

Western Canada Medical Journal

A MONTHLY JOURNAL OF MEDICINE
SURGERY AND ALLIED SCIENCES

WINNIPEG, CANADA

VOL. IV

JULY, 1910

NO. 7

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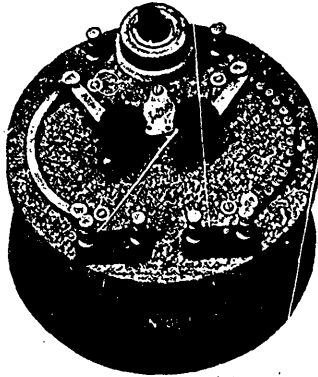
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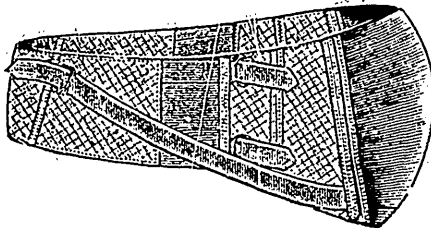
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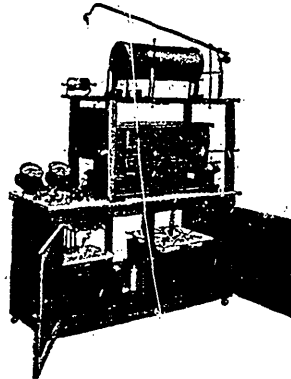
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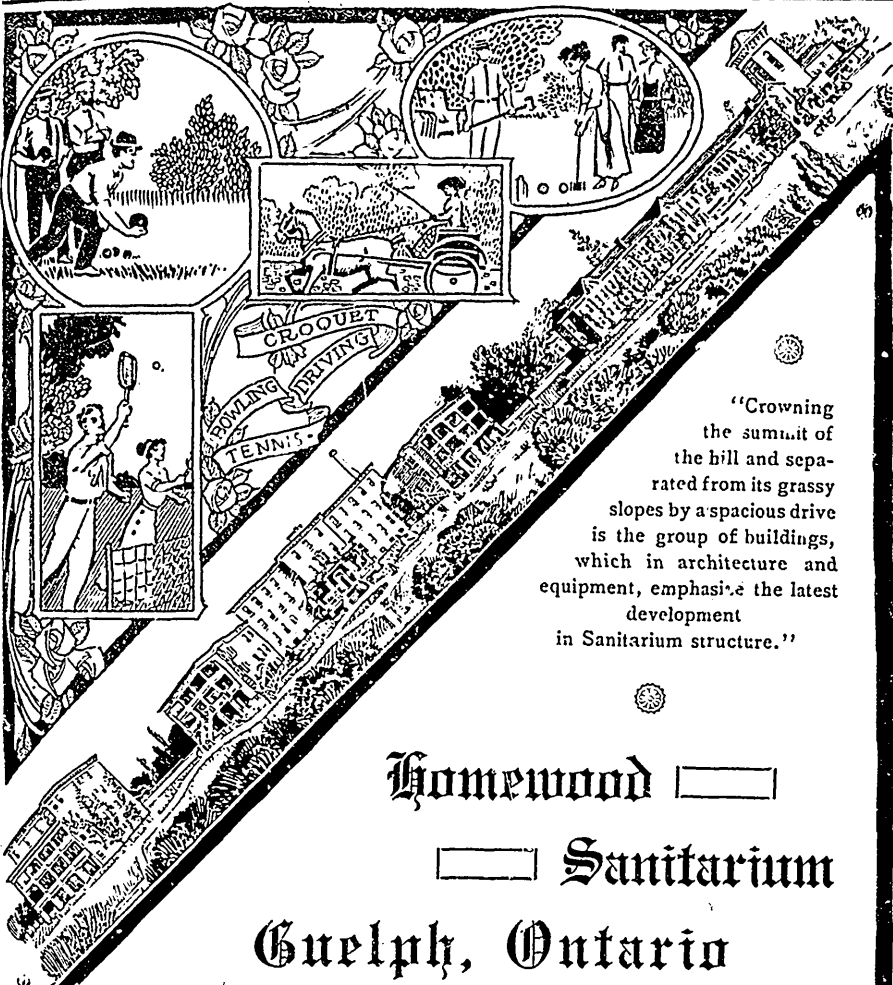
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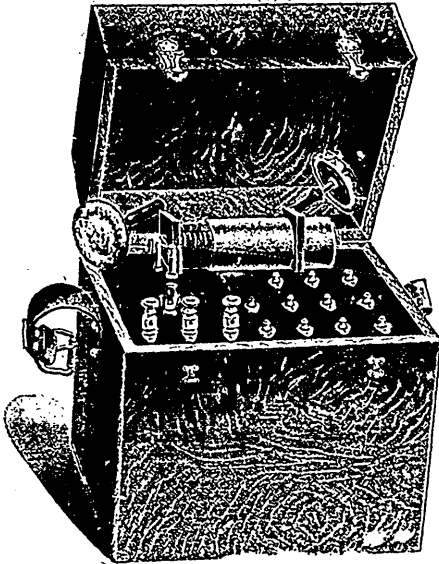
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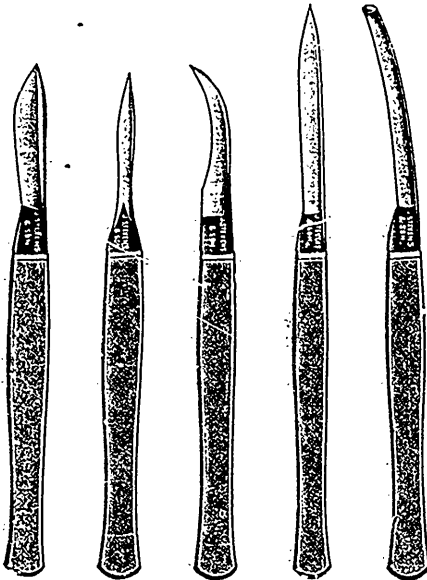
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MEDICAL JOURNAL

