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THE ORIGIN OF INSANITY.*

BY DR. R. M. BUCKE, ASYLUM FOR INSANE, LONDON, ONT.

Read at the meeting of Medical Superintendents of Institutions for Insane in North America, at Washington, D.C., May 6th, 1892.

Putting aside such comparatively rare causes as traumatism, sunstroke, and syphilis, and, speaking broadly and generally, the etiology of insanity, as generally given, may be reduced to two heads:

(1) Heredity.

(2) Mental, emotional, or bodily strain, one kind or another.

But it is an obvious criticism that we must have insanity before it can be inherited, and that strain of every conceivable kind and degree is undergone by thousands of persons every day, and even carried to the point of causing death, without resulting in insanity.

This being the case, it seems clear that we must revise our theory of the causation of the group of maladies in question, and I am anxious to add my mite toward a truer and more comprehensive explanation.

Some here present may perhaps pay me the compliment of remembering that ten years ago, at Cincinnati, I read a paper on the "Growth of the Intellect." In it I tried to show that human intelligence, starting far back in our remote ancestry from an aboriginal germ concept

or precept, and, as it were, sprouting therefrom, as a tree from its seed, became by a process of division and branching extending through many milleniums the manifold and highly organized function that we know by that name at present. However well or ill 1 may have succeeded in my self-imposed task, nothing is more certain to-day than that the intellect did come into existence in the manner indicatedthat is, by a long process of gradual evolution. In the same address I pointed out that ancient literature, philology, and the science of optics all concurred to prove that our color sense is comparatively modern-that it probably did not exist when the Aryans, before their dispersion, still lived, a pastoral horde, in their original home, whether in Bactria, the Caucasus, or northern Europe; and I concluded my discourse by citing evidence that the sense of fragrance is still more modern than is the sense of color.

To-day I want to broaden what I said ten years ago into a general proposition to the following effect: The human mind, including in that term the intellect, moral nature, and senses, is made up of a large number of faculties done up, as it were, in bundles. Thus the intellect is one bundle, and in it we have consciousness, self-consciousness, perception, conception, comparison, judgment, imagination, sense of humor, memory, and so on. The moral nature is another bundle, and in it we have love, reverence, faith, fear, hope, hate—each one of which, and many more left unnamed, could be, as you know,

^{*}I desire to state that the following pages are from a work in course of preparation, to be named "Cosmic Consciousness."

subdivided almost *ad infinitum* into degrees and varieties of those passions. Sight is another bundle. In it we have the sense of light and darkness, of form, of distance, of perspective, the color sense, and so on. The sense of hearing, another, made up of the sense of loudness, of distance, of pitch, of direction, of the musical sense, and so on.

It is needless to extend the catalogue. I do not require to tell any person present (except for the sake of making my statement full and accurate) that the human mind is thus composed of groups of functions having certain definite relations one to the other, just as the fauna and flora of any given country is composed of groups of organisms having certain definite relations one to the other.

The next step in my argument or statement is to point out that as the human mind itself was not always in existence, but at some time or other was born and afterwards grew to what we see to-day, that so each one of these numerous faculties of which it is composed came into existence at some time or other.

And now comes the pivot fact upon which my thesis finally rests, namely, that the faculties in question are not all of the same age, but, on the contrary, some of them are very old (millions of ages), some very young (only a few thousand years), while others are of various ages between the extremes. How do we know this? Well, the length of time the race has been possessed of any given faculty may be estimated from various indications. In cases in which the birth of the faculty belongs to comparatively recent times (as in the case of color sense and the sense of fragrance), philology and human records, as pointed out by Geiger, may assist materially in determining the age of its appearance; but for the comparatively early-appearing faculties, such as the initial intellect, self-consciousness, the sexual instinct, or love of offspring, these means necessarily and obviously fail us. We fall back, then, upon the two following tests :

(1) The age at which the faculty in question appears in the individual, and

(2) The more or less universality of the faculty in the members of the race.

(1) As ontogeny is nothing less than philogeny *in petto*, that is, as the evolution of the individual is necessarily a repetition in a condensed form of the evolution of the race, simply because it cannot, in the nature of things, be otherwise—cannot, that is, follow any other lines—there being no other line for it to follow, it is plain that organs and functions (speaking broadly and generally) will appear in the individual in the same order in which they appeared in the race; and the one being known, the other may with considerable confidence be assumed.

(2) When a new faculty appears in a race, it will be found at the very beginning in one individual, and one only, of that race. Later, it will be found in a few individuals; later, in a small percentage of the individual members of the race; later, in half the members, and so on, until, after thousands of generations, an individual who misses having the faculty is regarded as a monstrosity. In illustration of this statement compare, in man, the musical sense (a faculty just coming into existence) with selfconsciousness, a faculty perhaps more than ten thousand generations old; or, should it be thought that the facts in these cases are assumed for the purpose of the argument, consider the case of the color sense, the age of which can be approximately fixed by philology. This sense has existed in the race barely a thousand generations, and to-day, in the British Islands, it is said to fail to appear in but one person out of every sixty. The musical sense fails to appear, in the same country, probably in forty persons out of sixty, while self-consciousness, perhaps, does not fail to appear more than a few dozen times in six thousand adult persons.

In order to illustrate how more or less universality in the race, along with the time of appearance in the individual, corresponds with the time of appearance of any given faculty in the race, the following facts may be given :

Self-consciousness appears in the individual at the age of about three years, and is fairly universal in the race. This is the basic human faculty, the faculty which constitutes its possessor man. Our ancestors, before they had this faculty, whatever they were, were not men. But we do not draw the line so sharply now. There are thousands of idiots and imbeciles who never become self-conscious, and there must be many members of low races, such as Bushmen and Australians, who never attain to this faculty, but still we call these men. Selfconsciousness has been in existence as long as man has been in existence—probably a few hundred thousand years.

I have said that self-consciousness appears in the average civilized man at the age of about three years. But consciousness of an external world is present in the individual man from, or almost from, birth; some three years, therefore, earlier than self-consciousness.

This faculty (that is, simple consciousness) appeared in our ancestors very many million years before self-consciousness; and while many so-called men have not self-consciousness, there is perhaps no creature which can by any latitude of speech be called man in whom simple consciousness is not found; that is, it is absolutely universal in the human race. Compare, now, these fundamental faculties with some which are comparatively modern.

The color sense comes into existence gradually in the individual; at three or four years of age there may be a trace of it. At eight years of age it was found by Jeffries still absent in a large percentage of children. Twenty to thirty per cent. of schoolboys are said to be color blind, while only four per cent. of adult males are so. Dr. Favre, of Lyons, reported in 1874 to the French Congress for the Advancement of Science at Lille certain observations that seemed to him to prove that congenital color blindness was curable; it does not seem to have occurred to him that the sense is normally absent in the very young. As mentioned above, the color sense is said to be absent in one out of every sixty adult persons in the British Islands; the age at which it normally appears, therefore, and its degree of universality, correspond with the time of its appearance in the race, which, according to Geiger's researches (based largely on philology), was about a thousand generations ago.

The human moral nature includes many faculties, but for the purpose of the present argument it may be treated as if it were a simple sense. It comprises what we call conscience sense of right and wrong; sexual love as distinguished from sexual passion or instinct; parental and filial love as distinguished from the corresponding instincts; love of our fellow-

men as such; love of the beautiful; awe, reverence, sense of duty, of responsibility, pity, compassion, faith. No human moral nature is complete without these and others unnamed here.

Now at what age does the human moral nature appear in individual man? You all know it is never present in quite young children. You all know it is often still absent at puberty and even at adolescence. It is a late acquired faculty, considerably later than the color sense. Then in what proportion of men and women does it fail to appear? There are so many adult men and women who have a partial moral nature, so many who, having little or no moral nature, wear (as well as may be) the outside semblance of one-the judging of men and women from this point of view is so difficult. the problem is so veiled and so complicated. that it is impossible to give more than an opinion. But read Prosper Despine's "Psychologie Naturelle," read Havelock Ellis and other authors on criminal anthropology, consider the number of people with whom we, as alienists, are brought into contact who manifestly, often confessedly, have few or none of the elements of the faculty in question, and I think you will be forced to agree with me that the number of adults who have little or no, or an undeveloped, moral nature is far greater than the number who have little or no, or an undeveloped, color sense.

Turn now, for a moment, to the musical sense; this, far from being universal, is more often absent than present; is never present, except in such a monstrosity as Mozart, before full or well on to full maturity, and only dates back at most perhaps a few thousand years. It is an instance of a faculty in the act of appearing, not yet fully declared.

A description in detail of the evolution of the faculties of which the human mind is composed would fill a large volume, and, in order to write such a volume, far more knowledge and far greater capacity would be needed than the present writer can pretend to. What has been said may serve to indicate the truth of the general thesis that these faculties are of all ages, some being very ancient, others very modern, and still others of intermediate date.

The next link in the present chain of argument may be expressed as follows: In any

race the stability of any faculty is in proportion to the age of the faculty in the race; that is, a comparatively new faculty is more subject to lapse, absence, aberration, to what is called disease, and is more liable to be lost, than an older faculty. To many this proposition will seem a truism. If an organ or faculty has been inherited in a race for, say, a million generations, it seems a priori certain that it is more likely to oe inherited by a given individual of that race than is an organ or faculty which originated, say, three generations back. A case in point is what is called genius. Genius consists in the possession of a new faculty or new faculties, or in an increased development of an old faculty or old faculties. That being the case, you all know that it was necessary for Galton to write a good-sized volume to prove that genius is hereditary, so far was it from being an obvious fact that it is so; and even yet the heredity of genius is far from being universally accepted. But no one ever wrote a book to prove that sight, hearing, or self-consciousness are hereditary, because every one knows without any argument that they are so. On the point in question Darwin says, speaking of horses: "The want of uniformity in the parts which at the time are undergoing selection chiefly depends on the strength of the principle of reversion"; that is, parts or organs which are undergoing change by means of selection are liable to lose what has been gained by reverting to the initial condition. And, again, he says: "It is a general belief among breeders that characters of all kinds become fixed by long-continued inheritance." In another place he speaks of "the fluctuating, and, as far as we can judge, neverending variability of our domestic productions, the plasticity of their whole organization," and he attributes this instability to the recent changes these have undergone under the influence of artificial selection. And in still another place Darwin speaks of "the extreme variability of our domesticated animals and cultivated plants."

