half-blood, pure blood, etc., are yet common phrases, so it is widely believed that the transmission by heredity of definite morphological and physiological characters from the parent to the child lies in the blood. That this customary notion is entirely false, is easily seen from the fact that neither in the act of procreation is the blood of the parents directly transmitted to the procreated germ, nor does the embryo acquire blood at an early period. As we have already seen, not only the separation of the four secondary germ-layers, but also the beginning of the most important organs, takes place in the embryos of all vertebrates before the rudiment of the vascular systems of the heart and blood is formed. In accordance with this ontogenetic fact, we must, from a phylogenetic point of view, regard the vascular system as the most recent, the intestinal system, on the contrary, as the oldest formation of the animal body. The origin of the vascular system is, at least, much later than that of the intestinal system. If the fundamental law of biogony is rightly appreciated, it is possible, from the ontogenetic sequence in which the various organs of the animal body consecutively originate in the embryo, approximately to infer the phylogenetic sequence, in which these organs gradually develop-

ed one after the other in the ancestral order of animals."

The organ system may be arranged, according to age, in something like the following order: *First*, the skin system and intestinal system. *Second*, the nerve and muscular system. *Third*, the kidney system. *Fourth*, the vascular system. *Fifth*, the skeleton system. *Sixth*, the sexual system.

We have now, gentlemen, gone through Baer's germ history as set forth and approved of by Haeckel, and I can conceive nothing more clear and distinct. Every step in embryology is gradually and distinctly traced from the moment the female ovum is fertilized by the cell of the male sperm till the formation by evolution of the perfect animal child—I say animal because it is only as such Mr. Haeckel speaks of him pure and simple, differing from all other animals only in degree. He does not recognize, what I do, that man has a human nature, in virtue of which he differs also from all other animals in kind as well as in degree. You who have heard my first paper know that, while I accept the evolution theory as I have described it, I do not accept the monistic hypothesis as set forth, nor yet the dualistic hypothesis as it is generally understood.

From Mr. Haeckel's book we learn many very important facts, which not only explain to us many physical phenomena, but which must be of great practical utility in the treatment of disease. First, we learn that heredity is not through the blood but nervous system, hereditary syphilis, insanity, imbecility, phthisis, gout, cancer, intemperance, etc., and is it not of the greatest importance to know that in the treatment of these diseases it is not the blood we have to deal with, but with the nervous system—not with a reproductive fluid, but living organisms. You may say that Mr. Haeckel did not say heredity was through the nervous system, but that it was not through the blood. Very true, but have we not a right to conclude it is through the nervous system when it is not through the blood. Physiological heredity always exhibits itself in the nervous system, let it be good or bad, as in hereditary insanity or atrophy, as exhibited to us by Dr. Osler, in the case of the Farr family of Vermont.

Then what are the phenomena of animal life? Sensation, thought, perception, or consciousness, and motion. From whence come these phenomena? From the nervous system, that imparts animal life and with it all its phenomena to the male and female cells to the male sperm cell that fertilizes the cell in

the female ovum, from which is generated the little spherical bladder described by Baer as the first development from the impregnated egg. Of course, if these cells were not living germs they never could evolve into living animals, for life does not come from death but from life; moreover, if they were dead germs they would be a foreign body in the Graafian follicles, and be rejected from them; or, remaining, would be a source of irritation and a cause of disease.

Again, according to ERB, it is a pretty well established physiological fact that the production of semen, and ovulation are dependent upon the spinal cord.

I therefore assume that not only is heredity but animal life transmitted from the parent to the offspring by means of the nervous system. From these facts are we not forced to raise the question: is there such a thing at all as blood-poison, as is generally understood by that term? Or, if poisoned, is it not only in common with the rest of our organization, and not as the medium through which a poison is conveyed. Why should we not recognize that all poisons are conveyed to and from the living centre by means of the centripetal and centrifugal sensory nerves that originate in the skin; and when we have a case of so called blood-poison, is it not the nervous system that first gives symptoms of poisoning, and is it not hard to understand why we have attributed delirium in certain diseases to blood-poisoning, when it is so much easier to account for it through the medium of the peripheral sensory nerves. I am not speaking of these cases when the blood has an increase or decrease of its chemical properties. I speak of when the system is poisoned from an animal, a vegetable, or mineral poison. Has any analyst, when called upon to say whether or not a person died from the effects of poison, given his attention more to the blood than to any other part of the animal economy, and, if so, has the blood shown from such an analysis that it contained a greater quantity of poison than any other part of the system. It is a mere assumption, and a most unjustifiable one, that the system is poisoned through the blood, or that the blood undergoes some chemical change which poisons the whole system. Our very treatment for what we classify as septic diseases is a contradiction to such a theory, for the drugs we administer are those that we know have a specific action upon the nervous system, such as quinine, salicylic acid, morphine, atropine. If a person is poisoned by opium we

administer atropine or give injections of strong infusion of tea, as recommended by Dr. Sewell, of Quebec; if poisoned by atropine we give opium; if by strychnine, tobacco,—recognizing by our treatment in all that it is the nervous system, not the reproductive fluid, that is poisoned.

It will not do to point out that in some cases of mechanical obstruction from embolism or thrombus, such as has been so frequently exhibited to the Society by Dr. Osler, that pus is found in the blood-vessels, nor to say that in cases of pyæmia pus is found in the blood, unless it can be shown that pus is found in no other organ or tissue, or that it can be shewn that the blood itself underwent a chemical change which converted it into pus, and that the pus was a cause, not the consequence, of a poison from which the whole system, as well as the blood, suffered. To my mind there has never been sufficient proof adduced that there was such a thing, properly speaking, as blood-poison, that is, that the blood from some cause underwent some chemical change by which it became a poison to the rest of the system, nor have I seen any proof that the blood was the medium through which the vital organs were poisoned.

Because in all cases of inflammation, whether in organs or tissues, we find congestion of the capillaries, we assume that the blood is the immediate cause of the inflammation, whereas it is only the secondary. The cause of the congestion is not due to the blood, but to the blood vessels, which lose their normal contracting and dilating powers or force, in virtue of some disordered state of the vaso-motor nerves,—a want of co-ordinate action between the vaso-contractor and its inhibitory nerve, the vaso-dilator, brought about by irritation of some nerve centre, acting upon the sympathetic nerve, which is the great vaso-motor of the body, controlling organic or vegetative life, as the cerebral and spinal nerves do animal life. I do not myself believe that there is any such thing as idiopathic inflammation. I believe all inflammations are traumatic, that is, that there is some injury (although we cannot always see it) to a nerve centre, from either objective or subjective cause, to produce the effect, inflammation, which in all cases is preceded by either venous or arterial congestion of the capillaries. Holding this to be the true theory of inflammation of a part, no matter whether of organs, membranes, or tissues, you will not be surprised when I tell you that, in my treatment of inflammations, I direct

my attention more particularly to restoring the vaso-motor nerves to their normal state; and the drugs I have found, as yet, most useful to this end have been the various preparations of ergot, belladonna, hyoscyamus, digitalis, aconite, bromide of potass, etc., all medicines known to have a specific action upon the vaso-motor nerves. Of course you must understand that I am speaking of inflammation, not of its consequences, neither am I speaking of inflammation, the result of specific poisons, such as syphilis, gonorrhœa, etc. Although I maintain that, even in these inflammations, they are directly due to the vaso-motor nerves, although indirectly to the irritation of a nerve centre from the specific poison. Of course if I know of anything that is acting traumatically in a nerve centre through the peripheral nerves, I use my best efforts to remove that cause of irritation.

Recognising, as I do, the success of Mr. Tindal's experiments in proof of atmospheric germ, bacteria, and believing that animal, vegetable, and mineral poisons are carried through the air from a thousand different sources, I am a firm believer in antiseptic surgery, of Lesterism as now well understood; but I don't believe that the danger from exposing a cut surface to the atmospheric air is due to the blood vessels, which, by the way, are usually tied up as quick as possible,—even veins, as Dr. Roddick has shown us, can be tied with as little impunity as arteries. I say the danger is not from exposing blood vessels, but the cut ends of the numerous peripheral nerves.

Mr. Haeckel has clearly demonstrated that there is no animal life without a nervous system, and he has equally demonstrated that there is animal life without a circulating or blood system. Therefore, according to his views, I was correct, when, in my previous paper, I said that the properties of animal life were in the nervous system. This is also evident from the fact that consciousness of the objective is the result of perception, and sensation is necessary to perception, sensation is even necessary to subjective consciousness; for although sensation can exist without self-consciousness (for as all matter has in it potentiality, so all matter has sensation but not consciousness), yet self-consciousness cannot exist without sensation, and Mr. Haeckel has clearly demonstrated that sensation is imparted to our consciousness through the sensory nerves, which take their origin from the skin that envelopes our bodies.

This physiology of the skin explains to us the

modus operandi of blisters, plasters, baths, counter-irritants, rubefacients, anæsthetics, hypnotism, electro-magnetism and metallotherapy, and suggests to us that perhaps much more could be done through the skin for the successful treatment of disease than has been hitherto done, in fact, as much as has been hitherto done through the mucous-membrane of our stomachs, which, after all, is only part of the skin that envelopes our bodies—a skin so closely allied to our brains and spinal cord as that we might properly define them to be one.

In the October number of *Brain* there is an article by Tschirieu which has a practical bearing on this question. It is a case of lesion of the spinal cord and skin of anæsthetic leprosy. After a microscopical examination of the spinal cord and skin, and finding the same disease in both parts, he thus concludes: "What relation there is between the degeneration of the cells in the grey matter and the connection between these and the phenomena of anæsthetic leprosy, are all questions which it will be for future research to decide definitively."