VOL. IV

JULY; 1910

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ORIGINAL COMMUNICATIONS

THE AUTO-INTOXICANT AT THE BREAKFAST AND OTHER TABLES.*

By H. M. Speechly, M.R.C.S., Eng., L.R.C.P., Lond.
Pilot Mound, Man.

There is one side of his profession in which the general practitioner holds a great superiority to any other class of practitioner and especially over the surgical specialists. This superiority lies in the intimacy of the former with the habits of his patients. Shrewd the specialist may be in detecting some of the symptoms, but he fails quite often in interpreting the personal equation, and must perforce rely on the more intimate knowledge which the family doctor possesses of the patient's mode of life and thought. Some practitioners are in the habit of cultivating the faculty of careful estimation of each patient's temperament and habits; but there is one habit, one custom which wonderfully often is much neglected by the physician in private practice and which might be far more closely observed. This custom is that of eating and drinking, so common, so usual, so stereotyped that it seems to slip out of notice in treatment, yet from this custom arises the major part of all the diseases treated by the general practitioner at all times and in all places. It is easy to prove this neglect by enquiring of each new patient, "And what diet were you directed to follow?" The answer is usually either

* Read before the Manitoba Medical Association, May, 1910.

that no special diet was ordered or that the direction was general and often epigrammatic in terms such as, "Slops" or possibly if the physician is a specialist in some city, a printed list of "May take" and "May not take" is added to the prescription list. But there is something uninspiring, unappetising, and dead about a printed diet list; it is a trifle machine made, is it not? Makes a patient feel so much like a wooden case instead of a real live person, like, well, like the doctor himself. Moreover, the printed list tells you, too much; it alludes to a whole lot of things like sweet-breads and red wines, for example, which, like jack-rabbits, most of our western population never touch. There are, of course, certain diseases which hoary custom bids us to diet after the manner of the old masters such as Jenner, Bright, or Von Noorden, but even these diseases are liable to be dieted mechanically when the dietary should be adjusted to the personal equation. After all, is not this dieting a real bore? Does it not take up too much time and effort? Let us eat and drink and to-morrow appendectomy! Patients too are rather impatient of interference with their habits of eating. This is often the line of unconscious argument followed by many medical men; yet here is a very little explored field of treatment which actually needs homesteading. Indeed, it is simply marvellous that this matter of diet is so often left out of consideration when one bears in mind that auto-intoxication is the unseen autocrat of the breakfast and other tables, a demon both subtle and sure if allowed to take hold of our patients, in whose trail are found more mental and physical wreckage than accompanies any other malign influence. For what produces auto-intoxication but the failure of the digestive tract to get rid of either excess food or of improper foods introduced at the breakfast and other tables? It is, of course, perfectly absurd to maintain that auto-intoxication is at the base of all diseases, but, the more you reflect on the causes of disease, the more do you realize what an extraordinary number of complaints are dependent on the influence of auto-intoxication so that, whether you have to deal with "our landlady" or "our landlady's youngest called Benjamin Fran-

lin," or with "the angular and elderly lady in "bombazine," or "the schoolmistress," or with "the old gentleman who sits opposite," or "the young fellow answering to the name of John," or "the divinity student,—you really need to be continually on the "qui vive" about the influence of some auto-intoxicant which is at the bottom of the trouble. Failing this you are liable to miss permanent success in treatment. In the following remarks I am presuming that we have under consideration patients' habits and, therefore, have nothing to say to those who are sound.