But I scarcely need carry this part of the argument any further. You will probably all admit that the shorter time an organ or faculty has been possessed by a race the more unstable must it be in the race, and, consequently, in the individual; the more liable will it be to be

dropped; the more liable to be defective; the more liable to vary; the more liable to be or to become imperfect-as we say, diseased; and that, per contra, the longer time an organ or faculty has existed in any race the more certain it is to be inherited and the more certain it is to assume a definite, typical character, *i.e.*, the more certain it is to be normal, the more certain it is to agree with the form or type of the said organ or faculty; in other words, the less likely is it to be imperfect-what we call defective or diseased. This being allowed, it will readily be granted (1) that the race whose evolution is the most rapid will (other things being equal) have the most breakdowns, and (2) that, in any given race, those functions whose evolution is the most rapid will be the most subject to breakdowns.

If these principles be applied to the domesticated animals (who have, most of them, within the last few dozen generations, been much differentiated by artificial selections) they will explain what has often been looked upon as anomalous, namely, the much greater liability to disease and early death of these as compared with their wild prototypes; for that domestic animals are more liable to disease and premature death than wild is, I believe, admitted on all hands. The same principles will explain also how it is that the more highly bred an animal is, *i.e.*, the more widely it has been differentiated in late generations from a previous type, the more liable will it be to disease and premature death.

Taking, now, these principles home to ourselves-to the human race-we find them to mean that those organs and functions which have been the latest acquired will be most often . defective, absent, abnormal, diseased. But it is notorious that in civilized man, especially in the Aryan race, the functions which have suffered most change in the last few thousand years are those called mental-that great group of functions, sensuous, intellectual, moral, which depend upon, spring from, the two great nervous systems, the cerebro-spinal and the great sympathetic. This great group of functions has grown, expanded, put forth new shoots and twigs, and is still in the act of producing new faculties at a rate immeasurably greater than any other part of the human organism. If this is so (and we all know it is so), then within this great congeries of faculties it is inevitable that we should meet with constant lapses, omissions, defects, breakdowns.

Clinical observation teaches us every day that the above reasoning is solidly grounded. It presents to us lapses of all degrees and in unlimited varieties-lapses in sense function, such as color blindness and music deafness; lapses in the moral nature, in whole or in part; lapses in the intellect, of one or several faculties, or lapses, more or less complete, of the whole intellect, as in imbecility and idiocy. But over and above all these lapses, and as a necessary accompaniment of them, we have the inevitable breaking down of function which has once been established, which we call insanity, as distinguished from the various forms and degrees of *idiocy*. For it is easy to see that if a function or faculty belonging to any given species is liable for any general cause to be dropped in a certain proportion of the individuals of that species, it must also be liable to become diseased, that is, to break down in cases where it is not dropped. For if the faculty in question is by no means always developed in the individual, if it quite frequently fails to appear, that must mean that in many other cases in which it does appear it will not be fully and solidly formed. We cannot imagine a jump from the total non-appearance of a given function in certain members of a species to the absolute perfection and solidity of the same function in the rest of the members. We know that species do not grow that way. We know that in a race in which we have some men seven feet high, and others only four, we shall find, if we look, men of all statures between these extremes. We know that in all cases extremes presented by the race are bridged (from one to the other) by full sets of intermediary specimens. One man can lift a thousand pounds, another can only lift a hundred, but between these are men the limit of whose strength fills up the whole gap between the hundred and the thousand pounds. One man dies of old age at forty years, another at one hundred and thirty years, and every year and month between forty years and one hundred and thirty years is the limit of some man's possible life. The same law that holds for the limit of faculties holds also for the solidity and permanence of faculties. We know that in some

men the intellectual functions are so unstable that as soon as they are established they crumble down-crushed, as it were, by their own weight ---like a badly built house, the walls of which are not strong enough to sustain the roof. You all know that I refer to extreme cases of so-called developmental insanity, cases in which the mind falls into ruins as soon as it comes into existence, or even before it is fully formed : cases of insanity, of puberty, and adolescence, in which nature is barely able to form or half form a normal mind, and totally unable to sustain it. and it consequently runs down at once back into chaos. You know the hopelessness of this class of cases (as regards recovery), and it is not difficult to see why they should, and must, be practically incurable, since their very existence denotes the absence of the elements necessary to form and maintain a normal human mind in the subjects in question.

In the realm of insanity properly so calledthat is, excluding the idiocies-these cases occupy the extreme position at one end of the scale, while those persons who only become maniacal or melancholic under the most powerful exciting causes, such as childbirth and old age, occupy the other end. That is, we have a class in whom the mind, without a touch, crumbles into ruin as soon as formed, or even before it is fully formed. Then we have another class in which the balance of the mental faculties is only overturned by the rudest shocks, and then only temporarily, since the cases to which I refer recover in a few weeks or months if placed under favorable conditions. But between these two extremes, as you all well know, we have the whole wide space filled with an infinite variety of phases of insanity, exhibiting every possible condition of mental stability and instability between the two extremes mentioned. But throughout the whole range of the insanities you will find this law hold, namely, that the latest evolved of the mental functions, whether intellectual or moral, suffers first and suffers most, while the earliest evolved of the mental and moral functions suffer, if at all, the latest and the least.

If the mind be likened to a growing tree (a perfectly apposite simile), then one may say that the lesser onsets of insanity shrivel its leaves—paralyze or partially paralyze their functions for

a time-the leaves standing for the later formed and more fragile emotions and concepts, and especially for the later-formed combinations of these; that deeper attacks kill the leaves and damage the finer twigs; that still more profound disturbances kill the finer twigs and injure the larger, and so on, until in the most profound and deep-rooted insanities, as in the developmental dementias, the tree is left a bare, ghastly trunk, without leaves or twigs, and almost without branches. And in all the process of destruction the older-formed faculties, such as perception and memory, appetite for food and drink, shrinking from injury, and the more basic sense functions, endure the longest, while, as has been said, the latest evolved functions crumble down first, then the next latest, and so on.

A fact that well illustrates my main thesis, namely, that insanity is essentially the breaking down of mental faculties which are unstable chiefly because they are recent, and that it rests therefore upon an evolution which is modern and still in progress—a fact, I say, that well illustrates this thesis is the comparative absence of insanity among negroes.

I have said, as you know, that the large percentage of insanity in America and Europe depends directly upon the rapid evolution in late millenniums of the mind of the Aryan people. I suppose very few would claim that the negro mind is advancing at anything like the same rate. As a consequence of these different rates of progression, we have in the Aryan people of America a much higher percentage of insanity than is found in the negro race.

When the United States census of 1880 was taken, it was found that among 43,000,000 white people there were 86,000 insane, exactly one in 500; while among 6,750,000 negroes only a little more than 6000 were insane, or a proportion of only about one to 1100.

Doubtless if we had statistics of other backward and stationary people a similar state of matters would be found; all such facts as we have leading to the conclusion that among savages and semi-savages there exists comparatively little insanity.

In conclusion, the results at which I have arrived in this paper may be summed up as follows: (1) All mental faculties arose each in its time, and they are of all ages, many of them being quite modern.

(2) The date of birth of a faculty in the race may be judged by the age at which it appears in the individual, and its more or less universality in the race.

(3) The stability of a faculty in the individual depends upon its age in the race; the older the faculty the more stable it is, and the less old, the less stable.

(4) Consequently the race whose evolution is the most rapid will have the most breakdowns.

(5) Those functions in any given race whose evolution is the most rapid will be the most subject to breakdowns.

(6) In the more progressive families of the Aryan race, the mental faculties have for some millenniums last past developed with great rapidity.

(7) In this race the large number of mental breakdowns, commonly called insanity, are due to the rapid and recent evolution of those mental faculties.

INVESTIGATIONS UPON THE ETIOL-OGY OF MOLLUSCUM CON-TAGIOSUM.*

BY W. R. SHAW, M.D.

(From the Biological Laboratory of the University of Toronto.)

Since the first authentic description of this disease by Bateman, much doubt and a great deal of controversy have been incited both as to its pathology and its contagiousness.

It was at first considered to be a disease of the sebaceous glands, in which the duct became obstructed, the gland continued secreting, and as a result a small tumor was formed with a contents, which was said to consist of the secretion of the gland, somewhat altered, of some fat globules, and of a number of distinct, clear oval bodies, which were styled "molluscum bodies," and which were supposed to be the cause of the disease.

In 1865 the true nature of its pathology was described by Virchow, who maintained that it had nothing whatsoever to do with the sebaceous glands, and that the characteristic growths

*Read before the Toronto Pathological Society.

were due to a hyperplasia of the cells of the rete malpighii at the mouths of the hair follicles.

Sangster,¹ in 1888, advanced views in support of the above, and gradually it has become recognized that the seat of origin of molluscum warts is in the rete. The last, as far as I am aware, who has strongly supported these views has been Dr. A. B. Macallum² in his article on "The Histology of Molluscum Contagiosum." He says : "Whether the molluscum growths do originate in hair follicles or in sebaceous glands cannot be determined from my preparations. In all these the stratum mucosum of the epidermis is the part which has given origin to the growth." Figures demonstrate these facts. Further on he remarks : "In yet later stages the corneous material may form a column and simulate a hair shaft, or, when it has fallen out of the preparation, the epithelial down-growth with its central cavity may resemble a gland duct. Such stages have doubtless been seen by others, and they may have given rise to the conclusion that the molluscum growth originates in the hair follicles or in the sebaceous glands." On this portion of the pathology I think I can finally say that the belief is now generally held that the disease arises from the rete malpighii.

Whether the disease is contagious or not has also been one of the disputed characteristics of this affection. The majority of English and American authorities claim that it has this peculiarity; while, on the other hand, those of the continent hold generally the opposite view. It appears to me that the clinical data of each year confirm the contagious nature of the disease, and reference to text-books on diseases of the skin and of cases cited in the various journals serve only to strengthen this idea. It is only necessary to refer to a series of cases which have occurred in the Infants' Home to demonstrate its contagiousness. Dr. J. E. Graham³ has given a full account of it in The Journal of Cutaneous and Genito-Urinary Diseases, from which I shall take the liberty of quoting some sentences :

"In June, 1888, a child was brought into the Home who was noticed to have small warty growths on the face and neck. Remained for

3. March, 1892, Vol. X., p. 90.

three months in the infirmary. She, with several others, was then sent to one of the large nurseries, which accommodates about twenty children and which is generally fully occupied

. Five months after this patient had entered the Home, and two months after she was brought into the nursery, four inmates of the latter were found to be affected." "From that time until the present the disease has existed in that nursery." "Fifteen children in all have been affected, 10 males and 5 females."