It appears to me that if Tschirieu had been aware of the intimate union that exists between the skin and spinal cord, he would have seen that the question is already settled. Nothangal found that irritation of the skin of children, even in remote parts of the body, caused fluxinary hyperemia, by first causing through the vaso-motor nerves sudden contraction of the arteries from irritation of the centripetal sensory nerves, which sudden contraction Eber says is always followed by sudden relaxation of the vessels, hence the hyperemia. But Eber did not then know what is now so well established, that the relaxation was due to the vaso-relaxer, which is an inhibitory nerve to the vaso-contractor. I suppose there are but few medical men who have not seen inflammation of the lungs from scalds on the thorax, and I see a case lately recorded of ulceration and perforation of the small intestines from a scald of the nates and legs, and it is an oft-told tale, how flogging on the back has produced pleuritis and pneumonia, yet moralists tell us to spare the rod and spoil the child. I say, use the rod and destroy the child's mental organization, if not his life, and here I remark with pleasure that I perceive England is at last about to abolish that remnant of barbarism, flogging in the army.

and navy; this improvement is due to men of science.

I think I hear you say I am making the skin of too much importance in the animal economy—this I conceive to be impossible, when we remember that it is the medium through its peripheral sensory nerves between all things objective and our whole material organization, not only animal, but vegetative. Through the skin the sensorium is made cognisant of cold, heat, pressure, painful and pleasurable sensations, and through it we communicate our thoughts by emotional language, for you must remember that man differs so much in degree from all other animals that he possesses what no other animal does—a power of communicating his thoughts and ideas to his fellow by oral speech. But man has, in common with all other animals, an emotional language by which we communicate our thoughts and desires through the sensory nerves. This is the language made much more use of than oral by the opposite sexes when either wish to excite the sexual desire in the other, and render a natural desire morbid, so that desire gives place to ungovernable passion, and *will* loses its influence to guide it. It is well-known that certain irritation of the skin excites in different persons more or less generalized reflex spinal action, exciting the sexual organs in male and female. Some there are that, by a powerful effort of the *will*, can excite in the cerebrum irritations of an inhibitory nerve centre, and thus control the sexual desire, but such persons are few and far between; every man and woman knows the truth of this phenomena, but none care to admit it. All would wish it to be believed that they are exceptions to this natural law, but there are no exceptions; all have sensory nerves which take their origin from the skin, and whose centripetal branches pierce the spinal marrow from whence the reflex action comes, and although men and women laugh and ridicule those who condemn close intimacy between the sexes, particularly that intimacy when touch is permitted, as dangerous to morals, yet those very people know well the danger, but don't wish to admit it.

Knowing, as we now do, the physiology of the skin and sensory nerves, and this emotional language, will we not, as medical men, feel it our duty, when mothers consult us about the health of their hysterical daughters, to warn them not to allow any intimacy between their daughters and one of the opposite sex, or to partake of any amusement where touch is permitted. I am no

speaking as a moralist, but as a medical man, as one who has seen too many young men and maidens find their way into an insane asylum or an early grave, or drag out a miserable existence from uncontrollable ungratified sexual desire. We can have no feeling for such but the greatest pity, whatever may be the feelings we have towards the parents, who have so grossly neglected to perform their duty towards their children. Can there be a more pitiable sight than to see these poor hysterical girls rushing about from one thing to another, and finding no rest, no satisfaction only in the excitement of the moment, sometimes seeking causes of excitement the very opposite to each other, and, when there is no longer excitement, then, sickness and suffering.

I don't believe in the doctrine of all work and no play, I believe it to be a most cruel and unnatural doctrine, a breach of all natural laws; I like cheerfulness because it shows a normal constitution, but I don't like to see abnormal desires take possession of male or female, and, above all things, I wish to see all men and women know thoroughly their duty in whatever their position in life may be, and to let that duty be their first consideration before all other things. When people act thus we may expect to see a normal healthy state of society very different from what it is at present. And I consider it the duty of every medical man to use his best efforts to bring about such a healthy state of society by not only treating his patients when sick, but by teaching them how to live that they might enjoy a sound mind in a sound body, for they cannot have one without the other, and the physiology we have learned from Mr. Haeckel must aid him in his efforts. This is what MIVART would call "rational materialism" founded upon physiological and pathological science. Who is Mivart? In beginning this paper I told you a friend loaned me Haeckel; before concluding it I must tell you that another friend loaned me another book, "Lessons from Nature, by St. George Mivart, Ph.D., F.R.S., Professor of Biology at University College, Kensington, and Lecturer on Zoology and Comparative Anatomy at St. Mary's Hospital,"—that is who Mivart is, and I read his book with just as great, if not a greater, interest as I read Haeckel, and I was delighted to find that my views upon man's two natures were so similar to such an authority. He, however, while admitting that, zoologically, man and ape were of the same order of mammalia,

sternly opposes that man was evolved from the ape. He says: "The lessons, then, concerning man, which we seem to gather from nature as revealed to us in our own consciousness, and as externally observed, is that man differs fundamentally from every other creature which presents itself to our senses. That he differs absolutely and, therefore, differs in origin also. Although a strict unity, one *material* whole, with one form or force (not made by two parts mutually acting according to the vulgar notion of soul and body), yet he is seen to be a compound unity in which two distant orders of being unite. He is manifestly *animal*, with the reflex functions, feelings, desires, and emotions of an animal, yet equally manifest is it that he has a special nature, looking before and after, which constitutes him rational, ruling, comprehending, interpreting and completing much in nature. We also see in him that which manifestly points above nature. We see this since we know that he can conceive minds indefinitely augmented in power and devoid of those limitations and imperfections it exhibits in him. Manifestly a contemplation of nature must be fertile indeed which neglects to ponder on these ideas of power, wisdom, purpose, goodness and will, which are revealed to him in and by his own nature as he knows it to exist, and, therefore, as conceivably existing in a far higher form in that vast universe of being of which he is a self-conscious fragment."

You perceive by the foregoing quotation that Mivart recognizes the two natures in man. He, however, appears to attribute something more to our human nature or something less to our animal nature than I have done in my previous paper. As I have already said I recognize that man has a human nature given to him, in virtue of which he has an Ego, a free will, and an immortal soul; yet when I consider the anatomy and physiology of man, and the pathological effects of disease on man's organization, when I consider the nations of savages aye, even of cannibals, in this our day; when I look at the worse than barbarian crimes committing every day by all peoples, and none surpassing the crimes of Christians, I cannot help but recognize the theory of development or evolution of man, in so far as the intellectual, rational being is concerned, and that the striking difference between individuals, and peoples—between the humane and barbarous, or cruel, man—is in virtue of his animal and not his human nature; the latter I consider, in virtue of its source to be equal in all.

In bringing before you this evening the subjects of heredity of blood-poison, of inflammation, of the physiology of the skin, and sensory and vaso-motor nerves; if I have been obliged to show that neither life nor heredity was in the blood, which was simply the reproductive fluid of our whole organization; if I have been obliged to show you that, properly speaking, there was no such thing as blood-poison; if I have been obliged to give you a different definition of inflammation from what we have been accustomed to consider it; if I have largely extended my remarks upon the physiology of the skin and the sensory nerves;—it was not merely from the desire to break down old-established ideas, and replace them with new, it was because I long had my *doubts* that these old theories were based upon scientific truths, "and, having doubted, I had no rational choice, but was in duty bound to reason out my doubts to the end," and, having done so, making use of all the means within my reach to assist my reason, I have offered the results to you, such as they are, that you may be led to the careful consideration of these questions, and see what claims they possess, or whether we have not yet much to learn in the theory and practice of medicine.

Progress of Medical Science.

TREATMENT OF SEMINAL EMISSIONS.

Bumstead gives the following prescription for its special tonic effect upon the genital organs:

	Grams.
℞ Tr. ferri chloridi.....	̄ iii 90
Ext. ergot. fld. (Squibb's).....	iii 90

M. et sig: A teaspoonful in water after each meal.

As a direct means of diminishing the frequency of the emissions, B. recommends:

	Grams.o
℞ Potass. bromidi.....	̄ i 3
Tr. ferri chloridi.....	̄ i 30
Aquæ.....	̄ iii 90

M. et sig: From one to two teaspoonfuls in water, after each meal, and at bed-time.

The avoidance of tobacco in all its forms, cleanliness of mind and body, laxatives when needed, and, in a word, attention to the rules of hygiene, are to be strictly enjoined.—*American Practitioner*, July, 1879.

ON THE TREATMENT OF TUBERCULAR CONSUMPTION.

By CARL BOTH, M.D., New York.

Some time ago I published an account of a treatment of tuberculous phthisis, which I had used with good success for twenty-two years. That treatment consisted in *first*: The cleansing of the bronchi of mucus and pus; and afterward the normal expansion of the air-vesicles by means of actively exercising the respiratory muscles (see *Medical Record* of July 21, 1877, and May 18, 1878). *Second*: The careful study of the needs of the system for certain articles of food, containing lime salts; and a proper appreciation of the necessity of getting rid of excrementitious substances as quickly as possible. *Third*: In a medication of certain minerals in organic form, such as lime and silica, for the purpose of aiding the calcification of tubercles; and in acids, such as citric, which contain an excess of oxygen, and which tend to help the oxidation of protein substances. *Fourth*: In bringing the patient in such condition of life that his nervous system is not unnecessarily over-taxed, at the same time it is so employed as to balance nervous force and stimulate his general nutrition as much as possible.

The whole object of this method, which I have called that of the "artificial calcification of tubercles," is to check the suppurative processes and arrest the softening of the indurated portions of lung. It is immaterial how this effect is reached, whether by calcification of tubercles, of fatty degeneration, or ossification, or cicatrization, or by solidification of fibrin, or any other pathological process, so long as we reach our desired object—namely, of drying up, so to speak, the softened or infiltrated portions of the lung-tissue.

I well know how settled the professional mind is on the incurability of phthisis, especially tubercular; and it is not without a feeling of misgiving that I venture to continue my assertions regarding the curability of phthisis. I am aware that such assertions will be charged to undue enthusiasm in a pet method, or to misguided judgment regarding the value of facts. Still I feel it my duty to say what I believe. It is not my purpose to theorize on the relation between the cause and the effect, although there must be room for all theories.