I propose to allude (1) to some of the common mistakes made at the breakfast and other tables; (2) to touch on some of the important indications of auto-intoxication quoting samples of cases from my own practice; and (3) to suggest a few lines of practice.

(1) First, then, what are the common mistakes made at our western tables? Broadly speaking, there are two principal mistakes made. Either a patient eats or drinks what is positively harmful, or he takes too much of that which is good if used in moderation. Also in looking for the causes of auto-intoxication it is well to keep in mind the truth of the old adage—"What is one man's meat is another man's poison." I shall make no special allusion to alcoholic fluids, but beginning with fluids one of the commonest mistakes is that of drinking any fluid with meals. After the growing age is past it so often happens that any large ingestion of fluid of any sort seriously dilutes the gastric juice and thus delays digestion. It is not the point so much whether tea, coffee, cocoa, milk, or alcoholic fluids are consumed, as whether the dilution of the gastric juice delays digestion until fermentation takes place. Then the whole progress of digestion extends on to intestinal digestion becomes perverted. The older a man gets the less tolerant he becomes of this preliminary spoiling of the digestive process. Of all fluids sweet milk is perhaps the worst offender because it not only dilutes but also adds heavy curds to the quota of material to be digested. Many children as well as adults cannot stand taking undiluted milk. It is true there is a comic delusion which is

of ancient origin that to drink fluids such as tea without eating some solid material is harmful. To take well-made tea or any good fluid two or three hours before the next meal is an excellent method of supplying the body with its necessary flush of fluid and prevents any desire for drinking with meals; but it is the taking of bread and butter, sweet biscuits, or cakes at such times which causes flatulence and pain. In like manner while soups may be excellent, a patient should always be warned against making his stomach into a kind of pig-wash tub by taking too much soup with a solid meal. A material point also is the temperature of fluids taken at meals. A cold fluid naturally delays digestion, whereas a reasonably warm fluid may aid the process. I find it is a wonderful aid to the improvement of a patient's digestion and incidentally to the avoidance of auto-intoxication to prohibit the use of any fluid with meals, especially where the obnoxious but common habit of washing down the food is in vogue.

Another common and simple but quite frequently overlooked mistake is the eating of butter in excess, especially very salty butter. It is obvious that, supposing a person takes twice the amount of butter that the bile can make soluble and digestible, there will be a large amount of free grease forming a film over the absorbent points and a large opportunity for butyric acid fermentation in addition to an excess of salt to be excreted. We all know that excess of meat is a fertile source of auto-intoxication, but less obvious and often less thought of are the potatoes with their added supply of butter which so commonly accompany the three meals of the day. Many cases of intestinal indigestion are cured simply by stopping the use of potatoes for a time or permanently. The other starches and the sugars play an important part in producing auto-intoxication. Who, for instance, would think that porridge would ever play such a part? Impious thought! Yet it is remarkable how much easier it is to abolish many auto-intoxications, if the various forms of porridge are cut out of the dietary. Excess of starchy foods more or less unconverted travelling through the intestinal tract, or worse still, clogging its labyrinth, is one of the commonest causes

of auto-intoxication. Then, too, the sugars, whether cane sugar used for sweetening purposes or the special sugars such as honey, maple syrup, or sweet preserves are capable of producing alarming and painful symptoms of intestinal poisoning. Yet adults will imitate their youthful habits and take large quantities under the belief that these are "healthy." With the same idea will they consume uncooked apples, radishes, and onions and blame something else for the queer symptoms which follow; and of all times in the twenty-four hours they often choose bed time to perform these dietary antics! I am aware that I have called attention to these errors comparatively recently, but it is so hard to make people believe that they are errors that I make no apology for the repetition. Again, some preserves or fruits may be quite good as far as their juices are concerned, but owing to the presence of seeds, skins, or stones they are liable to cause clogging masses in the bowel which will produce even epileptiform convulsions. Raspberries, cranberries, currants of all sorts, unseeded raisins, and blue-berries are of this order.