Another point which has, perhaps, excited the most controversy has been with regard to the "molluscum bodies." They were first considered to be parasitic in nature, and were thought to be the *contagium vivum* of the affection; one authority in St. Louis describing them as cryptogamic spores. In 1875, C. Boeck showed that molluscum bodies were the degenerative changes (affecting nucleus first) in cells identical with the cells of the rete, the change being neither fatty nor amyloid. In the same year Lubowski demonstrated the epidermal nature of the disease, and believed the molluscum bodies were the results of degenerative changes in the wandering cells of the rete.

Still later Neisser⁴ has expressed his views to the effect that, in his mind, these are coccidia. He has not, as yet, been able to cultivate them, nor has he succeeded in producing the disease by inoculation. At present no definite expression of opinion as to the nature of these bodies can be formulated.

Dr. Macallum, referring again to his article, comes to the conclusion that they are altered plasmosomata, and the whole process is one of "hyperchromatosis."

I took up these investigations in March, 1891, with a view to find, if possible, some organism which might explain the contagiousness of this disease. As far as I have been able to ascertain, no one, as yet, save Dr. Angelucci,⁵ of Rome, has attributed the disease to a micro-organism. His work was done some time prior to 1881, and the results were made known at the Medical Congress that year, which was held in London.

He goes on to state that he had found a

^{1.} A. Sangster, British Medical Journal, 1880, p. 327.

^{2.} Dr. A. B. Macallum, Journal of Cutaneous and Genito-Urinary Diseases, March, 1892, Vol. X., p. 95.

^{4.} Jahresbericht Pathogenen Mikro-organismen, etc. Baumgarten, 1888, p. 315.

^{5.} Transactions of the International Congress, Vol. III., 1831, p 149. Section, Diseases of the Skin.

bacillus which is common to molluscum, psoriasis, and papular eczema. It is somewhat similar in its appearances to the bacterium termo, and he had given it the name bacterium lepogenum. It had been successfully cultivated in the ordinary media, and its spore formation, etc., were all described by him. As to experiments on animals to produce the disease in which his bacterium had been found, he makes no mention. He further claimed to have found it in the tissues of the molluscum, when stained in the ordinary way for investigations for bacteria. But he somewhat invalidated his statements by the remark that bacteria were easily distinguished from elaidin granules, in that the latter did not take up aniline dyes, which, numerous observers since then have demonstrated is not the case. In the discussion which followed. Dr. Vidal, of Paris, remarked that he had once produced the disease by inoculation, and had found both bacilli and micrococci in the mol-The consensus of opinion luscum growths. seemed to oppose Dr. Angelucci's theories and to doubt his having found a specific organism. Regarding the investigations which I have pursued I must differ from the above, and although not as yet in a position to give a positive opinion that the micrococcus, which has been always found, is the specific cause of the disease, owing to the unsuccessful results of inoculation experiments, yet I feel sure that it is in some way connected with it. There has been much difficulty in staining this micrococcus in the tissues on account of the impossibility to decolorize the molluscum bodies, and also the very similar appearance between elaidin granules and micrococci. However, since this paper was begun a fresh supply of material was obtained, and from the contents of an unbroken molluscum wart smears were made and stained in the ordinary manner, and in each smear examined a micrococcus was alone found, in large numbers, being similar in appearance to that which I have cultivated. This is the first positive result vet obtained.

Some doubt was held last autumn as to this particular organism being peculiar to this disease, owing to the fact that Prof. Welch, of Baltimore, had found a similar form inhabiting the deeper layers of the epidermis, and to which we gave the name "staphylococcus epidermidis albus"; but from the fact of its growing in gelatine and liquefying it, and also growing at the temperature of the room, it seems safe to conclude that they are quite different, as the micrococcus of molluscum contagiosum will not grow in gelatine (alkaline) nor liquefy it, nor yet will it grow at the ordinary room temperature.

The greatest care has been exercised to obtain the material as free as possible from outside contaminations, and already on seven different occasions has the same micrococcus been obtained, and in only two sets of tubes has anything else been found, and that has been the ordinary yellow sarcina, which is so abundant in the air. Once the warts were kept for two weeks in a dry state in sterilized tubes and then crumbled up with sterilized forceps, and this material, scattered on the surface of glycerine agar, again gave the same results as in those tubes made from the freshly obtained growths.

Description of the micrococcus: It is round, medium-sized, measuring 0.6-0.9*m* in diameter, occurring frequently in pairs, and sometimes going in short chains of three or four, and again it is found in groups of nine or ten joined together in zoogleea masses.

Stains with alkaline methyl blue, carbolic fuchsin. Is not decolorized by Graham's method, but is by Neillsen's tubercle stain.

Hang drop : no movement.

In the original glycerine agar-agar smear tubes, after being twenty-four hours in the thermostat, the surface is found to be covered with small round disseminated colonies, which are yellowish-tinged white, opaque, and frequently many are confluent, giving to the whole surface of the smear a mottled appearance. Under low power : Round, smooth, yellowish-white colonies, slightly dome-shaped, edges smooth, but pale and transparent; whole colony finely granular. In the agar-agar tubes, originals, the colonies grow in the same manner, i.e., being round and confluent frequently. They are, however, very pale, watery, transparent, flat, and not appearing to be so vigorous. Under low power they are generally found flat, pale white, transparent, granular colonies, having smooth edges.

Glycerine agar-agar stab: Grows on the surface of the stab as minute, whitish, round, thin, drop-like colonies, very few being confluent until growth becomes quite old, and the whole collection forming a circle around the original puncture. Grows throughout the whole of the needle track, tapering gradually away from the surface. It appears in the stab as a whitish granular collection, with edges finely notched, and which projections appear to be the separate small colonies as seen on the surface. 'Grows at 37° C.

Agar-agar stab: Same appearance as in glycerine agar-agar.

Gelatine: Smears were made with some of the original material as in the other tubes, but with negative results, and stabs made from cultures failed to grow.

Potato: Grows as an almost imperceptible, white, transparent growth, giving to the surface of the potato a slightly whitish, glazed appearance. Grown at 37° C.

Bouillon: Produces distinct turbidity throughout the whole of the liquid. No surface growth. After some weeks a copious, white, finely granular precipitate is found.

Milk: Alkaline milk becomes strongly acid in a short time. Much fermentation takes place, which is indicated by the bubbles. The milk divides into two parts, an upper clear layer and a lower thick, white coagulum.

Temperature: Grows at 37° C. Has not been tried at higher temperatures, but will not develop at the ordinary temperature of the room.

Produces no color, nor any gas formation.

It is a facultative aerob.

Inoculation experiments: (1) March 25th, 1891. Rabbit inoculated with culture in the skin, after having made small superficial abrasion. Results *nil*.

(2) April 3rd, 1891. Guinea pig inoculated in the same manner. Results *nil*.

(3) May 16th, 1891. Contents of one of the molluscum warts were inoculated into a rabbit's skin. No results.

(4) June 16th, 1891. Inoculation into the skin of the arm of an adult after slight super-ficial scarification. No results.

(5) Aug. 3rd, 1891. Rabbit inoculated with 2 c.c. of milk culture. Aug. 5th: Much redness around seat of inoculation and very slight swelling. Aug. 8th: Redness and swelling all gone. Results *nil*.

(6) Aug. 29th, 1891. Milk cultures made and fed to a rabbit for six days. No results of any kind obtained.

(7) Sept. 15th, 1891. Guinea pig inoculated with a culture in the back, as on previous occasions, and some of the culture also rubbed into its nose. A small excrescence, about two days after, was found on the nose, but did not have any of the appearances of a molluscum growth. Inoculation in the back was without results.

(8) Dec. 28th, 1891. Rabbit inoculated with a 1 per cent. solution of lactic acid, with some of the micrococci held in suspension. So far, no results.

(9) Jan. 7th, 1892. Rabbit inoculated as before on the back with $2\frac{1}{2}$ c.c. of bouillon culture. The following few days showed slight redness and elevation around the seat of inoculation, which all passed away in a week. Thus far, results *nil*.

(10) Jan. 14th, 1892. Cat inoculated in back.

(11) Jan. 14th, 1892. Guinea pig inoculated in back, and also in a scarified place.

(12) Jan. 27th, 1892. Dog inoculated on its back after making some slight superficial abrasion.

(13) Jan. 30th, 1892. Rabbit inoculated into the anterior chamber of one eye and on the cornea in the other.

Both the dog and the cat died through other causes before any disease could have developed, and thus these two experiments were rendered negative as to results.

The guinea pig inoculated on Jan. 14th, 1892, has not developed anything within a month, and I think that it may be called a negative result.

The inoculation into the anterior chamber of the eye has met with some results. The micrococcus developed rapidly, and produced a circumscribed white patch in the chamber. The conjunctival vessels increased in size, and a general appearance of inflammation of the cye developed. This condition has gradually subsided, as has also the extent of whiteness in the anterior chamber, and now what is to be seen after one month is a small, slightly elevated, opaque white condition in the cornea at the seat of the original puncture. On the corneal abrasion the micrococcus developed for a week, producing a white-looking appearance, and the eye showing signs of inflammation. Those have subsided, and only the faintest trace of the original seat of inoculation is indicated by a haziness of the cornea at the seat of abrasion.

Lastly, inoculations have been made in the conjunctiva which is reflected over the upper eyelid, and another inoculation has been made into the anterior chamber, both of which are so recent that a report cannot yet be made on the results.

I regret that I have to present to you such a series of negative results, as they seem to make it doubtful if this particular organism is the cause of the disease. But immunity on the part of the animals might explain these failures, for the same micrococcus has been obtained on seven different occasions (as mentioned before), and it seems strange that it should be such a constant feature in this affection, exclusive of all other forms, except the two impurities from the air, of which, also, mention has been made above.

As to the methods of spread of the disease in the way it does, I cannot express any opinion as yet, for it is impossible for me to formulate any theories which seem compatible with the circumstances of its propagation.

Selections.

ON A METHOD BETTER THAN SUS-PENSION OF APPLYING A PLAS-TER JACKET.

BY RICHARD BARWELL, F.R.C.S., Consulting Surgeon to Charing-Cross Hospital.

Certain drawbacks and inconveniences are connected with suspension of the patient while applying a plaster-of-Paris jacket; of these may be more particularly selected painful pressure on the jaw and occiput, as well as on the axillary plexus of nerves. The object of suspension is to straighten out the abnormal curve of the spine, so that the jacket when complete may be straighter than the unsupported back of the erect patient, thus preventing intervertebral pressure, and by successive applications correcting, as far as possible, the kyphosis or hump which must result if, such means being omitted, the diseased vertehræ synostose. Children, therefore, whose pelves and lower limbs are small and light, obtain little or none of such benefit; while adults with heavier lower developments may gain more temporary rectification, but can bear the pressure on the points of suspension a commensurately shorter time. Hence the plaster must be of such a quality as will set quickly; no gum or other colloid must be combined with it. The jacket must be completed with great rapidity, and not infrequently the patient must be taken down before hardening is so perfect as to obviate cracking and yielding; for, of course, when suspension ceases there is a tendency to recurrence of the curve, which a hastily applied jacket is too weak to resist. Much experience and practice may up to a certain point minimize these evils, but cannot eliminate them.