The profession, as a whole, accepts and rejects views as it sees fit. But facts are stubborn things, and are always acceptable to the profession, no matter what their particular interpretation may be. With this view a short description of some of the cases treated by my method is offered, in the hope that the profession may become convinced of its efficacy, and resort to it accordingly. I claim in no way perfection, or anything wonderful, but unless my judgment is utterly defective, these cases must convince the most conservative skeptic, that tuberculosis of the lungs can be arrested to a

degree heretofore considered absolutely impossible.

It may be well to state beforehand, that all the cases reported were more or less desperate ones; that to manage such patients is very difficult, sometimes impossible; and that even with the utmost caution these patients, especially the recovering ones, will commit follies almost incomprehensible, and utterly beyond the control of the medical adviser. But it will be seen that the effect of my treatment is uniform, regardless of the final result, the same in each case, and excluding any accidental improvements which are so common in these cases.

Mr. W. H. —, merchant in New York; native of Yonkers; twenty-eight years of age; lost a brother and sister of consumption in 1876; had been sick for ten, and was compelled to give up business for two years. Had tried Colorado, Minnesota, and the South, outdoor tent-living, with injurious results; had been examined by Drs. C. P. Tucker, A. Clark, and A. Flint.

Examination denoted decided dullness at both summits; right side, comprising both upper lobes, with *bruit de pot fêlé*; lower portion of right chest, absolute dullness to about the nipple. Auscultation on right side bronchial, with strong gurgling sound indicating a cavity of four by two inches; middle portion, broncho-vesicular; lower portion of chest, absence of sound; right upper lobe, sub-crepitan râles with bronchial respiration. Pulse 124 and variable. Heart well. Digestion fair. The patient came under my treatment in October, 1876. In August, 1877, he went back to his business, four months sooner than I wished him to. His condition was then as follows: Dullness of percussion nearly the same, except the right lower portion, where it had entirely disappeared. Auscultation: The gurgling sounds of cavity had disappeared; cavernous respiration indicated the cavity smaller on summit, but had extended somewhat downward, caused by formation of a new cavity; respiration around it broncho-vesicular. In lower portions of right lung, normal vesicular respiration. Left upper portion, respiration vesicular, with a very slight tubular timbre and prolonged expiration; lower portion normal. He was at that time re-examined by Dr. A. Clark.

The patient has remained steadily in business, working hard. I examined him again in January, 1879, when he had neglected himself somewhat. I then heard bronchial râles and moist crepitation on left side. It soon subsided, and he was hard at work when I last saw him in June, 1879. He is at present travelling in Europe. From August, 1877, to June, 1879, he had not missed a day in his business in the city, while he lived in Yonkers. Considering the large cavities, which of course cannot heal on account of the pyogenic membrane, and cause him to cough on exertion, he appears perfectly well from his looks and actions.

Mr. Herm. B. —, merchant, in 51 New Street, New York; native of Hamburg; twenty-two years

old; had lost a brother from consumption in Madeira in 1871; was attacked several times by hæmoptysis in 1875; for which he was treated by Dr. Pregitzer, of Staten Island. Not recovering, he consulted Dr. Schmetter, of New York, who sent him to Aiken, S. C., from where he returned much reduced. Dr. S. then advised him to go at once to Pau in the winter, and to Davos, Switzerland, in summer. With the steamer ticket in his pocket, he came to me in October, 1876. His appearance was decidedly hectic: had night-sweats, and a pulse of 135 at rest. Percussion dull on both apices, much more on left than on right side, with cracked-metal resonance between third and fourth left ribs, and pains on percussion. Respiration bronchial, with subcrepitant râle, on both summits on left side down to fifth rib, with cavernous whisper between third and fourth ribs, indicating a cavity of the size of a large walnut. He was not able to walk ten blocks, and could not retain his food. He was under my treatment from October, 1876, to June, 1877, when he sailed for Europe. Before he sailed Dr. Lellmann, physician to St. Francis' Hospital, New York, had the kindness to examine him, and although he was very much better than when I first saw him, Dr. Lellmann warned me not to be sanguine in my expectation of his recovery. The patient returned to New York in October, 1877, and re-entered business. He is a well-known member of the Produce Exchange. He finally became careless of himself, when an attack of hæmoptysis frightened him, and gave me a chance to perfect his cure. He has recovered so as to outwalk me at any time, dances all night, eats and drinks as he pleases; has been through serious business excitements, and broken his fibula, which confined him four weeks on his bed. He looks so well, and shows such vitality that he is laughed at by his friends when he says, he is consumptive. The condition of his lungs is as follows: Percussion is moderately dull in both summits. Auscultation denotes a somewhat large vesicular respiration in the affected portions, with prolonged expiration. The signs of the cavity on left side have disappeared, so has his cough. His pulse is 60 to 70; he is very strong, and has gained considerable flesh. His chest has become full and rounded, and he presents as perfect a recovery as can be realized only by the most sanguine expectation. Still, I am satisfied he would have died had not the hæmoptysis brought him back under my control in 1877; and I may mention that when I took him as a patient with the view of curing him, I was ridiculed by all his friends.

Frank W. T——, M. D., practising physician of New York, came to me in March, 1877. He had been examined by all the leading specialists of New York, and had been treated by Drs. Elsberg and Lincoln for marked aphonia of two years' standing. He told me that these gentlemen found two tubercular ulcers upon the vocal ligaments. Examination of lung denoted marked dullness in

both summits to about fourth rib, and an exudation of two inches in right pleura, over which auscultation, denoted a soft crepitation, indicating a not fully reabsorbed pneumonia. Respiration in both upper portions bronchial, with mucous and subcrepitant râles. Pulse 120, digestion entirely out of order, very weak, and short of breath. Two weeks after I treated him his aphonia left him, when he failed to appear. I found him in his office very sick. He had taken nitrous oxide gas and morphia. I managed to get him out again, but he was a very irregular patient, and I lost sight of him until September, 1877, when he came back much reduced and weaker. He then began treatment in earnest, and improved steadily, so that he could walk daily to my office during the whole winter which he could not do previously.

In June, 1878, he went to spend the summer on a farm, with the direction to return in September to complete his recovery. That was the last I saw of him. I am fearful that he feels so well that he considers no further treatment necessary.

John M ——, architect, a patient of Drs. John L. Campbell and James L. Little, presented a case of pleuritic exudation of about four inches in left pleura, dullness over whole left lung, on right side to fourth rib. Auscultation showed the varieties from cavernous gurgling to dry, moist mucous and metallic râles. Both tympani were destroyed by tubercular ulceration, with ulcers on tongue and pharynx. He had also three fistulæ-in-ano, from which he suffered very much. I treated the case, by special request of Dr. Campbell, from September 1877, to March, 1878. The patient made such favorable progress that Dr. Little sent me a note of congratulation. An abscess in the lungs broke on the 10th of December. This completely upset him; still he rallied again, walked over three miles per day, until February, when another abscess broke, and two weeks after that another, which completely exhausted him. He died very easy. Post-mortem was decidedly refused. This case was an utterly desperate one, with no chance at all, but it showed the effect of treatment, nevertheless, as the medical gentlemen mentioned above can testify.

Mr. C. A. M., merchant of New York, 22 years of age, had been treated some time by a French physician when he was examined by Dr. A. Clark who pronounced his lungs affected, and recommended the South. He was also examined by Dr. Metcalf, who concurred in the same opinion. The patient, therefore, went to Asheville, N. C. This was 1877-78. He returned very much sicker. I saw him in May, 1878. Percussion was dull more or less, over the whole of left lung front-moderately dull in right summit to about third rib—resonance on back about even on both under portions. Auscultation denoted bronchi of cavernous character front and back on left side—some portion almost entirely devoid of any respiratory murmur, while portions between them gave bronchial râles, and subcrepitant râles over the whole

of left portion in front. There was some vesicular murmur audible on lower portion of back, but of a moist character. Left upper side subcrepitant râles on summit, lower portion normal; expiration a little sharper. Pulse 128 at rest; decidedly hectic; parents both healthy and living, but several brothers delicate. Patient could walk but very slow and with difficulty. As the case was decidedly a desperate one, and liable to die at any time, I took the precautionary measure to have him re-examined by one of the most distinguished physicians of New York, who gave his opinion that the patient was beyond the hope of any possible recovery. I then treated the case with the following result: for the first two months he made no perceptible progress, except that he obtained better sleep and became livelier. In September his pulse began to fall, and he improved visibly. In order to reach my office daily, he had to travel twenty-four miles by railroad and a mile to walk. He improved so that he walked three or four miles daily when at home, besides his thoracic exercises. His pulse began to fall from 76-78. In February it began to rise somewhat, and the patient complaining of soreness in his left thorax, made me suspect an abscess ready to open, and he removed temporarily to the Windsor Hotel. After a few days the abscess opened, and he discharged a large quantity of pus. To my surprise this did not affect him so seriously as it generally does, but he soon felt so much better that I permitted him to go home again. Pulse back again to 78. The large cavity left could easily be diagnosed, which, with the already existing smaller cavities, comprised an area from the clavicle down to the nipple. The tissues existing between these cavities I hoped to save for cicatrization. The patient, meanwhile, remained about the same, not well enough to do business and too smart to do nothing; the right lung progressing well all the time. Spending the summer with me in Nantucket, Mass., he left a week in August for New York City to meet his father, who had just returned from Europe, and to have a good time generally. He returned to Nantucket somewhat used up, but still his physical signs were about the same; pulse 96. Thinking that I could make a change for the better I allowed him to travel over the White Mountains, regardless of weather, which he did in September, consuming about three weeks. He enjoyed his trip very much, but returned changed for the worse. His lips and nails, which were rosy and bright, looked bluish; his pulse 112, and very feeble. Examination showed that the cavities in the left lung had coalesced. Right lung in perfect order; respiration vesicular throughout and dry; only in upper portion respiration prolonged and audible. The patient travelled his twenty-four miles every day to reach my office; his pulse is 80 in bed; 104-112 in day-time; appetite and digestion perfect. The case is an extremely painful one, demonstrating the good effect of treatment in one lung and its utter helplessness in the other one. This patient finally succumbed to the disease.