(2) Having thus touched on some of the common mistakes made at our tables I would now like to allude to some of the indications of auto-intoxication. I suppose every one is agreed that what is often referred to as the Uric Acid diathesis is largely, if not altogether, the result of auto-intoxication. Judging from what one hears of the treatment of all those muscle pains styled "lumbago" or "muscular rheumatism" or "stiff neck" it is often not realized that the muscles act as accumulators of the poisons derived from the intestinal tract or elsewhere from the other digestive organs; and that these muscle pains are a loud intimation that the muscles are already overcharged. Why one person should ring the alarm in his loin, another in his trapezius or a third in his pectoral and humeral muscles is beyond me to explain. Generally speaking these signals of auto-intoxication affect groups of muscles which are important for maintaining the balance and movements of the body, thus ensuring that a long suffering tolerance shall be no further abused. The ordinary bilious attack with its accompanying headaches and migraine with

temporary partial blindness have a like significance. The skin is an organ that hangs out repeated warnings of approaching disaster long before the patient realizes that he is the subject of this poisoning. I regard styes in the eye-lids and suppurative acne of the face and back as important indications of auto-intoxication. The face spotty with suppurating comedones in young adolescents of both sexes is often dependent on the same cause. The hot flush of the "elderly females in bombazine" passing through their climateric arc no more mysterious than a warning of a like condition easily cured by appropriate dieting and elimination. Urticaria again whether general or discrete in the form of hives is almost certain presumption that digestive intoxication is afoot. Nine cases out of ten of eczema whether local or general are the efflorescence of auto-intoxication produced by more or less faecal retention. No treatment of eczema to my mind is logical until a very thorough cleansing of the intestinal tract has been undertaken, keeping in view the undoubted fact that many patients are capable of retaining putrid faecal masses in the recesses of the bowels for many months or even years. Are not both goitre and Graves' disease "primafacie" evidence of a large degree of primary auto-intoxication? Time fails me to allude to intestinal inflammations, bladder troubles, and affections of the bile passages; but I would like to touch on a point more obscure than these. Are not certain obstinate conjunctival and corneal ulcers the result of this same influence? Seeing that the conjunctiva via the lachrymal duct via the post-nasal passage is in quite direct connection with the digestive tract, is it unreasonable to regard these obstinate ulcers as similar to those ulcers of the mucous membrane of the lips and buccal mucous membrane which are due to certain digestive disorders. Would it not then be reasonable to treat all obstinate conjunctival and corneal ulcers of simple origin by a very thorough evacuation of the intestinal canal? Finally, asthma is so often a symptom of auto-intoxication that no case should be allowed to go without a thorough clearance of the digestive canal. I remember the case of Miss K., aet 34, whose longstanding asthma was completely cured

ly accurate adjustment of diet and elimination; and again the case of a young man who came to Manitoba from Ontario for a change of air but returned to Ontario completely cured by a change of diet.

(3) Lastly, a very few words on dietary management. Moderation not prohibition is the most successful line to inculcate. Write out a detailed dietary for every patient who needs exact dieting; the patient will believe that you believe in it. "Litera scripta manet." Drugs will undoubtedly have their place in treatment but impress upon the patient that correct dietary is paramount. If possible practice what you preach to your patients, not merely for the sake of example, but if only to protect your own organism. It is also worth remembering Oliver Wendell Holmes' Latter Day Warnings slightly altered to suit present day conditions.

"When lawyers take what they would give
And doctors give what they would take;
When city fathers eat to live
Save when they fast for conscience sake.
Till then let comets blaze away
And Foster's storms blow up the globe;
But when you see that blessed day
Then order your ascension robe."

MEDICAL EDUCATION IN LONDON.

By T. Clifford Allbutt, M.D. Cantab., F.R.C.P. Lond.

Regius Professor of Physic, University of Cambridge, etc.

Gentlemen,—When your Dean conveyed to me the distinguished invitation to open this session he lightened my responsibility by giving me the subject of my address—namely, Medical Education in London. London, like every other great centre of education, has its own problems and its own difficulties, but these problems and these difficulties cannot be solved without the illumination of the principals which are true for education everywhere and always. If in England these principals are little heeded by the public, and if accordingly secondary education in England is in grievous defect, it is not for want of preaching. From Matthew Arnold and Michael Sadler to the humble empiric who ventures into the pulpit to-day, of preachers there has been no lack. If I am qualified to deal with the subject yet again, it is that all my life I have been engaged in teaching in centres so different as Leeds and Cambridge, and ought from such conflict of conditions to have won some wisdom. If without the added dignity of my office I should scarcely dare to address you, on the other hand I must beware lest I give an official color to my opinions, lest I seem to engage my University in doctrines which it might have no mind to. “Cucullus non facit monachum;” whatsoever then may be inconveniently said by the professor, pray write down quickly to the account of the individual.

Education v. Instruction.