I have therefore for some years past ceased to employ suspension in kyphosis, and have straightened, as far as safety will permit, the patient's spine by a modification of my method of rachilysis, which, used differently, has proved successful in lateral curvature; the force-viz., traction by a system of pulleys-being used while the patient is sitting. It is thus carried out in a case of dorsal kyphosis: The patient being clothed in a skin-tight knitted vest, and with the usual parts padded, sits on an ordinary office stool about two feet and a half high, between two opposing walls in which certain hooks, etc., are fixed, as for rachilysis. A threeinch wide piece of webbing, with strong cords at each end, is secured to one of the back legs of the stool, and, passing over the top of the patient's thigh sufficiently tightly, is also secured to the other back leg. A strip of moderately strong unbleached calico, broad according to the size of the patient, crosses the abdomen on and below the umbilicus. This in the position under consideration I will name "counter-traction band." By means of the cords at each end it is fixed at the proper degree of tension behind. A similar strip of calico passes across the back on a level with the point of greatest curve. This is the "traction band." If the projection be very sharp and angular, it is well to make a slit, lengthwise as regards the belt, two or three inches long, so that one of the laps may lie above, the other below the most prominent

vertebra; a cord secured to both ends of this forms the whole into a loop, into which is hitched the hook of the system of pulleys. These two strips of calico would always crumple up and run into ropes as soon as tension comes on them unless prevented, which is easily done by having at hand four slips of common soft wood a little longer than the belts are broad. They are to be placed outside the calico pretty close to the patient's body, one on each side, and into them through the belts, and just at their edges, are thrust surveyor's pins. Lastly, a one inch wide loop of webbing, properly padded, passes across the manubrium sterni , under the axilla on each side, and is secured by a cord running through a single pulley at proper tension behind. This I call simply the "lan-Now the surgeon begins by making vard." very slight traction by means of the system of pulleys, observing if the tension of his other cords is correct, and places the spine in proper position; if not, it can easily be altered by means of the single pulleys through which the cords run. All being correct he increases the tension, and slips between the laps of both traction and counter-traction bands a board of wood, from ten to twelve inches long, in order to prevent lateral pressure on the thorax and abdomen. He now increases traction up to the desirable point, recollecting that the Astley Cooper system of pulleys, which is that which I use, multiplies his manual force by six. When as much traction as he may deem safe has been attained, he fixes the pulley cord by twisting or knotting it to the loop of the traction belt, thus causing the spine to be immobile during application of the jacket.

As this sitting position and slight restraint are either not at all or very little fatiguing to the patient, the next procedure need not be hurried. Moreover, in order to insure greater hardness and durability to the jacket, some colloid may advantageously be mixed with the water in which the bandages are soaked. The best and most convenient material I find to be liquid glue (Le Page's). About a teaspoonful to the quart of water causes the plaster to set very firm and hard in from twenty minutes to half an hour, according to the warmth of the room. In winding on the bandages those parts of the traction and counter-traction belts which lie close and tight to the patient's body must be included and covered in the turns; those parts which project and stand away from the trunk are left out. By putting on the bandages, not straight, but somewhat obliquely, the chest and abdomen may be covered, with the exception of some little triangular spaces lying under the shelter—the eaves, if I may use such a term—of the projecting parts; these are afterwards dealt with.

When the plaster has become firm, the traction should be slowly relaxed and the calico belts cut away about three inches from the trunk, and any little roughness in the angle where they begin to project removed. Then the triangular interspaces should be wetted and covered with plaster soaked in the gluey water. The calico lappets (the three inches not cut away) are then laid over the newly applied plaster and covered by rubbing into them the same material. If the surgeon has to deal with a dorso-lumbar, or with simply a lumbar kyphosis, the lower belt becomes the traction band, passes to the front, and is attached to the pulleys; the upper belt is then the countertraction band, passing across the front of the chest as high up as one wishes, and is secured No lanyard is required. behind.

The advantages of this method over suspension may be thus summed up: (1) Hardly any appreciable fatigue to the patient. (2) No painful pressure on any part. (3) The amount of force employed in straightening the spine, instead of depending on such chance condition as the patient's weight, lies entirely within the surgeon's choice. (4) The surgeon may occupy what time he finds necessary in putting on the bandage, and can make a much more perfected one than when hurried. (5) The admixture of glue renders the jacket very durable and strong, capable of upholding a heavy much-(6) Less plaster is needed, curved trunk. therefore the jacket is lighter. (7) Bits and flakes of plaster do not chip away into the clothing and bed. (8) If a jacket removable by cutting down the middle be desired, a much more springy and less friable one, more easily taken off and put on without cracking, can thus be obtained .- Lancet.

TREPHINING FOR RELIEF OF INTRACRANIAL PRESSURE.-That in cases in which an intracranial growth is present much relief is at times given by trephining is now well known, but the number of cases as yet reported is too small to allow of its being recognized as a certain, and at the same time a safe, means of treatment. Such treatment, of course, is only applicable to cases in which either the new growth is too large for removal, or its locality cannot be definitely diagnosed. As regards growths in the cerebellum, clinical observation is still at fault. While in some cases it may enable us to say with a fair amount of definiteness that there is a cerebellar tumor, in very few can it be predicted on which side of the cerebellum the growth lies. Every recorded case, therefore, is of extreme importance, as enabling a judgment to be formed of the difficulties and drawbacks which follow such an operation, as well as of the relief experienced and the nature of the cases in which the operation may be expected to have a favorable result. In the last number of the Journal of Nervous and Mental Diseases Dr. Knapp, of Boston, reports a case in which diagnosis was very difficult, and in which an operation was undertaken chiefly for the purpose of relieving symptoms resulting from increased intracranial pressure. The patient had been fairly well till October, 1889. He then began to suffer from occasional severe headaches, and at times dimness of sight. He was seen at this time to have double optic neuritis. He lost the sense of smell early in the illness, and became totally blind in August, 1890; but on one occasion, after a severe attack of vomiting, he is said to have had a temporary return of vision. He was seen by Dr. Knapp in October, 1890; and then he had for three weeks complained of failure of hearing in the left ear, had experienced some difficulty in swallowing, and there was a profuse flow of saliva. He had also had on two occasions attacks in which he cried out, fell down, and frothed at the mouth. He likewise had sensations of numbress of the face and hands, but tactile sensibility was fairly good. He suffered from headaches, and was restless and slept badly. There was pain on pressure on a spot in the right temple. Sometimes neither knee-jerk could be obtained; at other times only the right was present.

Trephining was advised, and was performed in Jan. 18th, 1891. Bone was removed in the right parietal region, just behind the anterior end of the fissure of Sylvius. There was bulging at the opening; but no tumor was felt or seen even after the opening had been considerably enlarged. After the operation he was more comfortable, although not quite free from headache, and at his own request he returned home on Jan. 28th. He returned a few days later. apparently suffering from left hemiplegia and hemianæsthesia, and he remained in a very somnolent condition for some days. There was oozing of blood from the posterior end of the incision, which had apparently broken down, and later on some brain substance came away. On Feb. 14th he became almost comatose, but a profuse watery discharge from the wound set in, and he began to improve. There was no change in the condition of the hemiplegia, or any sign of returning vision, but his mind was much clearer. The hernia, however, continued to slough, and on March 7th he suddenly became worse, and died on the 9th. At the necropsy there were found signs of meningitis around the trephine opening, and a large tubercular tumor in the left lateral lobe of the cerebellum. Of course, in such a case operation was a forlorn hope, for there was little probability that even vision could have been to any extent restored, and it was also a misfortune that breaking down of the scar should have occurred with the consequent hernia cerebri; but the temporary relief from pain, although brief, is significant.-Lancet.

THE USE OF COCAINE IN SURGERY.—At the Islington Medical Society recently, Dr. Woodroffe read a paper on "The Use of Cocaine in Surgery." He wondered how general practitioners got on formerly without it. He specified the following cases in which he had used it with satisfactory results—nasal polypi, adenoma of the naso-pharynx, excision of the tonsils, cystic growths of the scalp, tarsal cysts, scraping out of tubercular abscesses and sinuses in the neck, small false aneurysm in the palm, villous growth in the female urethra, internal hemorrhoids, fistula in ano, tenotomy of anterior and posterior tibial muscles, also of the ligamentous sternal insertion of the sterno-mastoid in wryneck, fissure in ano, and abscesses of various kinds. Dr. Woodroffe would never use a general anæsthetic for internal piles, save at the direct request of the patient. The expulsive power is saved by cocaine, and is a great advantage to the surgeon. He injects separately into the base of each pile. He has never used more than one grain, generally half that quantity. He had had two cases of poisonous effect, and had come to the conclusion that such a result depends far more on idiosyncrasy than on the quantity of the drug used. In one the quantity injected was half a grain; in the other only a quarter. The first was a woman, the second a girl about fifteen. Such cases have led him to be cautious in using the drug for women, and especially those of a neurotic type. These symptoms appear immediately after injection. He never injects more than half a grain, and waits two or three minutes before repeating the injection in cases where a large dose is required. In this way he has used two grains without bad symptoms; indeed, he had never seen any symptom supervene which did not show itself on administering the first dose. Of the poisonous symptoms, the more evident were pallor of the face, dilatation of the pupils, sense of impending death, with great restlessness, orthopnœa, very rapid cardiac action; the pulse, however, being less compressible, and the second cardiac sound being more marked than in a syncopal attack. These symptoms were followed by perspirations, and in the case of the girl by rambling, incoherent talk for some hours. The treatment adopted was the inhalation of ether and ammonia, with repeated doses of hot brandy and water. Dr. Woodroffe has not found it effective in ear operations-or in avulsion of the toe-nail. For the latter he adheres to the use of ether spray. He also praised the use of cocaine (about two grains of the salt in cocoa butter as a flat suppository), coupled with doses of chloral, in the rigid os of primaparæ. It can easily be slipped inside the os and retained there till dissolved .-- Lancet.