Mr. Alex. W.—, bookkeeper in Bank of Lansingburgh, 26 years old. I saw the patient while in Albany. He had been sick about two years, trying in vain different modes of treatment. Besides being lung-sick, he had chills and fever for two months, for which he had been in Brooklyn, but failed to get rid of them. I saw him in May, 1878. Examination showed the left upper lung very dull on percussion. Respiration bronchial, with mucous râles. Subcrepitant râles in lower left lung. Right lung less dull on percussion, with some mucous râles, but with subcrepitant râles in both upper lobes. Pulse 145; very weak. Epigastrium painful, abdomen hard and dull, digestion completely out of order, severe night-sweats; hectic, with bluish lips and nails. I ordered a dose of sulphate of soda, followed next day by a dose of the juice of twenty lemons, with hot-water sheets applied an hour previous to the chill. This arrested his fever and chills at once, and he came to New York. His pulse was 140, and he was so weak that he was unable to walk four blocks. His cough and looks alarmed the guests and landlord at the hotel in Nantucket, who thought he had been brought there to die. He soon picked up, however, and in February, 1879, he walked over 200 miles. Although not quite well he left me in June, with the understanding to spend the summer in Nova Scotia, at the seashore, instead of which he remained at home in Lansingburgh, doing business. The result was a return of the chills and fever, for which he was in New York a few days ago to consult me. I advised him to go home again to apply the hot water until the epigastric pain had gone. Of course, he does not look so well as he did in the spring, but, with some attention on his side, he will soon make up again. His pulse has been all along to 58 to 60, when quiet; since the fever, it has, of course, been higher, varying from 80 to 96.

Mr. Geo. W. Sh.—, from Albany, came to me through Drs. Bailey and Curtis, in June, 1878. Examination showed a moderate dullness of both summits to third rib on right and fourth rib on left side, with subcrepitant râles. Pulse 80; no complications. This case made very rapid progress, gaining six pounds in weight, under somewhat severe exercise in two months. Instead of remaining with me until Christmas, when I promised to dismiss him as cured, he felt well enough to discharge himself.

Mr. J. Watson A.—, 30 years of age, from Fishkill, N.Y., a merchant, came under my treatment in August, 1878. He had a very moderate dullness over both upper lungs, with bronchial mucous râles and moist crepitation. Pulse 76. This, I considered, was quite a curable case. He left me suddenly after two months, just when the case worked to my full satisfaction. I did not see him again until this last summer, when he had apparently failed very much. Since October 1st he has been my patient again. The dullness now is quite perceptible; his pulse 104 to 112, and I am apprehensive of the formation of an abscess.

Auscultation denotes subcrepitant râles over both upper portions. Respiration decidedly bronchial, with occasional mucous râles. I shall report the result of my treatment hereafter.

Miss H—, from Brockport, N.Y., aged 20, was sent to me by Dr. Brannan, in August, 1878; marked dullness in both apices as low as fourth ribs, with bronchial respiration and subcrepitant râles. Not able to retain any food; very feeble and nervous; pulse over 100. She recovered so quickly that she could walk two miles without difficulty. After six weeks I ordered her to exercise her respiratory muscles more actively, which resulted in serious pains in back and abdomen. I then discovered that she was suffering from prolapsus uteri with antroversion, and which she had hidden from me for unknown reasons. As this arrested my treatment, and she preferred her brother-in-law to the specialists recommended by me, she left for home. I have heard that she died a few months since.

Mr. A. R. McM—, merchant and banker, from Toronto, came to me in August, 1878, through Dr. Walsh, of Michigan. Had been a consumptive invalid for ten years, under treatment of Dr. Philipps, of London, Eng. Had been in Egypt, Madeira, Mentone, and Western America, with temporary benefit, but had failed rapidly for the last two years; fifty-two years of age; presented a strongly marked hectic habitus. Examination, left side, denoted decided dullness to fourth rib, with bronchial and irregular respiration and subcrepitant râles; right side, marked dullness to fifth rib, with *bruit de pot fêlé* under clavicles, which stood out higher than an inch. Auscultation gave strongly-marked cavernous respiration under clavicle, surrounded by bronchial and irregular respiration, with wheezing noises; occasional mucous râles; amphoric voice; pulse intermittent every fifth or seventh beat—irregular, but not higher than 72 to 76; heart appeared normal. Patient was very weak; chest sunk and flat. After three months his pulse became perfectly regular. He left me in May to spend the summer at Rye Beach. He intended to return to business this fall, but, by my advice and that of his friends, will spend this winter still under my observation. His condition is now: Chest full and developed; walks ten miles up and down hill as straight as an arrow, without unusual fatigue; pulse 60 to 64. Examination of chest denotes moderate dullness on both summits. No marked signs of the cavity left. Respiration established evenly in both points, with a bronchovesicular character and prolonged expiration. No râles. Since August he has occasional spasms of cough, seemingly caused by irritation of throat, but may be due to reflex irritation also. He managed to get his digestion out of order at Rye Beach, without apparent injury to his system. I expect to dismiss him in the spring a fully recovered case—which he is nearly now.

This necessarily short report of these few cases may suffice to illustrate the nature of the affections

in question. It will be seen that most of them have been examined and treated by the most accredited specialists in the country, and there can be hardly any doubt as to the seriousness of the cases, none of which had any chances left by the usual routine treatment. Even if I had lost all these cases, which fortunately I have not, a uniform effect of my treatment is apparent in any of them, as I take patients as they come, and I have to bear up against the fact that the quick recovering ones leave me before I get a chance to finish them, while the failing ones invariably remain with me until death. This fact makes my full recoveries less than they would be otherwise.

As already stated, the treatment cannot be expected to accomplish miracles, but it is offered as one which brings about gratifying results. The expansion of the lungs by the active and varied exercise of the respiratory muscles, is comparatively simple. The difficulty is in keeping it up in a systematic and methodical way, with a determination to accomplish the ultimate result. It requires the utmost patience and perseverance on the part of the patient, and the physician should have him under complete control. The same may be said regarding diet, but in a much greater degree. The patient's diet must be studied day by day; he must keep a diary of his meals, and give a daily account from his written record of the time of eating, the amount and variety eaten, and of any unusual symptoms which may be referred to imperfect indigestion. Under such training, the system soon makes known its wants, and the discriminating physician acts accordingly. But this, of course, cannot be learned except by a study of individual cases and by the use of that common sense which comes of extended experience and careful observation.

13 EAST THIRTIETH STREET.

AIDS TO DISEASES OF WOMEN.

By J. J. REYNOLDS, M.R.C.S. Eng.

TUMOURS OF THE UTERUS.

Polypus Uteri.—There are six varieties of polypi, viz. :—

- | | |
|-----------------|------------------|
| 1. The Fibrous. | 4. The Vascular. |
| 2. " Mucous. | 5. " Placental. |
| 3. " Granular. | 6. " Fibrinous. |

The Fibrous Polypus.—This is the most common variety of polypi. They usually grow from the fundus uteri, and have their origin in the sub-mucous tissue. They are firm, usually solitary and pedunculated, and are composed of fibro-cellular tissue. They cause enlargement of the uterus, and give rise to hæmorrhage, either in the form of menorrhagia or metrorrhagia, leucorrhœa, and pain of a bearing-down or expulsive character. Bladder and rectal irritation may be present, or the polypus may set

up ulceration of the cervix uteri, metritis, septi-cæmia, or peritonitis.

It must be remembered that a polypus may cause abortion, but, as a rule, they prevent pregnancy.

Treatment.—This variety is best treated by the ecraseur, and the after application of nitric acid. There is generally free hæmorrhage.

The Mucous Polypus.—This variety generally grows from the os uteri. They are usually very vascular, red in colour, small, soft, and pedunculated, and are made up chiefly of connective tissue containing one or more mucous follicles, and a soft and viscid fluid, the whole being capped with a very vascular mucous membrane.

These polyi generally produce either menorrhagia or leucorrhœa, and at times dysmenorrhœa, There may be no symptoms.

Treatment.—Torsion, and the after application of nitric acid, or the cautery or the wire ecraseur may be used.

The Granular or Cystic Polypi.—These generally occur in the cervical canal, and are sessile and multiple. They are bluish-white in colour, soft, and seldom larger than a grape, and are composed of a mucoid fluid enclosed in a thin membrane. They cause leucorrhœa or hæmorrhage.

The channelled polypus of Oldham belongs to this variety.

Treatment.—They may be treated like the mucous polypi, or else broken up by being seized by the forceps. Thus killed, the hæmorrhage generally ceases, but the cautery had better be applied to the spot as a further security.

The Placental Polypus.—This variety is not recognized by many authorities. It is formed from a retained portion of the placenta, and produces severe bleeding.

The Fibrinous Polypi.—These polypi always cause profuse menorrhagia, and are thought to be the result of an abortion, or produced from retained menstrual blood, &c.

Diagnosis.—A polypus which has emerged from the uterus may be mistaken for inversion of the uterus or prolapse. In the latter the os uteri may always be discovered at the lowest part of the tumour. A prolapsed uterus is very sensitive to compression. A polypus is not at all sensitive.

Dr. Barnes says complete inversion is distinguished by:—

1. The absence of an os uteri at the lowest part.
2. By the neck of the tumour being continuous with the roof the vagina, which is directly reflected off from it.
3. By determining the absence of the body of the uterus from its normal position, &c.