Education, as contrasted with instruction, is a drawing forth of faculties, a quickening, enlarging, and refining of them when brought out, and an establishment of them in habits, so that virtue and reason become easy and pleasant to us. The word is used of mind rather than of morals or of the

powers of the body, but by mind we signify both intellect and imagination, and their issue in right action. The more complex the organism can become the more stable it will be, the more it will be in touch with outward contingencies, the more it can use and modify these conditions the more will be the pay at the periphery of the organism, the more, in a word, the life. Education, then, is not the formation of a rigid framework, but of the capacity for ideas and for various and supple adaptations. But, speaking generally, and within civil societies, individuals vary more than circumstances; in other words, out of similar circumstances individuals draw widely different advantages, so that, although up to a certain period of life education may be laid out on broad indiscriminate lines proper for all young persons, yet for adolescents by rapid degrees it must become more and more diverse and several, dividing itself into the education of classes, of groups, and of individuals. Now, such specific or technical educations are difficult only in the sense of the difficulty of persuading the British parent of the value of any education whatever; the ends and the methods are pretty clearly seen; the means it is which are wanting—the means of money, of equipment, and of time, which is money, and the provision and endowment of those engines for making knowledge, called universities, without which sources the technical colleges would soon dry up. The problem of education in modern England is that of general schooling, of ascertaining the modes which shall prove most valuable, in the first instance, to put each man during his youth in touch with the sum of conditions under which he is to lead the best life possible to him; this done he may the more efficiently be adapted to specific or personal functions. Although these personal and specific conditions are never so narrow and so specific as to prevent some occupation with those wider conditions which were held in view during his general education, yet, without a somewhat fuller sense of the sum of the conditions of life, he cannot measure the relative values of things; he will, as we say, lack common sense. The importance of a universal training of the instrument of mind before the adaptation of

it to special engagements will be better understood when we realize that truth is neither wholly without us nor wholly within us, but is a function of fact and temperament. Now temperament is partly native, but largely also the creature of habit, and habits—such as the habit of virtue and of comprehensive and precise thinking—are the creatures of education, and the plastic years of life. Thus the man whose mind has been built up on universal lines, whatsoever his calling, is enabled to free himself from the conventions and temporary notions of the "practical man," to distinguish the important from the unimportant truths, and to drop swiftly upon cardinal features, upon the facts which matter.

Public Schools.

Now—to consider preliminary education first—to teach every boy everything is obviously impossible; the difficulty is so to select certain things from the whole of things as best to educe universal conceptions or ideas. That we have been successful in creating such a general education no one will be hardy enough to assert. From our public schools our young men derive many fine qualities. As Herodotus says of the Persian youths, they are taught to ride and to speak the truth; and indeed, when our country loses its manliness and its veracity it will lose all things. But these fine qualities do not meet the sum of conditions under which the Englishman has to live; he has to do more than to speak and to act with spirit and uprightness, and to read the sporting papers with intelligence. If he is to be equal to the conflict of modern life he must be able to reason upon man and Nature, to measure his capacities, and to see the trend of events. For these ends, besides energy and will, he must have some intellectual seriousness, some endurance of attention, some self-knowledge, and some ideas: qualities eminently in defect in the average products of our public schools. Mistrusting their own capacities these youths become entangled in an awkward and artificial self-consciousness; devoid of ideas they become encrusted with a cake of convention and imitativeness. Thus in later life they remain but too often incapable and even in-

tolerant of ideas—that is, of large and systematic conceptions of present and coming events; and consequently they are incurable empirics and have no higher philosophy than that of muddling through. Now, even if such may have been your start in life from school, you have before you in the education of a physician a training no less manly, but one which, as a moral and intellectual training, I had almost said is incomparable. Even for those of you who are unable to undertake the more arduous and more costly course of a university education, the education of the hospital and technical school is one to develop the highest qualities of the mind, and to kindle them in the warmth of hope and charity. With all men you will learn the evil in the world, but you will go from strength to strength in the faith of making it better.

Universities.

Now the word university means originally a corporation, but it happens also to connote an education dealing chiefly with these universals—with habits of common sense and breadth of faculties, without which even multifarious learning will be disfigured by pedantry or crankiness. Erasmus tells us that in Rome he discussed the immortality of the soul with a great scholar, who rested his denial of a future life on the authority of the elder Pliny. Every man has to be educated for more than one set of duties. As no two men are alike, so each of us can expand and vary only within a certain preordained quality or scheme about his own possibility of development. In most people, perhaps in all of us, some of the innate capacities must be sacrificed—an uneasy reflection; but, if so, then which, or how much of them? The all of each of us is not wanted; which part of us shall be renounced? About this, at some stage, teachers and pupil may begin to disagree, but out of it the pupil should learn at least the chief of lessons—the lesson of humility. Sacrifice is one of the laws of life, yet it must be sacrifice for some higher end. Admirable, for instance, as is an education of all the faculties—“culture,” as we are wont to call it—yet culture turns into a selfish pride if no part of it is subordinated to education in good citizen-

ship. An aggregation of cultured and fulfilled personalities without some higher unifying influence would not make for the highest national life. The sacrifice of culture for the more specific, and often indeed drier and narrower, purposes of a trade or profession—the *Erwerbsfrage*—is more common and painful. And unhappily only too frequently it is a wasteful sacrifice; for want of private means or of public aid, the pupil at a critical age is compelled to renounce extent of learning, and the training of some of his higher faculties, for a technical instruction which may narrow his outlook on life and starve those potential qualities for the rest of his days. Yet even such renunciations, if inevitable, are sanctified by a submission to duty and by the faith that after all each man is his own best educator.