THE DOUBLE CYANIDE OF ZINC AND MER-CURY.—Professor Dunstan has already shown that when a solution of zinc sulphate is added to a solution of mercuric potassic cyanide, or when mercuric chloride is added to a solution of zincic potassium cyanide, a white precipitate is formed, which does not consist, as stated, of a double cyanide of zinc and mercury of the formula ZnHg (CN)₄. Further experiments, an account of which was given by Prof. Dunstan at the meeting of the Chemical Society on the 17th ult., indicate that this precipitate is in many respects a remarkable substance. The quantity of mercuric cvanide retained is dependent on the amount of water present during precipitation, as well as on the proportion in which the salts interact; the maximum quantity retained is 38.5 per cent. Zinc cyanide, having this percentage of mercuric cyanide attached to it in such a form that it cannot be removed by ordinary washing with cold water, is precipitated when cold saturated solutions of the two salts are mixed in equimolecular proportions. series of experiments, in which the masses of the interacting salts were varied, proved that a compound of the two cyanides is formed, and suffers decomposition to a greater or less extent, depending on the relative amount of water present. Examination led subsequently to the inference that the composition of the double salt is expressed by the formula $Zn_4Hg(CN)_{10}$. Such a salt contains 40.6 per cent. of mercuric cvanide. It cannot be obtained pure, since it is decomposed by water, and it can only be produced by precipitation of aqueous solutions. All attempts to prepare the double cyanide by methods other than that of precipitation have There was no forthcoming evidence of failed. the existence of any other compound of the two cyanides than that described, nor could any similar compound of zinc cyanide with other metallic cyanides than that of mercury be obtained. It is widely known now that this tetra zincic monomercuridecacyanide has been found to be an admirable surgical antiseptic. Sir Joseph Lister, its introducer, who was present at the meeting, and at whose suggestion the inquiry was undertaken, said that the great value of the salt arose from the circumstance that, while equally effective as an antiseptic, it has none of the irritant qualities of mercuric cyanide, and its slight solubility was an advantage. When mercuric chloride was used it was liable, on the one hand, to be washed away by the discharges of a wound, and, on the other, to accumulate until a solution was formed which was so concentrated that it caused great irritation. He was glad that Professor Dunstan had come to the conclusion that it is a definite chemical compound, because he had not been satisfied from its behavior that it could be a simple mixture.—*Lancet.*

PROFESSIONAL MANNERS .- S. Weir Mitchell, M.D., in his interesting sketches entitled "Characteristics," now running in The Century, discusses entertainingly the manners of the doctors and their influence on their patients (Medical Age). There is no place, he says, where good breeding has so sweet a chance as at the hedside. There are many substitutes, but the sick man is a shrewd detective, and, sooner or later, gets at the true man inside the doctor. There are men who possess cheap manufactured manners, adapted, as they believe, to the wants of the sick-room. According to the man and his temperament do these manners vary, and represent sympathetic cheerfulness or sympathetic gloom. Thev have their successes and their commercial value, and may be of such skilful make as to deceive for a time even clever women, which is saying a great deal for the manufacturer. Then comes the rarer man who is naturally tender in his contact with the sick, and who is by good fortune full of educated tact. He has the dramatic quality of instinctive sympathy, and, above all, knows how to control it. If he has directness of character, too, although he may make mistakes (as who does not?), he will be, on the whole, the best adviser for the sick, and the completeness of his value will depend upon mental qualities which he may or may not possess in large amount. But, over and above all this, there is some mystery in the way in which certain men refresh the patient with their presence. Every doctor who has this power, and sooner or later he is sure to know he has it, also learns that there are days when he has it not. It is in part a question of his own physical state ; at times the virtue has gone out of him.-Med. Rec.

THE TREATMENT OF GONORRHEA. — My treatment of gonorrhœa in all stages has for long been very monotonous. Almost without regard to stage or degree of severity, I pre-

scribe the same remedies. I have long ago laid aside the traditions of my student days, which taught that salines only should be used in the acute stages, and that abortive plans were dangerous. I always use abortive measures, and mostly, I believe, succeed. At any rate, I never encounter ill consequences, and complications are rare. My prescription is a partnership of three different remedies, and it is, I believe, important that they should all be used. First an injection of solution of chloride of zinc, two grains to the ounce; next, sandalwood oil capsules, and, lastly, a purgative night dose with bromide of potassium. The injection is used three or four times a day, the capsules (ten or twenty minims) taken three times a day. The ingredients of the night-dose are three drachms of Epsom salts and half a drachm of bromide of potassium. It is, I believe, the action of the last-named in preventing congestion of the parts which makes the abortive measures safe. Moderate purgation and entire abstinence from stimulants are essential. the case is very acute and attended by swelling of the corpus spongiosum, I sometimes prescribe tartar emetic or tincture of aconite, but it is very seldom indeed that these are necessary. If the patient be well purged, there is no risk whatever in an abortive treatment from the day that he comes under treatment. The risk of orchitis, prostatitis, cystitis, etc., comes in cases which have been allowed to develop rather than in those treated abortively. I should as soon think of delaying to use local measures in gonorrhœa as I should in purulent ophthalmia .- Jonathan Hutchinson in Archives of Surgery.

SIR GEORGE HUMPHRY ON "NIPPING."— Professor Sir George Humphry, F.R.S., in addressing the Cambridge Temperance Association this week, took occasion to protest against the common form of intemperance in drinking, which was short of drunkenness, but which, as it was more general, was more prejudicial, and was doing more damage than actual drunkenness. This was the habit of "nipping" taking a glass now, a glass then, and a glass often; in the morning (which was worst of all), at the midday meal, in the afternoon, in the evening. Even more than drunkenness, this was terribly

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damaging to the system ; it made men soddened, and was evinced in a general shakiness of the hand, sometimes of the step, and, above all, of the tongue; in fact, a general shakiness of all The "nippers" succumbed to the organs. slight accidents, slight illness, or slight shocks of any kind. Prick them, and the life, as it were, ran out of them. They said, "My work is hard," and they took the very means which unfitted them for good and prolonged work. By temperance in drink he meant that nothing should be taken whatever under any conditions except at meals, and very little then. Those who could not be absolutely temperate, and content with moderation, should become total abstainers .- Brit. Med. Jour.

A CLINICAL LECTURE ON COMMON DISEASES OF THE RECTUM.—C. Heath, in *British Medi*cal fournal, Dec. 19, 1891, says: All persons who suffer in any way upon the discharge of fæces should have their bowels opened at night, so that the irritation may pass off while they lie in bed. Hard masses of fæces can be assisted on their passage through the sphincter by pressure with the finger just beyond the tip of the coccyx.

In cases of fissure, belladonna ointment or the application of nitrate of silver will cure very slight cases, but the best thing is to over-dilate the sphincter under chloroform, in this way rupturing some of the superficial fibres and getting rid of the spasmodic contraction which causes the pain and prevents healing. The sphincter may also be notched with a bistoury; it is quite unnecessary to cut through the whole sphincter. If an ulcer be present, the bistoury must be carried through it.

Pruritus Ani. Be sure it is due to worms or pediculi. For cases not dependent on local causes, lotions are better than ointments. A 5 per cent. solution of cocaine painted over the anus is very useful.

Mucous Tubercles. Take care that the adjacent parts do not rub one against the other, by keeping a piece of lint covered with white precipitate ointment between the buttocks.

Rhagades. Occasionally there are considerable outgrowths of moist skin about the anus, chiefly in women, commonly called "tabs." They are usually symptomatic of tertiary ulceration of the rectum, with more or less stricture. *Prolapse* in children may be a symptom of other diseases. Where it is due to debility, the mother must take a little trouble. If the circular anus be transformed into an elongated slit, by drawing on one side of the anus with the finger during defacation, the mucous membrane finds much more difficulty in coming down. In addition, cold water enemata and an iron tonic must be employed. When there is difficulty in reduction, it is best to give chloroform, squeeze out the blood with a strip of lint, and return the bowel and lint together; the lint will come away at the next evacuation.

In cases of *procidentia* cure may be effected by means of Paquelin's cautery applied in a series of vertical lines, and also to the margins' of the dilated anus in two or three places, so as to contract the parts.

Thrombi of the inferior hemorrhoidal veins should be nicked with a bistoury, and the thrombus turned out.

In the case of *ischio-rectal abscess* the rectum should not be laid open unless there is reason to suspect it has been encroached upon.

In some cases hemorrhage from the bowel is due to a vascular patch of mucous membrane. This may be cured by touching it with a stick dipped in nitric acid or acid nitrate of mercury *—Medical Chronicle.*

THE HEALTH OF SCHOOL CHILDREN .--- ACcording to Dr. Francis Warner (The Lancet) there is a large group of children, amounting to nearly three per cent. of the children seen, who are so far defective in make as to be usually of low nutrition when seen in school. This fact is more marked in the 36,000 children in day schools; among them twenty-three per cent. of the boys and thirty-eight per cent. of the girls who presented defects in development were noted as of low nutrition. It appears that children are of lower general constitutional power, and tend to an ill-nourished condition under the stress of life and the many causes of mental excitement, which, while they render them sharper mentally, militate against nutrition of the body and its tissues. That the amount of mental stimulus received by children does lower their general nutrition seems to be further indicated as follows: If we divide the 36,000 day scholars into two groups of 10,200, seen in day schools of the upper social class, presumably well-fed children, we find 5.2 per cent. of low nutrition, and among the 25,800 children in poorer day schools, 3.9 per cent. The only explanation to be offered is that the upper-class children have more stress upon them than those of poorer social position.— *Medical Record.*

OBSTETRICAL SCIENCE AND ARCHITECTURE. -In the northwestern part of this city are two maternity hospitals; one, the Sloane, is a model of all that a maternity hospital should be, and is fully equipped with everything that obstetrical science could possibly require. The other, the New York Infant Asylum, is an aged, wretched, ill-ventilated, badly-plumbed wooden building, reeking with sewer-gas, and threatening at any time to fall into the street. It has not even a pair of obstetrical forceps which can be called its own. Yet, in the past few years there have been delivered in each hospital 1,000 consecutive cases of midwifery, with only, in each series, three deaths. The results have been obtained, of course, only by great watchfulness and careful antisepsis. But they show that architecture and elaborate appliances are not absolutely essential to successful work, and that the man is greater than his environment.--N.Y. Medical Record.

THE DANGER OF COUNTER-IRRITATION IN LOCALIZED TUBERCULOSIS .-- According to Parrachia Anacleto, counter-irritation in localized tuberculosis is attended with great danger. Miliary tuberculosis spreads so rapidly from one organ to another by way of the veins and lymphatics that any irritation set up at the seat of the primary mischief cannot fail to increase the tendency of the disease to become general. Four cases which have recently come under his notice show this in a remarkable degree. Tuberculosis progresses slowly, but it allows of no violent remedies, and, he thinks, until some method of treatment more successful than either the injection of tuberculin, or cantharidate of potash, or the application of blisters has been discovered, the danger of causing general infection by their adoption will still remain .---Lancet.