The following tests, he states, will commonly distinguish partial inversion (in partial inversion, as in polypus, there is a rounded tumour encircled by a ring, permitting a sound or the finger to pass up between). The sound will not run more than an inch, perhaps less, beyond the margin of the encir-

cling ring, whereas, in the case of polypus, it will generally run at one part or another at least two and a-half inches, &c. Other diagnostic signs will be found under "Inversion."

Fibrous Tumours.—These tumours vary much in size, some being no larger than a small pea, whilst others are bigger than a cocoa-nut. They are often multiple, but may occur singly, and they are formed of the same strictures as the uterine walls—non-striated muscular tissue, with a varying quantity of connective tissue.

The amount of connective tissue present depends on the age of the tumour, the oldest ones containing the largest amount, while those newly-developed consist almost entirely of muscular tissue.

Fibrous tumours are encapsuled, and occasionally cysts are developed in their interior—fibro-cystic tumours.

There are three varieties:

1. The sub-peritoneal or extra-uterine. This variety grows from the peritoneal surface of the uterus, and can be felt through the abdominal walls.

2. The sub-mucous or intra-uterine, growing directly beneath the mucous membrane and projecting internally.

3. The intramural or interstitial. These grow within the substance of the uterine walls, and they become converted in the sub-peritoneal and sub-mucous varieties. The sub-peritoneal variety may be solitary or multiple, sessile or pedunculated. They do not generally cause enlargement of the uterus, nor do they necessarily influence menstruation or cause hæmorrhage. The only symptoms which are often present are due to pressure. By descending into the pelvis, bladder and rectal irritation may be set up. If pregnancy should take place, abortion would probably be the result, or a tedious labour, followed by post-partum hæmorrhage.

Pedunculated tumours floating about in the abdomen may interfere with respiration, the circulation, or with the intestines.

The sub-mural fibroids are very common, and they cause hypertrophy, enlargement, and frequently distortion of the whole uterus. They nearly always produce hæmorrhage and leucorrhœa, and often dysmenorrhœa. Local pain is usually present, and it is generally of a spasmodic character. Owing to their mechanical pressure various other symptoms may be present, and they are often largely influenced by menstruation and pregnancy. At any period a tumour producing no discomfort may become greatly enlarged, and very painful. Pregnancy also intensifies the symptoms of fibroids; while, on the other hand, delivery is often followed by great diminution or complete disappearance of a fibroid. Fibroid tumours are often the cause of sterility, and, if impregnation takes place, abortion is very liable to occur.

Prognosis.—Fibroids do not, as a rule, cause death, but they may do so from hæmorrhage, asthenia, peritonitis, blood-poisoning, metritis, or

from the effects of pressure. At times a fibroid cures itself. There are four ways by which a natural cure may take place:

1. The tumour may become absorbed.

Fibroids grow very slowly, and after a time have a tendency to cease and diminish. Cases of absorption are not very rare, especially about the menopause, or as the result of involution after delivery.

2. The tumour may undergo fatty or calcareous degeneration, and be finally separated and cast off.

3. The tumour may become spontaneously detached and expelled.

4. The tumour may become gangrenous, and slough away as the result of operation, or from the effects of pressure.

Diagnosis.—This is often difficult. The large fibro-cystic tumours must be distinguished from an ovarian tumour.

Dr. Atthill, in his work, gives the following tabulated form of the differences between ovarian cystic disease and uterine fibro-cystic disease. He states, however, that there is not one of the symptoms enumerated which is not liable to great variation, and that, therefore, the most extreme caution must be exercised in forming an opinion based on them.

Ovarian Cystic Disease.

Uterine Fibro-cystic Disease.

1. May occur at any age, but probably more frequent before the age of 36 than after it. Of 281 cases recorded by Mr. Clay, and of which the ages were known, 168 were under 36; 68 of these were aged between 17 and 25.

2. Previous history often throws light on the diagnosis, a tumour being frequently felt at first in one or other iliac region, which gradually extended across the abdomen.

3. Growth of tumour comparatively rapid.

4. Menstruation sometimes normal, but frequently irregular, and as the disease progresses is liable to be suppressed; profuse menstruation of rare occurrence.

5. Uterus of its normal size, frequently drawn upwards so as to be difficult to reach, moveable (unless bound

1. Rarely met with in early life. Of 23 cases recorded by Mr. Clay, in which the operation was abandoned in consequence of the disease being extra-ovarian, 34 was the age of the youngest patient.

2. Such a history unlikely to occur; growth usually more central.

3. Growth comparatively slow.

4. Menstruation profuse, if tumour be intramural or sub-mucous; normal, if sub-peritoneal.

5. Uterus elongated, if tumour be in its substance or interior. Sound often passing for a considerable distance into

down by adhesions), and sometimes anteflexed.

6. Tumour becomes softer as it increases in size.

7. Urine voided with difficulty.

8. Generally health suffers, more or less; sometimes to a great degree.

The diagnosis from pregnancy is generally easy. In pregnancy the enlargement of the uterus is uniform; in fibroid disease the contour is generally irregular. The history of the two cases is quite different, while the presence of menstruation, the absence of cervical softening, and other signs of pregnancy, will prevent any error. Displacements of the uterus can be distinguished by the sound. When the uterus is restored to its normal situation, the supposed tumour will have disappeared. It must be remembered that flexion and a tumour may co-exist.

The other diseases which may simulate a fibroid are, retro-uterine hæmatocele, perimetric inflammation and malignant growths in the lumbar glands, peritoneum, or intestines. The diagnosis of these diseases can generally be arrived at by careful palpation, the sound, the history, and general symptoms present.

Treatment.—When it is remembered that fibroids have a tendency to stop growing and diminish in size after the menopause, it is obvious that no severe operative measures for their removal should be thought of. A natural cure also is not very rare, and fibroids often produce no distress. Generally, palliative treatment only is required. Hæmorrhage and leucorrhœa must be restrained. When the former resists minor treatment, it will be necessary to dilate the cervical canal, either by mechanical means or by incision; and, if bleeding continues, to swab the interior of the uterus with fuming nitric acid or strong perchloride of iron.

The sub-mucous pedunculated fibrous tumours may be treated, like the ordinary fibrous polypi, with the wire ecraseur, &c.

When palliative measures are of no avail, and the condition of the patient is becoming serious, more heroic treatment must be undertaken.

The different operations which have been practised are:—

1. Incision of tumour.

2. Enucleation of tumour.

3. Incision of tumour, and destruction of its tissue, or gouging.

4. Avulsion, or tearing away the tumour from its attachments.

5. Spaying, or normal ovariectomy.

its cavity. When tumour is rotated, sound moves with it.

6. Time not likely to alter consistence of tumour.

7. Difficulty in passing water occasionally experienced, from pressure on bladder and urethra.

8. General health does not suffer, unless menorrhagia be present.

6. Removal of tumour by gastrotomy, with or without the uterus.

Incision of tumour may be required, in intramural tumours, when hæmorrhage cannot be checked by minor treatment. If ergot be afterwards given, the tumour may be protruded through the opening.

Enucleation of tumor.—This operation always involves a great risk of septicæmia and peritonitis.

Auulsion.—This treatment is appropriate in those cases where natural enucleation has commenced, or to assist enucleation which has been commenced.

Spaying.—The object of this operation is to bring on artificially the menopause, and it may be performed when the symptoms demand such a severe operation.

Gastrotomy.—Only to save life should this operation be thought of. Of course, it is rarely called for.

THE TREATMENT OF POST-NASAL CATARRH.

Read before the Philadelphia County Medical Society, September 24, 1879.

By WM. R. D. BLACKWOOD, M.D.

Under the title of our subject this evening may properly be included the treatment of an extensive series of disorders of the naso-pharyngeal space, evidencing all grades of severity, from the simplest chronic coryza, of little account, to the formidable ozena, which, in its destructive ravages, sometimes threatens, and occasionally destroys, life itself.

The great majority of cases of catarrh are not under medical treatment of any kind, and the majority of the remainder are in the hands of advertising philanthropists, retired clergymen, Indian, botanic, eclectic, homœopathic, and such like illiterate quacks. Thousands of cases have been treated by eminent and by skillful men, without either cure or appreciable relief. Sweeping as this assertion may seem, let gentlemen only interrogate families under their charge, many of whose members suffer from catarrh without applying for advice, and they will readily discover its truth. The natural outcome is that post-nasal catarrh is considered an incurable disease, and, as the fault is not to blame for its mistaken opinion, would it not be well that an effort be made to undo this error by paying the subject more attention than it apparently receives, and which, from its importance, it undoubtedly deserves? It is singular that so much study has been given to some diseases and so little to others, and, as it does not always follow that the gravity of an affection determines the interest felt in its investigation or treatment, it is possible that in this way the subject under consideration may have been unworthily neglected.

Very little enquiry will elicit the reason why so little is successfully done in the treatment of catarrh. Briefly stated, the failure consists in relying upon general constitutional treatment, which is all well enough as an auxiliary, but not sufficient in itself. To cure the sufferer demands the persistent, skillful, personal attention of his medical adviser, and unless this course is strictly and conscientiously followed the patient will receive little benefit and his physician only discredit.

The disagreeable nature of the service, the time and trouble involved, and the difficulty in some cases of mechanical treatment, have deterred the larger part of the profession from devoting the requisite personal attention to their patients, and the expense attendant upon a necessarily extended course in the hands of most specialists has prevented many from receiving the benefits which would accrue from their services.

I do not intend speaking of the pathology of naso-pharyngeal catarrh, there being too much room for difference of theory, and too little time for discussion. The vital point is the treatment of our patient. What is to be done? No claim of novelty is intended in this paper, but it may be that suggestions thrown out as the result of successful management might be elaborated by others, and serve a useful end to those who have hitherto given the question less attention than it of right deserves.