We can scarcely hope that the time is at hand when most people will be able to devote time to general training in all three stages of education; many of us must turn to special duties even after the primary school and many after the secondary school; so that the students who for the larger development of their faculties can proceed to a university must always be comparatively few: still fewer are they who can spare the time to complete a university course before turning aside on the narrower lines of professional or commercial instruction. The man who can do this will go much further in later life than he would have done had he turned aside into technical lines at an earlier stage; still, as things are, most men have to sacrifice more or less of their future to the needs of present livelihood. And happily the alternatives are not so deeply separated as at first they may seem to be; it is found, as we might expect—such is the teeming wealth, the indefinite interweaving, and the essential analogies in men and things—that there is no difficulty, at any rate in the later stages of education, in using for general training broad principle in any one of many faculties; so that for him whose technical instruction must begin prematurely a general training may still be continued on principles of that kind which in their more and more special application will form the substance of his calling in life. For university training differs

from technical, not so much in the kind or field of the subjects taught as in the more comprehensive, more deliberate, and more disinterested methods of teaching them, the wider outlook upon them, and the awakening of curiosity and research. Nevertheless, it remains true, and even obvious, that for the best education a completer general training in fields other than those of the future calling must be richer in results. How lamentably the prevalent literary education fails in that *exigua cognito naturae* which even the humanists prescribed scarcely falls within our subject to-day. But with a pardonable pride I may recall an early advocate of scientific education in the person of my great-grandfather, John Albutt, a successful schoolmaster in his day, who wrote a primer for this purpose which had some vogue. I quote from the twelfth edition (1817): "I am convinced by experience that children might be taught much earlier than they are the elementary principles of many sciences if these were sufficiently simplified and divested of technical phrases, and these," he adds, "would give correct ideas of things with which men are daily conversant."

"It is freely said of the abler men in our laboratories that those of them who enter them with minds already expanded on other kinds of study, such as language and literature, bring to the sphere of scientific studies a riper understanding and draw from them larger immediate powers and a richer endowment for later life. Professor Ostwald told me that it is the good custom of students in the German universities to attend other lectures than their "Fach," so that in every university there are always one or two professors whose lectures on some such subjects perhaps as history, literature, or philosophy attract large bodies of students from all faculties. By these undergraduates to stick wholly to one's own is regarded as a poor and narrow thing. Once more, if the enrichments of a university education consist in its own breadth and variety and in the maturing of the student's understanding, it confers another endowment no less precious: it establishes the habit of study—a habit which rarely gains any strength or fixity at school or technical college, but when

once established belongs to a man for the rest of his life. In the university he sees maturer men devoting themselves to a disinterested love of knowledge, to a steady and faithful pursuit and furtherance of it for its own sake; he sees, also, the infinite variety of intellectual operations, and perceives that knowledge and wisdom are not summaries, schemes, or mysteries, but quick and glowing with a manifold and many-colored life. And not only does he admire the leaders of research but he is also shoulder to shoulder with eager undergraduates themselves pressing forwards not on one only but on an infinite variety of pursuits and interests, with the general bearings of which he also gains some familiarity.

The Function of a University.

It appears, then, that the function of university education is not instruction in the special lines of a profession or trade, however these ends may incidentally be promoted, but in expanding and enlarging the mind and making it a more and more perfect instrument of knowledge and progress, whatsoever its destination. The mind so educated will regard whatever is laid before it more truly and will think upon it more truly; it becomes analogous and assimilated to a wide horizon of the world in which it is to live and work. Christopher Wordsworth¹ writes that a university, "while aiming at educating professional men, never pretended to give the final practical training which is required for every profession. Even in the education of the clergy, to which they gave special attention, the universities attempted to educate them in scientific theology rather than to impart even the elements of the pastoral profession;" and so, he adds, "it was with medicine (and, as we may now add, with engineering); the student received the grounds of a valuable education and some theoretical instruction, but was sent to look elsewhere" for the technical work of qualification. If this be so—and no one will seriously contend to the contrary—a university which lays itself out chiefly to instruct in the technical attainments of a trade or profession departs from its proper function of training the mind and increasing knowledge, and enters into