Canadian Practitioner

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TORONTO, MAY 16, 1892.

THE THERAPEUTICS OF DAMIANA.

It may be allowed to preface this short account of the therapeutic action of this, as yet, little used drug with a statement of some other items of information regarding it. Synonyms : Turnera diffusa, T. aphrodisiaca. It is a plant order turneraceæ; habitat, tropical of the America, from Mexico to Brazil; part used, the leaves. Botanical characteristics are uninteresting; suffice it to say that it is a plant of the wild mint kind, with strong, disagreeable, "sagey" It has been used by the odor and taste. natives, particularly of Mexico, as a stimulant and restorative, in much the same way as cocoa leaves were, further south in Peru and Bolivia, after prolonged exertion, or to prevent further Particularly in Western Mexico, acfatigue. cording to the evidence of Spanish missionaries so early as 1699, was a decoction of the leaves, with sugar as a flavoring agent, in high repute, not only for the purposes mentioned, but as a specific for sexual impotence in both sexes. In 1874 the drug was introduced to the profession in America by Dr. John J. Caldwell, of Baltimore, and extensive experiments since made by skilful practitioners in a great variety of cases would seem to have quite established the value of the drug as a stimulant and tonic of the genito-urinary system in particular, and of the functions, at any rate, of the cerebellum and spinal centres in general. A summing up of the results of the observations of nearly forty practitioners in various parts of the United States, with reports of cases, appearing at various times, mostly in the columns of the Therapeutic Gazette, may be interesting. First of all,

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a case of poisoning by damiana displayed tetanic convulsions and other symptoms identical with those of strychnine, and was finally cured by the treatment usual in strychnine poisoning. Exhibited in therapeutic doses, the difference between the two seems to be mainly the slower action of damiana, results accruing usually not within a fortnight to any marked extent, but being very noticeable after that time in most cases. The action of the active principle seems to be mainly upon the spinal and medullary centres, and to be not so much stimulant because present in the lymph pabulum offered to the ganglion-cells, as alterative, inducing exhausted or irritable cells to assimilate the nutriment presented them. The theory is suggested by the slower onset and more tonic effect of the action of the drug. It is supported by further clinical effects. The influence of the drug on the bowels is the causation of the mushy stools, one or two a day, which result from heightened peristalsis, due in its turn to better action of the spinal centres and the symuathetic system. Damiana alone has corrected most effectively the habitual constipation of neurotic subjects who were the victims of sexual perversion.

The mint or buchu-like qualities of the leaf show themselves in the increased diuresis attending its use; this effect is probably partly local upon the renal epithelium, and partly vascular, as its sedative and tonic effect upon the heart and vascular system is in some cases of functional disturbance equal to that of cactus grandiflorus. The local effect of the active principle as found in the urine has frequently been very valuable in cases of irritability of bladder and urethra, such as often accompanies prostatorrheea or spermatorrheea. The majority of successful reported cases have been males, suffering from various forms of impotence or insufficiency in the act of sexual congress, not accompanied by any extensive organic lesion, but due to excessive indulgence, onanism, or masturbation. Several cases are reported of impotence following on spinal shock, as that sustained by a fall or blow, which were very effectively remedied. Many cases had resisted all ordinary treatment, both local, with bougies and stimulating applications in the prostatic and other regions, and general, with phos-

phorus, strychnine, cantharides, iron, hygienic and dietetic measures; but in a fortnight or a month's time showed gratifying improvement on damiana. The flabby and atrophied condition of the testicle often seen, or the milder condition of abnormal tenderness, especially at the back of the testicle and in the prostate, as the result of sexual excess, promptly disappeared. Even the organic effects of gonorrhœal inflammation of the prostate, vesiculæ seminales, and testicle have in some cases shown a degree of improvement that could be attributed only to the use of damiana, as rest and regular treatment of such cases had failed to do them the desired good. As a sedative in acute cases it has not been proven to have much value; but as a nerve tonic, with an especial effect on the genito-urinary apparatus, it is a decided success. One authority on its use remarks that "the idea that the agent is a direct stimulant of erotic desires is without the slightest basis. In several cases of abnormal sexual appetite, it has acted as a calmative, relieving the trouble by imparting tone and vigor to the sexual apparatus."

In some cases of paraplegia and hemiplegia, and of atony persisting after long illness, the tonic effects of the remedy upon the spinal centres have been very marked, quite equal to those of strychnine and ergot. It would seem that here again we have an instance, even allowing for the first flourish of trumpets with which a new remedy is generally heralded in, of a drug that might well be in much more common use, and another instance in which the American School of Eclectics, by introducing new remedies, does a service to the profession at large.

The standard preparations, apart from various elixirs and combinations with phosphorus, strychnine, etc., and pill and tablet combinations, made by firms such as Wyeth, Parke, Davis & Co., are a fluid extract, ½ dr.; a solid extract, 5-15 gr.; powdered extract, 5-15 gr. A tincture is also made. Of the fluid extract the dose may be pushed up to a tablespoonful three times a day, best given in milk, or with equal parts of pure glycerine, syrup of Tolu, or some other fruit syrup.

THE DOMINION MILITARY MEDICAL ASSOCIATION.

The meeting for the organization of this association was held in Toronto on Monday, May 9th, and was a pronounced success. The attendance was large, including many wellknown military surgeons from a distance. A constitution was drawn up, and will be submitted to the members at their first annual meeting, June 2nd. It is expected that a special general meeting will be held in Ottawa in September next, during the meeting of the Dominion Medical Association.

The following officers were elected:

Hon. President: Surgeon General Bergin.

President: Surgeon Strange, I.S.C., Toronto. Vice-Presidents: For Ontario, Surgeon V. H. Moore, 41st Battalion Brockville Rifles; for Quebec, Surgeon-Major F. W. Campbell, I.S.C., Montreal; for New Brunswick, Surgeon Stephen Smith, Woodstock Field Battery; for Nova Scotia, Surgeon Curry, 66th Princess Louise Fusiliers, Halifax, N. S.; for Prince Edward Island, Surgeon J. Warburton, 82 Battalion, Charlottetown, P.E.I.; for Manitoba, Surgeon Codd. Canadian Mounted Rifles, Fort Osborne, Man.; for British Columbia, Surgeon Matthews, Garrison Artillery.

Hon. Secretary: Surgeon G. S. Ryerson, Royal Grenadiers, Toronto.

Hon. Treasurer: Surgeon Halliday, 57th Battalion, Peterboro.

Executive Committee: Drs. Leslie, Paull, Hillary, Osborne, Griffin, Lynch, Grasett, Mc-Crimmon, Mitchell, Holmes, Harris, and Elliott.

Business Committee: Drs. Stewart, Rennie, Nattress, King, and Henderson.

THE PROPOSED MEDICAL FACULTY OF QUEEN'S UNIVERSITY.

Queen's University has no teaching Medical Faculty, although many have a vague idea that the medical school in Kingston, properly known as the Royal College of Physicians and Surgeons, is a part of the University. Rumors have been in the air for some time to the effect that an "organic union" of the medical college with the University would shortly take place. Negotiations, with that end in view, are now in

progress; and it is quite likely that the Royal College of Physicians and Surgeons will soon go out of existence, and the members of the staff will be placed on the Medical Faculty of the University. We have heard, in fact, that the greater portion of this work has already been accomplished.

The friends of higher medical education will, as a rule, endorse the new order of things. Queen's is a very worthy institution, and her prospects were never so bright as they are to-day. Her strength and solidity, together with her facilities in certain departments, will greatly assist in improving 'the methods of medical teaching in Kingston. The old Royal College has done good work in the past. Her alumni list contains the names of many who have attained high distinction as medical practitioners in Canada and various other countries.

MEDICAL ALUMNI SOCIETY OF THE UNIVERSITY OF TORONTO.

The annual meeting of this society was held in the School of Practical Science on Friday, May 6th, at the close of the special Medical Convocation of the University. On the same evening the annual dinner was held in Webb's restaurant. There were about sixty in attendance-not so many as there were last year-and the proceedings passed off very pleasantly. It is well understood that these Alumni dinners are quite informal in character, there being no official guests, set speeches, nor toasts. The desire is to bring the graduates together, promote good fellowship, and give a pleasant evening to all present. Dr. Machell, the retiring president, acted as chairman for a time; but, being called away early, Dr. Richardson took his place. One of the features of the evening was the magnificent reception of the toast to the distinguished vice-president and chairman, who has, for so many years, been well known as one of the best anatomists and most successful teachers that can be found in the world. We are glad to know that the society is in a fairly flourishing condition; but we hope that in the future there will be a larger attendance at both the ordinary meetings and the dinners.

Meeting of Medical Societies.

PATHOLOGICAL SOCIETY OF TORONTO.

March 26th, 1892.

The society met in the Biological Department, the vice-president, Dr. A. McPhedran, in the chair.

MOLLUSCUM CONTAGIOSUM.

Dr. W. R. Shaw read the following paper and presented slides and cultures of the microorganism he had found in the specimens examined by him.

(See page 224 in this issue of THE CANADIAN PRACTITIONER.)

Dr. A. B. Macallum said that this investigation might settle whether molluscum is contagious or not. He thought the molluscum growth was a structure not very far removed from a neoplasm. If it is of microbic origin, might not also epithelioma, carcinoma, sarcoma, etc., be due to bacteria, as Scheurlein held? The molluscum corpuscle is wholly a degenerative product, not a psorosperm at all, and is never found outside of the epithelial cell. Many held the opinion that Neisser's view, *i.e.*, that these bodies are coccidia, explained the contagiousness of molluscum; but if Dr. Shaw is correct, the contagiousness is also easily explained.

Dr. Greig asked if Osler did not say that he had found molluscum corpuscles lying between the epithelial cells.

Dr. A. B. Macallum explained that by the term "molluscum corpuscle" he meant only the body contained in the epithelial cell, the so-called psorosperm; while Osler and others called the whole cell, with its contained body, the molluscum corpuscle, and these of course would be found lying between the unaltered epithelial cells.

Dr. Fotheringham remarked that Fagge called this disease a cutaneous adenoma.

CANCRUM ORIS.

Dr. W. R. Shaw reported that in a case submitted to him by Dr. J. M. MacCallum, the blood contained no streptococci, but only a large increase of leucocytes.