First, then, as to mechanical treatment,—an essential in all cases. The instruments requisite are few and simple in construction and application. At their head stands the nasal douche, an invaluable and indispensable assistant, not to be replaced by any other. The objections to its use are avoidable by simple precautions. Employ water always at a temperature of 100° F.; add one drachm of common table salt to each pint of water used; do not permit the patient to swallow during the flow of the douche; hold the reservoir no higher than the eye of the sufferer; incline the head slightly forward over a basin; use a simple douche, free from valves or complicated mechanism; an ordinary tin or glass funnel, with a yard of quarter-inch rubber tubing and a conical glass, wood, or porcelain nozzle, is as good as any, is cheap, durable, and easily made. Do not trust the douche in the hands of the patient until its use is thoroughly understood and accurately managed.

In stupid, perverse, or nervous persons, never trust it to them; always apply it yourself. I have never had any trouble occur through the use of the douche. The posterior-nares syringe is a valuable adjunct, as also is the atomizer, in getting at the vault of the pharynx, which they do in many cases much more effectually than does the anterior douche. Although, theoretically, the steam atomizer appears preferable, because of the temperature being readily maintained, yet the difficulty of directing the spray in other than a horizontal line, and the view of the parts being intercepted by the boiler, render the hand-ball apparatus more con-

venient, especially in conjunction with simple adjustable tubes, which afford a lateral or vertical discharge at pleasure. A convenient though expensive apparatus is the compressed-air mechanism of Codman & Shurtleff, by means of which a steady flow may be maintained for any desired length of time. In common with those applied by the douche, all atomized solutions should be at blood heat and of sufficient density. Caustic and sponge-holders, brushes of various sizes, an insufflator, a tenaculum for the uvula, a tongue depressor, an anterior-nares speculum, and a rhinoscopic mirror are requisite, with a strong light, natural or artificial, in the management of which nine-tenths of the imposing array of mechanism usually encountered may be dispensed with. Each patient should have his own douche, and all instruments employed in office practice must be kept thoroughly clean. Scrupulous care is to be observed in syphilitic cases that the ordinary catarrh of one patient is not complicated by specific inoculation from another.

In the department of *materia medica* the list of necessary agents will vary with the taste of the physician, some drugs developing powers in the disease under consideration, as in others, according to the ability shown in their use or the idiosyncrasy of each particular case. In my practice the list is not extensive. The first point in treatment is the thorough cleansing of the parts at least twice daily, the ordinary solution of sodium chloride being a satisfactory one. Occasional alternations with a solution of potassium bichromate, which I prefer to the sodium bichromate, in similar proportion, will prove effectual where the secretion is free and the posterior-nares blocked. The addition of from three to five grains of potassium permanganate in solution, when the wash is from one-half to three-quarters expended, will modify the fetor and render the subsequent steps much more comfortable to the medical attendant. The liquor sodæ chlorinatæ replaces the permanganate satisfactorily, especially in delicate blondes. Potassic chlorate may also be added, but is serviceable only from its local effect, no constitutional impression being apparent through it in my hands. The use of from one half to one ounce of the distilled extract of witch hazel, as prepared by Mr. McKelway, of this city, is frequently efficacious, but the ordinary fluid extract made by displacement is not reliable. The simple or compound tincture of benzoin is an admirable remedy, both locally and internally. The quantity of water necessary is determined by the amount of offensive secretion, and varies from one pint to many, the prime object being the removal of all crusts, pus, mucus, or blood, without which subsequent medication must fail from the remedy not reaching the congested or abraded tissue. In mild or recent cases the careful cleansing, as described, of the parts will sometimes, if prolonged, effect a cure; but such success is uncommon in this intractable disease.

In long-standing and stubborn cases, after preparing the parts as suggested, a number of astringent or alterative remedies can be selected. That chosen may be employed either in solution, or, as is sometimes more efficacious, in dry powder projected on the parts of the insufflator. Snuffing the powder from the hand does not act so accurately, in consequence of much of the medicament being either detained anteriorly by the turbinated bones, or, having passed them, being drawn into the lower pharynx. Alum, bismuth, cubebs, tannic or gallic acid, with, if thought proper, ferric, cupric, or zinc sulphate, will act admirably in many cases. Granulations or adenoid tissue, if excessive, may be removed, when accessible, by the curette or galvano-cautery. I have not observed distinct patches of ulceration as often as the literature of the subject would imply their existence, except in caries or necrosis of the bones of the nasal passages (or flues, as a locomotive-building patient of mine aptly interprets them), any apparent abrasion being generally diffused; but should examination detect areas thus affected they should be stimulated or cauterized, as required, by strong solutions of the solid silver nitrate. Glacial acetic acid is a favorite with me in such instances, and tincture of iodine frequently acts admirably. Loose portions of bone or easily-detached pieces should be carefully removed, and a very small spicula will, if overlooked, be often productive of continuous discharge. I have not performed Rouge's operation in any case of catarrh, but some time ago in assisting a friend in an operation on the upper maxillary the feasibility of reaching the nares by that method was very apparent, and in a second operation on the same patient by himself I removed another part of the superior maxillary and a portion of the vomer, without dividing the upper lip or cheek, as had been done in the previous operation. The rapidity of union without any suppuration was remarkable, and the freedom from scar or deformity by this method is invaluable.

Attention to the general health is of moment. The secretions of the alimentary canal, the kidneys, and the skin should be inquired into, and placed in proper condition if defective. I have found the Turkish bath a most efficient auxiliary in all stubborn cases. The constitutional remedies employed will vary as indicated by apparent dyscrasia. Mercuric bichloride is notably a tonic and alterative in many cases, even where syphilitic complication is not evident. I usually combine the alterative selected with compound fluid extract of *stillingia*, in drachm doses, three or four times daily. When well borne, *copaiba*, long continued, is of great service. Ferric iodide, with or without potassium iodide, and sometimes calcium chloride, are excellent in chronic scrofulous cases. Iodoform has not been of much use in my hands, either locally or constitutionally, nor has carbolic acid. As to salicylic acid or its salts I cannot yet form an opinion of their merit, although, as a detergent, the sodium salicylate is apparently good.

Of all therapeutic remedies I value none more highly than electricity, which convinced me of its value through the importunities of a patient whom I was treating at the time for myalgia, and who suffered badly from post-nasal catarrh. He insisted that electricity would cure his catarrh; and so it did, contrary to my opinion. It cannot, of course, be relied on in every case, but it is a valuable adjunct. Either the galvanic or the faradic current may be necessary,—sometimes both,—but the induced current appears to be the most generally applicable, and it is much the more easily managed of the two, besides being less liable to produce giddiness in those highly susceptible. Care must be exercised in galvanization, from the proximity of the basilar brain. Extremely interesting illustrations might be given in this connection did not brevity forbid.

Diet is all-important. It should be nutritious, but all veal and pork compounds must be tabooed, with all indigestible substances. Tobacco is undoubtedly highly injurious. The so-called grape-cure acts a good part, especially in those who can afford the expense of living at the vineyards.

Much more might be said and many particulars present their claims upon our attention, but your patience has been taxed already. Disagreeable as such patients are to handle, it is our duty to exert our utmost ability in their behalf, not only for their personal welfare, but for the comfort of their families and society at large. Other formidable maladies have succumbed to medical skill, and why not that under consideration? It lies within the power of gentlemen such as compose our Society to do much in this direction, and assuredly the need is urgent.

Although I purposely refrained from touching the causation or pathology of post-nasal catarrh, one point which has interested me may be alluded to in closing, which is the belief in my own mind, from close observation, that, under certain conditions, the disease is contagious, even when positively non-syphilitic. I have repeatedly seen it occur in newly-married persons, and where, at school, children previously entirely healthy became affected when sleeping together. In all such instances noted no hereditary tendency existed, nor were other members of the family thus diseased. I have not heard this idea expressed by others, and many whom I have consulted dissent from it, yet through indubitable evidence I do not hesitate to assert my opinion, for, if it is correct, we should be on our guard, and in those thus exposed remember that "prevention is better than cure."

TOOTH-CARIES OF PREGNANCY.

ITS CAUSE AND TREATMENT.

Extract from a paper by Edward C. Kirk, D.D.S., in *Philadelphia Medical Times*:

It is well known that during pregnancy women are often subject to annoyance and discomfort from their teeth. This may vary in degree, from

a slight uneasiness, a mere consciousness of the presence of her teeth to the severest form of odontalgia. The frequent occurrence of rapid and extensive destruction of tooth-structure during pregnancy is so well recognized that it would be useless to multiply examples.

In cases where women have borne children rapidly it is the common story that up to the time of marriage the teeth were of good quality and gave but little trouble, but since have rapidly failed.

As to the cause of this degeneration of tooth-structure during pregnancy, there is little reason to doubt the accepted explanation that an excessive demand is made upon the system of the mother for the lime-salts necessary for the formation of the osseous structures of the fetus, and the teeth of the mother suffer, along with her osseous system, in meeting this demand when the supply of lime-salts is not sufficiently kept up in the mother's food.

We believe that much can be done to avert this wholesale destruction of the teeth, the loss of which details so much disfigurement and physical suffering. If the cause be as stated, then to supply food rich in lime combinations is the rational indication. But most of the food brought to our tables is not rich in bone-forming material, and it may be that even a liberal supply of lime-containing food would not meet the urgent demands made during pregnancy upon a system already poor in lime-salts. Certainly the judicious use of some of the soluble preparations of lime, such as the lactophosphate or hypophosphite, would be of benefit in such a case, not only in maintaining the lime-standard of the mother, but also in insuring to the fetus a well-developed osseous and dental organization. We have every reason to believe that rickets is due to lime-starvation upon the part of the mother and child; and evidence is not wanting to show that certain malformations of the jaws, and consequent irregularities of the teeth, are in a measure due to the lack of sufficient bone-forming material during fetal development.

A fact in this connection which I have had occasion to observe more than once is that in a large number of pregnant women the morbid craving, so called, for unusual articles of food—which is so often present, and may occasion great annoyance to both patient and physician—is for articles of a mineral character, such as chalk, slate-pencils, lime, plaster, whiting, etc.