competition with schools of technical instruction, such as the hospitals, the Inns of Court, workshops, and the many other various special institutions. In testing, then, from stage to stage the progress of its students the university will look not so much for technical and empirical knowledge and adroitness, or to the massing of detail for particular uses, as to the training of their minds and their grasp of principles. And for these results, for the breadth, ease, and naturalness with which they have learned to think and to conceive, will its degrees and distinctions be bestowed. It is too commonly supposed by some who ought to know better, that if a professional or technical instruction be screwed up a little higher and examination made somewhat stiffer the successful candidates should have a claim for a university degree—for the degree of M.D., let us say. Or men will submit that twelve or fifteen years in the practice of a profession should give them claims to such university stamp. But we have seen that the function of the university is not qualification for the practice of any art or trade, but is a training of the mind, a formation of habits of study, of insight, of easy handling of ideas, and of methodical research—an opportunity which is available before, and unless in exceptional cases, only before, the technical stage of study is entered upon. Under the pressure and cares of after-life such a training is rarely achieved.

The universities of the United Kingdom then step out of their functions when they undertake, as they do, to issue with their degrees in medicine a license to practice. In my own university the M.D. degree is often bestowed, and is properly bestowed, on persons who never intend to practice medicine and who would be much embarrassed if in any emergency they were called upon for this office. Nor should it be any specific concern of the university how well or how ill its graduates may practice medicine; all that the university should be responsible for is that its graduates have had a certain development of mind and of imagination. And, as a matter of practice, its tests for these results are much hampered by its incongruous responsibility for the lives of His Majesty's subjects; its examinations have consequently to deal with many

matters of memory and mechanical device which throw little or no light upon the breadth and depth of training or upon the formation of habits of study or research; indeed, they crowd out more or less the proper tests for such edification. Now the safety of the public being a State concern, the testing of medical efficiency is the duty of the State itself, and this responsibility the State assumes in practically all other European countries. In the United Kingdom the medical corporations, under the supervision of the General Medical Council, ought to be entrusted by the State with this function.

The Needs of Medicine.

Now, gentlemen, I know you cannot all have university educations—or, at any rate, not in any near future. Many of you on leaving school have no choice but to complete your professional education in the five years' minimum, a period shorter by a year than in other European countries. In this case you have to be satisfied with what your school may have done for your general education—too often, I fear, a paltry result enough, not so much by your fault or even by the fault of your masters, but of our defective methods of secondary education. To learn your profession in five years means that you will get some education and suffer inevitably much cram. You cannot then make yourselves into philosophers or investigators unless by a happy turn of Nature you contain in yourselves some rare capacities and aspirations which by chance were not choked by the public school; such an one must be content, then, with the honorable ambition to become at any rate a competent practical physician, shrewd, resourceful, and unselfish, a guide to health, and a stay in adversity. Even in the narrower field of professional instruction—I am speaking of the ordinary man—a large scientific education is not to be had in five years. Let us think for a moment what it must contain: The elements of physics, something more than the elements of chemistry, a large and minute knowledge of anatomy and physiology—in itself no mean education; then on this foundation to build the superstructure of pathology, medicine, and midwifery; to spend a few weeks in a fever

hospital, in a children's hospital, in a dispensary, in several institutions for diseases of the eyes, ears, throat, and skin; to practice anaesthesia; and to obtain some knowledge of diseases of the mind; and to add to these the elements at any rate of medical jurisprudence, hygiene, and public health is formidable indeed. And still upon this burden of subject many enthusiasts are yearning to pile more, such as fuller courses on biology, chemical physiology, bacteriology, and pharmacology, not to mention such subjects as the history of medicine, in the absence of which it is said, truly enough, that a medical education cannot be complete.

Now, gentlemen, in the all-round or university sense this is true; without these subjects and without a considerable familiarity with the principles of them a university ought not to grant its degree of M.B. or M.D. But, happily, there are among us men loved and respected as members of our beneficent profession who have never been grounded in these principles, furnished with these ideas, or stored with all this knowledge. None of us are more ready to lament this deficiency than such men themselves; yet when we fall sick we thankfully avail ourselves of their aid and consolation. Nay, may we not go still farther and admit—we university men and consultants—that when it comes to the cure of disease it is by the closer converse with the patient, the little daily dexterities, the cautious but shrewd empiricism, that tact and attention which, by easing and modifying abstract lines of the treatment, adapts them to the peculiarities of the individual, day by day meeting quickly every symptom and contingency by this incidental drug or that little change in diet, that a family physician who may have enjoyed little beyond the ordinary advantages of a technical training, nevertheless compasses the cure of the individual case on which the consultant can but advise in general terms? Each has need of the other; the practitioner who had not the advantage of a university education desires the easy grasp of co-ordinating principles, the wider range of experience and of outlook on facts, the richer knowledge and the keener perception of the mists of ignorance of the university graduate; the graduate, on the

other hand, admires the more homely but not less indispensable and even more varied abilities and adroitnesses of the country doctor. The most accomplished physician is, of course, he who has combined both real and practical education, who is armed with technical dexterity, versatility, and resource, as well as illumined by the ideas and guided by the mental and imaginative discernment which are born of a large, deliberate, and inventive education. How the unhappy division of our profession into medicine and surgery has defeated this integration of faculties I need not repeat here, as I have set this aspect of our education forth at length in my "Historical Relations of Medicine and Surgery."