ANGEIOMA OF THE SKIN.

Dr. Primrose presented a specimen with

microscopical section, and made the following remarks:

He had removed the tumor from the face of a boy of 15 years of age. It appeared first of all as a pimple, and in two months had grown to the size found at the time of operation. It was regularly cylindrical in shape, $\frac{1}{4}$ inch in diameter, and projected from the skin surface $\frac{5}{8}$ of an inch; dark purple in color; it bled very freely on the slightest irritation. The skin around the tumor was perfectly normal in appearance, and the growth appeared to have no deep connections. Its position was over the margin of the lower jaw, on the left side, immediately behind the line of the facial artery.

It was freely removed, an elliptical portion of skin and the subcutaneous tissue being removed with it; the cutting being done through tissue apparently quite healthy.

On section, the most striking feature is the large number of dilated capillary blood vessels; between these there is a considerable amount of lymphoid tissue, and numbers of large epithelioid cells are irregularly massed together; in the deeper parts of the growth, these groups of cells are surrounded by fibrous tissue resembling, to some extent, the condition formed in an alveolar sarcoma; then, again, groups of cells are seen similar to those of the malpighian layer of the epidermis, not lying deeply in the tumor; these probably are comparable to the cells-nests found in a simple papilloma when the section passes obliquely through the papillæ, and are not to be considered as carcinomatous. The characters of the tumor, as examined under the microscope, would lead one to classify it as an angeioma possessing some of the characteristics of a papilloma, on the one hand, and a sarcoma, on the other. The clinical history of rapid growth would rather point to its being sarcomatous in character.

Dr. McPhedran presented the following specimens :

DIFFUSE CARCINOMA OF THE STOMACH.

affecting its walls throughout, both orifices being healthy. In many parts the walls were greatly thickened—one inch—in others only slightly thickened. There was scarcely a trace of mucous membrane, except at the orifices. The stomach was dilated to about twice the normal size, and adherent to the liver, spleen, pancreas, and descending portion of duodenum. There were no secondary deposits in any of these organs, but the retroperitoneal glands behind the stomach were affected. The thickening and adhesions at the pyloric end of the greater curvature formed a tumor about 3 inches by 2 inches in size that was easily palpated during life; it was somewhat movable and situated just below the normal situation of the pylorus. The absence of signs of pyloric obstruction showed that it could not be due to thickening of that orifice.

The specimen was from a man, æt. 65, who had showed signs of failing health, with pain in the epigastrium and dyspepsia for over two years. There was no vomiting, nor could dilatation of the stomach be made out; the moderate dilatation being obscured by the thickening of its walls. The contents of the stomach had on several occasions been removed after "trial breakfasts," and aiways gave negative results to tests for free HCl by methyl violet.

Dr. Oldright asked in what proportion of cases vomiting was present.

Dr. Fotheringham said the absence of vomiting might be explained by want of physiological activity of the muscular coat.

Dr. Greig said that congestion of the mucous membrane might account for the absence of acid even in an otherwise healthy organ.

Dr. McPhedran said vomiting was present in nearly all cases where the disease affected the orifices of the stomach, especially the pylorus; but it was often absent when the disease was in the fundus. In regard to the absence of hydrochloric acid, he said extreme congestion of any gland leads to arrest of secretion.

PERFORATION OF THE DUODENUM.

Dr. McPhedran, for Dr. C. E. Flatt, also showed a specimen of perforating ulcer of the stomach at the pyloric ring from a man æt. 39, who had always enjoyed good health. The perforation occurred 26 hours before death. The surrounding tissues appeared healthy; the ulcer was therefore, probably, of very recent origin. The man was a hotel-keeper, but of temperate habits. He had had no indications of disease of the stomach.

CARD SPECIMENS.

By Dr. McPhedran:

(1) Heart, showing hypertrophy of the right

ventricle, with lesions of the tricuspid, aortic, and mitral valves.

(2) Cirrhotic kidney.

(3) Heart weighing 24 ounces, hypertrophied and dilated, without much valvular lesion.

(4) Brain from paralysis agitans, showing calcareous vessels.

By Dr. Scadding: Ovary, showing cystic degeneration.

By Dr. Cameron: Multilocular ovarian cyst. The society then adjourned.

Correspondence.

Editor of The CANADIAN PRACTITIONER :

SIR,-Amid the crossfiring and raising of side issues that characterize the wordy war now raging round the devoted Medical Council of Ontario, one may be excused, perhaps, for being a little befogged, and may, perhaps, attempt to make an orderly statement of theory and fact in the premises without laying himself open to the charge of cacoethes scribendi. First and foremost arises the abstract question to be considered, without any concrete application for the present: Is it reasonable, or is it not, to expect of any body of men that, having provided themselves with corporate powers of existence, and an executive for the rendering effective of their organization, they should contribute equally, and at a fixed rate agreed upon, to the expenses of management? Or, again, is it fair that, after chance given by means of fair and open election of their own representatives, any individuals of the corporate body in question should decline to contribute their share towards the expenses of their organization, and either leave the burden on the shoulders of the willing few, or suffer the organization they originated to fall to pieces from lack of funds? Will the gentlemen of the Medical Defence Association (sic) make a concrete application of these abstract questions to their own case, and see how they must appear to the public, whose attention they have been seeking to attract through the daily press, but to whom, in so far as they give the matter any notice, they must appear to be engaged in an attempt to repudiate their just obligations, an attempt sought to be made respectable by dint of the numbers engaged in it? The facts, so far as I have been able to

gather them, seem to be that the Council levied a fee upon its members, paltry in amount, but necessary for legitimate expenses, which the great majority of the members, through mere supineness and distance from the scene of action, failed to remit; that then the Council sought and obtained legislation allowing more effective methods of recovery of these fees, and that then, for the first time, it was brought home to the minds of the delinquent members that the corporation of which they are members is in earnest. What is the immediate result? Not the manful "whacking up" of what had been neglected (through mere inadvertence though they were regularly enough notified), but an attempt to show that the fee is unnecessary, that it is due either to greed or to mismanagement on the part of the Council, and that the means of collection adopted are unnecessarily drastic. As regards the first of these results, or, indeed, the first two, they are due mainly to gross and inexcusable ignorance among the members of the college of the proceedings of their own Council, and of the precedents and customs of all similar corporations. Dr. McKay, in his address to the Local House, printed in your issue of April 16th, gives a list of precedents sufficient for any who are open to conviction-the Surveyors' Association, the Solicitors' Act, the Pharmacy Act, the Architects' Act, etc. I am not, I think, too severe in speaking of "gross and inexcusable ignorance" among those who have somewhat hysterically raised the tyranny cry and taken to attitudinizing before the public. I had rather attribute their misstatements to that than to deliberate desire to bamboozle by misrepresentation of facts. The Council's "land speculation" (sic), for instance, has been much insisted on, and blamed, indeed, for the late more rigorous collection of fees. No member of the profession in the province will say that the Council should have been still content with a name, and no local habitation The lack of facilities for but a rented church. examination and the premium put upon dishonesty thereby were enough of themselves, to say nothing of the need of decent offices for the treasurer and other officials. The Council wisely erected a building which would, in a few years, be a source of income, and have already suggested the likelihood of complete remission

of the petty annual fee as soon as that point is reached. Whether or not the means of collection adopted are too drastic is a matter of opinion. The fact that, in 1889, it cost \$316 to collect \$376, while, in 1891, \$4726 was collected at the cost of postage for the notices, would seem to argue in favor of the new method. It seems to me that those who complain of undue severity in collection can be logical only in saying that the \$2 is more than the services done them by the Council are Thoughtlessness alone could allow such worth. a statement. The deluge that would follow were the old order of things existing before 1868 returned to is plainly seen from a letter which appeared lately in The Mail from a "physiomedicalist" of this city, in which the survival of the fittest was plainly taught, and every individual was held to be entitled to try to heal the ailments of any one willing to trust him.

I cannot close without expressing regret that the Medical Defence Association has so plainly shown the main and real motive of their action. I am not imputing motives when I say that it is chiefly jealousy of city practitioners and the schools that is at the bottom of it. Dr. Sangster's letter in The Daily Mail, dated April 20th, amply proves the existence of this spirit, as also the statements circulated about the library, said to be kept in the Medical Council building at the expense of the Council for the benefit of members residing in the city only, though the Library Association is really a separate organization and a tenant of the Council's. The same spirit was made clearly to appear in the conference held between the Cabinet and the Council during the last session, when, in answer to the Attorney-General, Mr. Meacham, the promoter in the House of the views held by the gentlemen of the Medical Defence Association, stated that a compromise suitable to his party would be that no assault should be made upon the representation of the educational institutions in the Council if the \$2 fee were absolutely remitted. Truly, an undignified position to assume; the fair and manifest inference being that the howl raised against the alleged ascendency of the schools was genuine to the extent of a mean \$2 per annum, but no more. It is to be fervently hoped that more interest in the affairs of their own organization may be aroused among all the practitioners of the province by the present agitation, and that by the time the House of Assembly meets again better information and soberer reflection may have tempered the hasty action and revoked the unwise conclusions of some who, in a tantrum over a trifle, declare their willingness to destroy the most perfect medical legislation that any country in the world enjoys.

JUVENIS.

Book Reviews.

A Manual of Operative Surgery. By Frederick Treves, F.R.C.S., Surgeon to and Lecturer on Anatomy at the London Hospital. In two octavo volumes containing 1550 pages, with 422 illustrations, mostly original. Per set, cloth, \$9; leather, \$11. Philadelphia: Lea Brothers & Co., 1892.

Mr. Frederick Treves is widely and favorably known to the medical profession in Canada; he is considered to be one of the foremost of English surgeons, and it is therefore with confidence that we look for a valuable work in his manual of operative surgery which has just been published. The reader will not be disappointed in Mr. Treves' work, which is undoubtedly of a high standard. It is evident that the author, who is a man of excellent judgment and wide experience, has devoted his best talent to the compilation of a work which furnishes the most complete and reliable guide we possess concerning the technique of the various operations in surgery.