It seems reasonable to believe that this craving is nature's method of expressing the need for lime when from pregnancy or other causes the supply is not equal to the demand, and the system is poor in lime as a consequence. I say from other causes, for what else is it that will make a rapidly growing, over-worked school-girl chew her slate-pencils and lead-pencils with such apparent relish?

If this be true, then the supplying to the system all the lime it needs, either by properly-selected food or by the administration of a sufficient quantity of some soluble preparation of lime, ought to

do much toward averting the destruction of the teeth by caries during pregnancy, and relieve the distressing cravings for unusual kinds of food. As having bearing on the subject, and showing that an increased quantity of lime is demanded by the system during pregnancy, I may cite the fondness which birds and fowls generally have for lime, oyster-shells, plaster, etc., during the egg-laying period. Another point which I have noted is that this fondness for lime is displayed on the part of the female more than on that of the male. Hens will quarrel for the possession of an empty egg-shell, and the cock will look on without interest while they devour it greedily.

TREATMENT OF SCARLATINA IN CHILDREN.

By M. ARCHAMBAULT,

Of the Hôpital des Enfants Malades, Paris.

Translated by HASTINGS BURROUGHS, L.R.C.S.I., &c.

We have just observed amongst the children of our service five cases of scarlatina, each of which presented something abnormal. At No. 8 in the St. Louis ward is a child who entered the hospital with bronchitis; one evening he was taken suddenly with high fever, and a scarlet eruption appeared over the whole body. There was no sore throat nor vomiting. The next day the fever abated, and the eruption disappeared. It was one of those abnormal scarlatinas that have given the idea that one can have scarlatina without eruption. The child in the next bed was stricken with the same malady ten days afterwards, and presented the same symptoms, but the eruption remained two days. Eight days afterwards another child occupying the same ward took the disease, but in her case the symptoms were regular, except that there was no vomiting. Two other children were similarly affected a few days afterwards. You see by these examples that scarlatina can present considerable anomalies. However, you must not for that forget the type of which I am going to speak. Scarlatina is remarkable for its brusque invasion, more sudden, I believe, than that of pneumonia. It commences by a fever which is very intense from the outset. The first day, in the generality of cases, appear vomiting and sore throat. A child goes to bed in perfect health; he is restless during the night, and is sick; the next day the eruption is observed; or perhaps it is a child who gets up, breakfasts, goes to school, and suddenly feels himself ill, vomits, complains of sore throat; in the evening the eruption appears. The fever is always high—in other eruptive diseases, measles, for example, the fever is remittant. The vomiting comes on immediately on taking food. As for the sore throat, there are two things to be observed—the pain and the eruption. The patients will tell you that the throat is not sore; look, and you will find redness of the fauces. The eruption appears twenty-four or thirty-six hours after the first

symptoms; if it appear later the scarlatina is abnormal. Whilst measles and small-pox commence on the face, the eruption of scarlatina commences often on the neck, chest, or back. Very frequently you will observe at the same time a miliary eruption, small vesicles, and sudamina in the inguinal region. The fever is continuous; in measles the fever falls on the appearance of the eruption. The eruption lasts two, four, five days; towards the fourth or sixth, the fever falls progressively. The pulse is in keeping with the temperature, 140—160 in the minute. They say that the pulse is full and strong; I find it, on the contrary, very small at the outset. Thus I diagnosed a scarlatina in a Russian lady who, taken with fever, sore throat, and vomiting while railway travelling, was thought to have diphtheria. Having felt the pulse of the patient, who was in a dark room, I suspected scarlatina. I caused the shutters to be opened and drew aside the curtain, when I found the eruption. The desquamation commences towards the sixth or seventh day; it lasts from one or two days to a month. I hasten to the question of treatment. There is a certain class of infantile diseases for which it is not at all necessary that the physician should display his skill. Scarlatina is one of these. Put the patient to bed in a well-ventilated chamber, but the windows should not be opened. In England, where it is the rule to thoroughly ventilate the room of a scarlatina patient *on recueille* disastrous statistics; the temperature of the chamber should not exceed 64°. When the fever falls, the temperature may be raised a little, because the patients have tendency to chills. The covering should be no heavier than in health. How long would you leave a patient in bed? Some say that he might get up as soon as the fever fell; others, on the contrary, exact a month or six weeks. Leave him a long while in bed, about three weeks. The statistics of an English doctor, comprising six or seven hundred cases of scarlatina, show that nephritis appeared oftenest from the fourteenth to the eighteenth or twenty-second day. If, then, nephritis is due to cold, as I believe, it will be well to oblige the patients to keep their beds. They might sit up in bed, but care should be taken to put a kerchief around the neck, for secondary sore throats are grave. It would be well also to recommend mittens on the wrists, the carpal articulations being the most subject to the rheumatism which is frequent after this disease. The patients should not go out before the thirty-fifth or fortieth day; but that will depend again on the gravity of the disease. Barthez has told me that he did not know any case of anasarca after scarlatina since he forced his patients to keep the bed during five or six weeks. As regards the medical treatment, properly so called, I will not spend much time over it, as I consider that hygienic precautions are the most important. Hot drinks should not be given unless the eruption does not come out properly. Refreshing drinks, such as lemonade,

gooseberry wine, &c., are preferable. To aid the eruption I have often given the acetate of ammonia. If the patient is constipated, a little rhubarb or castor-oil will suffice. If the nights are restless, a little bromide of potassium I have found of great benefit. The mouth must be washed often, but for the throat caustics are seldom necessary. Chlorate of potash, or alum gargles will be sufficient. If the patient is too young to gargle, one or two grammes of chlorate of potash mixed with five or six grammes of white powdered sugar may be given. Ought baths to be ordered in scarlatina? One might order a bath if the fever were very high and the eruption abundant, but in ordinary cases it would be better to dispense with it. This practice is much used in England; it is thought hazardous with us. Sometimes the itching is very great. Some German doctors conceived the idea of rubbing the children with fresh lard, but to this procedure, which is not very clean, I prefer the English method, which is a mixture of glycerine and cold cream. As regards nourishment, it is evident when the fever is high a light diet should be prescribed; when the fever abates, a stronger nourishment might be administered, but with caution.

Such is the treatment that will suffice in scarlatina; it is simple, and will not cover you with glory, but it will cure your patients and will prevent, in the majority of cases, complication. Do not neglect above all hygienic precautions, for I say, in closing, there is not a case of scarlatina that ought to be neglected.—*Dublin Medical Press.*

THE TREATMENT OF RANULA.

Dr. C. Lovegrove (*British Medical Journal*) has found the following plan most efficacious: Pass a tenaculum through the base of the tumor and draw the part somewhat forward. After withdrawing the thicker part of the tenaculum a little, pass a plain gold ring, such as is used when the ears are first pierced, by the side of the tenaculum, through both holes, then clasp it securely, and leave *in situ* for three or four weeks, then remove. A permanent exit for the mucus, etc., will then remain and all trouble cease.

J. E. G. has found the following plan very successful: Thread an ordinary curved needle with common silk suture; make a double thread; pass the needle through the cyst, tie the thread sufficiently short, so that the loop lies within the teeth and will not be bitten through when eating; move the thread to and fro every other day. If this be kept in for about a week the cyst will have evacuated itself by means of this small seton. When the patient says that it no longer discharges remove the thread (seton) and let it granulate up. The last case he treated in this way (about six months ago) is still quite free from the ranula. Since that case he had another ranula in an old woman about seventy. It involved the whole ex-

tent of her toothless lower jaw, and pushed her tongue up against the roof of her mouth. She could not speak nor swallow. The treatment adopted in this case was to make several punctures, at least half a dozen, through the cyst with a sharp-pointed bistoury. He gave a concentrated solution of chlorate of potash as a lotion to wash the mouth with, and also gave her a mixture of chlorate of potash. This case is still relieved by the above treatment.

Dr. C. D. F. Phillips recommends gradual dilatation of the salivary duct by laminaria tents. After incising and clearing out the ranula, the duct should be sought for and a piece of laminaria (which may require to be as fine as a needle and should be very smooth) be inserted as far as possible, and left in for one or two hours every morning or evening. The size of the tent should be increased, but very gradually, so as to avoid overmuch irritation. The patient himself can learn to pass it after a little instruction, and cure should result in two or three weeks. In some cases it may be necessary to leave in the tent longer, and then a perforated one should be used. Some years ago Dr. Phillips came across several cases in which the duct, as well as the ranula, had been cut away, and much suffering and serious swelling of the gland had resulted. These cases were cured by simple incision and keeping open the artificial duct by laminaria.

Mr. W. J. Tivy suggests the use of a seton composed of three or four threads of coarse ligature silk, which he has found invariably successful.

TREATMENT OF GLANDULAR SORE THROAT.

Glandular sore throat, by which I mean catarrhal congestion or inflammation in and around the glandulæ of the mucous membrane of the pharynx and larynx, is a very tedious and troublesome affection. It has been known as dysphonia clericorum; it is, in fact, the chronic sore throat to which persons are liable who use their voices extensively, especially in large rooms or in the open air. I desire to draw attention to the usefulness of the topical application of borax in its treatment. I order a saturated aqueous solution, which the patient applies to his throat by the aid of Corbyn's throat spray. The spray should be employed for several minutes, thrice, or more frequently, daily, and midway between meals. If the larynx be much implicated, the patient should inspire deeply while the spray is playing upon his throat. I have lately found this very simple method of treatment of striking service. The cure may be expedited by the application of astringent solutions to the pharynx and larynx by means of suitable brushes. When there is much secretion, extract of eucalyptus is a good local astringent, which may be used in the form of lozenge.—James Sawyer, M.D., London.

THE CANADA MEDICAL RECORD,

A Monthly Journal of Medicine and Pharmacy

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SUBSCRIPTION TWO DOLLARS PER ANNUM.