The subject is dealt with in two large handsome volumes, well and copiously illustrated. In the first volume we have discussed subjects of general interest and of great practical value. "The condition of the patient as it affects the result of an operation" forms the title of the first chapter, and we find that a thorough examination of the patient is insisted upon before submitting an individual to a surgical operation. Thus the examination of the urine—so often neglected—is held rightly to be of vital importance. An operation upon the subject of Bright's disease or of surgical kidney is held to be "a desperate matter," and, as Mr. Treves states, "a patient may look fairly healthy, may

appear well nourished, may be temperate and leading a most regular life, and the operation may be but a trifling one, yet the complication of albuminuria renders the surgical procedure one of the most serious and the most hazardous." This statement we endorse heartily, as we do also the author's statements with regard to lung disease, heart disease, diabetes, and constitutional affections, such as syphilis and tuberculosis. Mr. Treves has not entered into any discussion concerning antiseptic precautions in the operating room. He evidently accepts as a fact now beyond the possibility of denial that, to ensure success in the practice of surgery, we must adhere to the principles enunciated by Lister. The methods advocated in procuring asepticity of wounds are not elaborate, but are adequate. We are struck throughout the work with the clear, accurate, and precise way in which the author deals with the anatomical facts necessary to be borne in mind in performing the various operations in surgery. The minute and yet concise manner in which the anatomy is dealt with will prove of great usefulness, more particularly to the general practitioners who may be only an occasional operator and who has not the advantages of familiarizing himself with anatomical details in the dead Most of the anatomical points are subject. well brought out by excellent diagrams, depicting the various structures in a wound and their relations. In speaking of ligation and of the lingual artery, we are inclined to think that the author is a little wide of the mark when he states that ligature of the artery in the first part (before it passes under the hyoglossus muscle) is but rarely performed. Mr. Treves advocates strongly the ligation of the artery in the second part, under the hyoglossus muscle, and minimizes the objection (usually raised thereto) that the dorsalis linguæ branch is, as a rule, not controlled by such procedure; he holds that no difficulty arises from leaving the dorsalis linguæ unsecured.

We find a most interesting historical account of each operation; this in itself gives us a valuable record of facts culled from a great variety of sources, which must have entailed much patient labor on the part of the author. Operations of modern development are described and certain procedures are minutely detailed in a manner not obtainable in any other work of the kind; thus the chapter on "Operations on Nerves" is thoroughly up to date: we find here the methods of operating for removal of the superior maxillary nerve, Meckel's ganglion, and the still more delicate operation for the removal of the Gasserian ganglion. There is a valuable chapter on operations for deformities of the lips and the plastic surgery of the soft and hard palate, with a most instructive section on the principles of plastic surgery in general. We cannot help being somewhat disappointed in the brief manner in which the subject of operations on the head and spine is dismissed. There have been such great advances made in the surgery of the brain and spinal cord of recent date, by such men as Horsley and Keen, that one would have wished for a more complete treatment of the subject. One method of procedure alone is suggested for opening the spinal canal, that by median incision over the spinous processes. It is very questionable if this method is as advantageous as an incision a little to one side of the middle line, in which the muscular and ligamentous connections of the spinous processes are less interfered with, and in which it is necessary to separate the soft parts from one side only of the spinous processes. The whole subject dealt with in this section is far from being as complete as one would have wished. The radical cure of hernia is discussed most fully; the various procedures which have proved successful are well described, the article being illustrated with various wood cuts. Mr. Treves' monograph on intestinal obstruction, published a few years ago, proved the author's ability to deal ably with the subject of intestinal surgery; we are therefore not surprised to find the subject dealt with in an exhaustive manner. This branch of surgery, largely of modern development, has opened up a large field for the surgeon. The article on intestinal anastomosis, gastro-enterostomy, and like operations, is very fully dealt with, and the various procedures described in detail. Dr. Senn is largely quoted in this section.

The work, as a whole, is most complete, and we congratulate the author on having performed his work in such an eminently satisfactory manner.

Miscellaneous.

RESULTS OF EXAMINATIONS IN MEDICINE AND DENTISTRY IN UNIVERSITY OF TORONTO.

Starr Gold Medal-T. H. Middlebro.

Starr Silver Medal-H. A. Bruce.

Faculty Medals: Gold-H. A. Bruce.

Silver—1, T. H. Middlebro; 2, R. H. Gowland; 3, J. A. E. Brown.

Third Year Scholarships—1, J. A. Harvie; 2, T. E. South.

Second Year Scholarships—1, W. Crain; 2, H. H. Johnston.

First Year Scholarships—1, T. W. G. McKay; 2, J. T. Pratt.

Final Examinations—D. A. Beattie, R. R. Bensley, G. H. Bowles, J. Dargavel, J. Farrow, Miss M. J. Foster, H. Massie, H. McCormick, H. A. McCullough, H. MacLaren, L. C. Sinclair, A. Skippen, J. R. Smith, H. Toeppen, H. A. Wardell.

To take supplemental examinations in subjects of the final examinations:

Medicine-Sinclair, Skippen.

Surgical Anatomy — McCormick, Sinclair, Wardell.

Obstetrics-McCormick, Sinclair.

Gynæcology-Sinclair, Wardell.

Therapeutics-Sinclair, Wardell.

Pathology-MacLaren, Sinclair, Skippen, Wardell.

Hygiene-Sinclair, Wardell.

Medical Psychology-Wardell.

A. E. Awde passed in Clinical Medicine, completing his final examination.

Fourth Examination—H. A. Bruce, T. H. Middlebro, H. J. Way, E. G. Smith, F. H. Heming, P. McG. Brown, J. N. E. Brown, L. N. McKechnie, J. McAsh, A. A. B. Williams, J. A. Wilson, S. H. McCoy, J. J. Harper, J. F. Ross, J. H. G. Youell, W. H. Tye, G. L. Mc-Bride, R. H. Gowland, G. W. Gould, A. W. Heaslip, A. Montgomery, R. H. Green, F. K. Armstrong, H. Gear, B. Kilburn, C. C. Richardson, R. F. Forrest, W. T. Wilson, J. A. Cowper, L. H. Campbell, D. A. Clark, J. A. Hershey, W. A. Campell, J. H. Closson, J. A. C. Evans, F. A. Rosebrugh, F. H. Hagerman, F. H. Moss, W. Crawford.

 Third Examination—A. Crichton, J. E. Lehmann, J. N. Harvie, J. H. McGarry, T. E. South, D. Marr, W. F. B. Wakefield, C. J. Taylor, E. E. Harvey, T. B. Futcher, W. Elliott, P. D. Tyerman, J. B. Peters, A. H. Nichol, H. W. Hill, H. F. McKendrick, J. J. Williams, J. R. McKenzie, S. G. Story, D. McAlpine, C. W. Thompson, H. D. Pease, J. H. Austin, F. W. Pirritte, W. F. Park. To take supplemental examinations : Medicine—Smuck. Clinical Medicine—Smuck, Taylor. Clinical Medicine—Smuck, Taylor. Surgical Anatomy—Smuck, Story. Pathology—McKendrick, Smuck, Taylor. Obstetrics—Marr. Second Examination—H. A. Johnston, J. Crawford, J. H. Bull, R. B. Wells, W. E. Crain, J. D. Curtis, W. J. McCollum, C. E. Smyth, J. A. Lawson, F. Coleman, J. F. McKee, H. A. Cuthbertson, R. M. Lipsey, J. R. Mencke, L. O. Fiset, W. B. Boyd, B. Campbell, W. S. Northcott, R. J. Hastings, E. B. Fisher, D. A. McClenahan, J. A. White, N. McL. Harris, G. B. Gray, T. C. Hodgson, H. N. Rutledge, J. Park, W. L. Coulthard, H. Guelph, T. McCrae, A. B. Greenwood, A. Galloway, T. H. Whitelaw, A. E. Gardner, K. C. McIlwraith, A. H. F. Tegart, W. Douglas, F. W. Stockton, F. C. Wallace, J. Reeves, D. J. Armour, G. M. Ferris, W. C. C. Freeman, J. P. Sinclair, J. W. Ford, E. D. Graham, W. A. Hackett, J. W. Smith. To take supplemental examinations : Anatomy—Agnew, Jones, McDermid, Reazin, G. N. Rutledge, H. H. Sinclair, Wickett. Physiology—Coulthard, Guelph. Materia Medica—Agnew, Coulthard, Mc 	 Alway, H. W. Miller, C. D. Chapin, E. T. Kellam, A. R. McLachlan, A. Downing, S. E. Fleming, T. McCrae, W. B. McKechnie, I. G. Smith, J. K. McQuarrie, J. G. Sloane, Miss J. I. Dow, N. G. Amyot, A. S. Elliott, G. W. Hall, E. B. Fisher, M. B. Smith, D. W. McPherson, A. E. Leitch, D. J. Armour, A. S. Langrill, J. A. Rolls, G. D. R. Simpson, H. Paine, A. A. Small, W. Stephen, S. B. Bean, R. A. Downey, W. Hird, G. E. Millichamp, A. E. Northwood, H. McL. Paterson, A. Thomson, J. Thorne. To take supplemental examinations : Physiology—A. S. Elliott, Fleming. Chemistry—Amyot, A. S. Elliott, McQuarrie. Biology—Fleming, McQuarrie, J. Thorne. Candidates for D. D. S.—S. Anderson, J. A. Black, J. H. Fell, H. F. Kinsman, F. B. Ross, D. C. Smith, G. A. Walters, S. A. Akroyd, E. A. Billings, T. C. Trigger. To take supplemental examination in Operative Dentistry before being admitted to degree: Anatomy—Walters. OFFICERS OF THE MEDICAL ALUMNI SOCIETV OF THE UNIVERSITY OF TORONTO.—The following were, at the recent meeting, elected as officers for the ensuing year : President, Dr. J. A. Mullen, Hamilton ; vice-presidents, Dr. A. Robinson, Unionville : Dr. Howitt, Guelph; Dr. Duncan, Chatham ; Dr. J. Ferguson, Toronto ; Dr. Clarke, Kingston ; treasurer, Dr. B. L. Riordan ; secretary, Dr. Harley Smith ; council, Drs. A. H. Ellis, A. B. Macallum, W. Oldright, H. E. Buchan, J. D. Thorburn, F. Cane, B. Spencer, H. T. Machell, A. McPhedran, G. Acheson.
Materia Medica—Agnew, Coulthard, Mc- Dermid, Northcott, Reazin, G. N. Rutledge,	· · · ·
 Wickett. Chemistry—Coulthard, Guelph, G. N. Rutledge. Histology—Guelph, Wickett. First Examination—J. R. Lancaster, T. W. G. McKay, M. Currie, M. Zumstien, A. K. Merritt, G. S. Young, G. A. Elliott, A. J. Hunter, J. I. Pratt, W. Thom, M. O. Klotz, W. D. 	TO DEODORIZE IODOFORM.—The following combination is allowed by the Addendum of the <i>Netherland Pharmacopicia</i> to deodorize iodoform: Carbolic acid, one part; oil of pep- permint, two parts; iodoform, one hundred and ninety-seven parts.
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