All communications and Exchanges must be addressed to the Editor, Drawer 356, Post Office, Montreal.

MONTREAL, MARCH, 1881.

PROPOSED PROTESTANT LUNATIC ASYLUM.

We believe that among the entire body of Protestants in the Province of Quebec there is a unanimity of feeling that the system of farming out lunatics at so much per head, adopted by our Provincial Government, is one utterly unworthy of a Province, which makes any pretension to advanced civilization. They object to it upon various grounds, but chiefly because it is not in the interest of the contractors to cure the lunatics, and they therefore feel that the system is responsible for placing many a patient permanently upon the Government for support. They would rejoice, for it would be in accordance with the views they hold, if the Government of the Province of Quebec would purchase the Asylums at Beauport and Longue Point, and convert them into Provincial Lunatic Asylums, where patients, quite irrespective of religion, would have the most scientific treatment, under the care of men who have specially devoted themselves to its study. We are pleased to know that these views are held by some at least of the present local administration, and we hope that the day is not far distant when the Province of Quebec will be able to take her place among her sister Provinces in the scientific treatment of the insane. We do not exaggerate when we say that at present her position in this matter is not to her credit (to put it mildly). If the Protestants of the Province of Quebec hold the views we ascribe to them it may be asked how is it that they are at this moment applicants for a charter to establish an asylum under Protestant management, but under conditions similar to those already under contract with the Government?

Simply because they recognize the position of affairs as at present unalterable. While giving every credit for gentle and humane treatment of all placed under the charge of the present asylum contractors, they are of opinion that the clerical character of both, but especially of one asylum, is such as to prevent the free mingling of the Protestant clergy with the patients. They also feel that, medically, much more can be done for the Protestant insane than is being done; and, if they are correct in this idea, that it is their duty to place them where "cure" will be the prime object. If there was no other motive than this, it is a most laudable one. It may be asked, how are the Protestant contractors, for such in truth they would be, going to be more liberal and self-sacrificing than their Roman Catholic confrères. Simply and only in this way: that, as the asylum would be conducted by an association of gentlemen, every one of whose voice and vote would be equal, and its transactions open freely to public scrutiny, they, naturally, would be constantly exposed to public criticism—and we do not know of anything more likely to keep them from doing wrong. Beauport, which, in its way, is a good asylum, certainly in our opinion the best we have, is a private proprietorship, though, of course, fully open to Government Inspection. The Longue Point Asylum is in the hands of one woman, supreme in all her authority, as to internal management, though also open to Government Inspectorship, and having a Government visiting physician, whose powers and authority the Government should most largely increase, for in the person of the gentleman who now fills that position they have the very best medical alienist in the Province, and one who stands very high among his confrères of this specialty in the Dominion. It is but fair to say that at all the meetings which have been held to further the establishment of this Protestant asylum, all the speakers have borne the strongest testimony as to the kindness and the humanity of the sisters at the Longue Point Asylum; the clergy were especially warm in bearing testimony to this fact, and also to the liberality and attention which they received when in attendance on Protestants in that asylum. Beyond the facts we have stated, the Protestants make no complaints.

We object strongly to the term "asylum." Its very sound seems to imply prolonged residence, free from care. The word "Hospital" would, we think, be more appropriate. It is suggestive of treat-

ment, of pills, powders and potions perhaps—but often useful; and then it is also suggestive of convalescence, and that means cure, just what is wanted.

WYETH'S FLUID EXTRACT OF ERGOT.

The menstruum used is that best adapted for extracting all the active matter, and retaining its full power. Each minim represents one grain of the freshly powdered drug. It is entirely free from acid, and can be used subcutaneously without irritation in most cases, having in this respect a great advantage over the watery solutions, which decompose very rapidly. The menstruum is simply Water, Alcohol and Glycerine, no heat whatever is used in its manufacture. Since adopting this formula, a number of valuable papers from foreign authorities have endorsed Wyeth's views.

COLLEGE OF PHYSICIANS AND SURGEONS P. Q.

Mr. Lamirande, the gentleman employed by the College, as its Collector and Detective, having successfully devoted considerable attention to those holding licenses, who had not complied with the last Act, has now turned his attention to the irregular practitioners. We hear of several actions having been instituted in the Eastern Townships. In Montreal, during the present month, Judge Jetté gave judgment in the College *vs.* John Roscoe, a Herb Doctor as he styled himself, fining the defendant in the sum of \$25.00.

PRELIMINARY EXAMINATION COLLEGE PHYSICIANS AND SURGEONS, P. Q.

We direct special attention to the advertisement giving the date (May 5th) of this examination. By error an incomplete advertisement giving wrong date was inserted in our last issue.

The meeting of the Governors of the College will take place in Montreal on the 11th of May, next. *See Adv.*

PERSONAL.

Dr. Imrie, House Surgeon of the Montreal General Hospital, who has been exceedingly ill for the past two months with Pyæmia, is, we are glad to know, quite convalescent.

Dr. Sutherland (McGill College 1879), of Montreal, is to about to visit London, England.

Dr. Costigan (M.D., Bishop's, 1874) of Los Lunas, New Mexico, has been elected Coroner for the County. He was also about the commencement of the year presented by his friends with a handsome present in the shape of a number of Surgical Instruments and Medical works.

A NOVEL PRESCRIPTION.

A recent number of *Le Praticien* reports that a physician of Chalons, France, was sent for into a village in the neighborhood, and, having examined his patient, found he had forgotten his pocket-book. He then asked for a pencil and paper in order to write his prescription, but no such objects were among the possessions of the household. Some one went out to seek for the required necessaries, but primary education seemed to have omitted that commune altogether. The physician got tired of waiting, and at last wrote his prescription on the door of the house with a bit of charcoal. The family, after vainly endeavoring to make something like a copy of the doctor's hieroglyphics, at last wisely resolved to detach the door itself, and carry it to the pharmacien in order to get the medicine prepared.

ANNUAL REPORT OF THE WOMAN'S HOSPITAL OF THE CITY OF MONTREAL FOR THE YEAR 1880.

The Committee of Management of the Woman's Hospital of this city, representing the Corporation beg to submit the following report:—

During the year now passed the Hospital has undergone considerable change. For the first four months it occupied a building on St. Antoine street, which was ill-adapted to the purposes of the institution, and where it had been for several years. The demands made upon it for relief became so urgent that it was found impossible to admit over one-half of the patients who applied. It was, therefore, decided to obtain some larger building in a better locality. Fortunately the building known as the Western Hospital, which the institution now occupies, was vacant, and could be obtained for a rental of \$700.00 a year. At the same time, owing to the perspective increased outlay, and the evident benefit that such an institution would bestow, a number of friends directly interested themselves in its welfare by becoming governors and members of the Corporation, under

the provisions of the charter. The Management, thus increased, then leased the Western Hospital building at the above rental for a term of six years, and on the first of May moved into possession.

The Committee beg to draw attention to the fact that this Hospital is the only one of its kind in Canada, being specially devoted to the treatment of diseases of women, and, therefore, filling a want hitherto unsupplied; in proof of which the increasing number of patients bears testimony. The Committee, for this reason, would state that, in soliciting public support, they do so without infringing upon the claims of older institutions. The very unobtrusive manner in which the Management in former years had worked considerably delayed the full recognition of its merits by the general public, so that the amount of subscriptions was not as large as it would otherwise have been. This the Corporation hope in future to remedy, and by soliciting subscriptions, and more publicly claiming support, trust that the institution will soon become known by all as a great public charity.

Since the Hospital has moved into its present quarters a considerable sum has been expended in placing the building in effective working order, obtaining new furniture and altering the arrangement of some of the rooms so as to make them better adapted for the purposes intended. They are thankful to announce that they have received many donations in kind of articles absolutely required by the Hospital, and friends have come forward with subscriptions in aid of its support. One special feature deserving of notice is its private department, which admits patients of a better class who are able, by the payment of a special rate, to have all the benefits of hospital treatment and nursing, while, by a wise liberality, such patients are permitted to have the attendance of the physician of their choice, irrespective of any connection with this Hospital, being the only institution in this city which permits of this privilege. The Committee beg to state there are four large public wards, containing twenty beds, for the reception of patients, this being the utmost limit which they feel justified in providing, thereby being obliged to refuse admission to many deserving applicants. This the Committee deeply regret. Should, however, the financial condition of the Hospital afford an increase in the number of beds in the future, there is room enough for an additional twenty beds which would be obtained, and are at present required to meet the demands made by applicants.

During the past summer, a few members of the Ladies Committee held a bazaar in aid of the funds of the Hospital; the sale of articles was chiefly limited to the circle of friends and acquaintances of those interested in the welfare of the Institution. The sum realized by this almost private effort amounted to \$80.14, for which the thanks of the Corporation are due. Thanks are also due to the Ladies Committee for their valuable co-operation in visiting the patients, and assistance in the management by suggesting and supervising the necessary domestic requirements.

The Management congratulate themselves on the efficient assistance rendered to the Hospital by the Matron and staff under her, and also to the interest manifested by the members of the Medical staff in the care and treatment which they have bestowed on the inmates.

Special acknowledgment is also due to the Provincial Government for the annual grant of \$500.00, which sum your Committee expect to receive during the present month.

In addition to the above information the Committee would announce that the Hospital is visited daily, at noon, by three physicians, at which time patients presenting themselves at the out-door department also receive attention.

PATIENTS.

In-door Department.

At date of last report, remaining in Hospital..	11
Admitted during the year.....	107
Remaining in at present.....	13
Total	131
Protestants	85
Roman Catholics.....	46
Deaths.....	5
Protestants.....	3
Roman Catholics.....	2
Out-door department.....	176
Protestants.....	100
Roman Catholics.....	76
.....	176

DIED.

In Montreal, on the 9th March, Elizabeth Steel, aged 77 years, widow of the late Rollo Campbell, and mother of Dr. Francis W. Campbell.