Compromises.

If, then, it is a heavy task to get into five years even a technical education, let alone a more liberal and extended training of the mind, to get into five years an instruction to which in Germany, France, Italy, Holland, Belgium, or Switzerland six years at least are devoted, and which in a university course, modelled from the beginning on larger lines, must occupy from six years to seven, how long are we to occupy to the best purpose this five years' course for the man who has not the means, or perhaps not the kind of ability, to enable him to enter upon a full university career? One way of doing it is to drag the university training down to the level of the technical, to give the M.B. and M.D. degrees for a course which scarcely pretends to rise above the ordinary five years' professional instruction, however crowded and crammy this may be. Or if we resign the university to more fortunate men, what are we to think in our serious moments of a technical instruction in which, as now arranged, medicine, surgery, and midwifery, by all the many branches which we have enumerated, are to be taught in part of the fourth year and the fifth—in sixteen or eighteen months? No wonder at the development of coaching—that is, not of making men, but of stuffing them; no wonder at the stream of cram books pouring from the printing offices; no wonder at the "window dressings" for examination; our wonder we will keep for the young men who.

under such a drill, come out of it with any freshness of mind left and with any better mental furniture than trite professional formulas. Now, although universities must be designed from beginning to end on other and more deliberate lines, yet for those students who cannot afford a university education what they have time for ought to partake of a university character, and, generally speaking, this means for the Institutes of Medicine teaching in universities and by university professors. A few exceptional teachers, men of remarkable natural endowments, may teach admirably a subject which is not to be the business of their lives, but this can rarely be the case. A teacher who devotes an inconsiderable part, or none, of his best hours to research cannot long hold his place as a fertile and effective teacher. Moreover, if I may contribute my dole to a current controversy, I would opine that no teacher reaches his best till middle life. Not till then does he gather the fruits of a rich experience or attain to a rich and vital sense of our ignorance; not till then does he wholly escape from formula and routine; not till then does he learn what to leave unsaid; then it is that erudition mellows into wisdom.* It is fatal to good work for the teacher to see ahead of him and beside him other purposes, other ambitions in life, than those with which he is immediately and provisionally concerned. Education, then, speaking generally, if it is to be of a university character—if, that is, it is to be more than stuffing—must be in the hands of men whose lives are devoted to it. If it is to be a development of mental faculties and to penetrate to the principles of its subjects it must give time for reflection, for earnest investigation, and for surrender to the personality of the teacher. Yet it is this very time element which is wanting, time in which we are to learn medicine, surgery, midwifery, fevers and mental diseases, the elements of ophthalmology, otology, laryngology, dermat-

* It is some thirty years since I read a paper to the Leeds Philosophical Society to illustrate what I believe to be the truth—namely, that the greatest achievements of the human mind have nearly always found their consummation not in the earlier but in the riper decades of life. Thus Regius Professors may supplement each other's researches.

ology, and all the rest of them, not forgetting the many elaborate methods of modern diagnosis of which the family physician—often far from expert help—cannot afford to be ignorant of, but which after he has left the special fields in which such instruction is provided he cannot easily learn. I repeat that to devote, as at present, but some year and a half to these manifold final professional classes is, on the face of it, absurd. Surely one moiety of his whole period—two years and a half—is barely enough to devote to the subjects which are to be the main business of his life. For the summary education for a diploma I repeat we have been moving on the wrong tack, and moving away from the stouter and truer methods of two generations ago.

Overloading.

For two generations we have been loading and loading this brief curriculum as if we desired to teach many things ill rather than a few things well. Now we have seen that one may spend a lifetime on many acquirements and yet be uneducated. Our forefathers thought—and I agree with them—that the backbone of medical education is anatomy, that the right way to educate is to teach a few subjects broadly and deeply, and that the right way to build is to begin with the backbone. Young men love to do something with their fingers, and their instinct is a true one. Finger-work does more than add itself to thought and memory—it multiplies them. The fingers are the busy builders of the brain. How admirable a discipline anatomy is for the young student; how it confirms him in quickness of eye, in accuracy of fact, and in co-ordination of facts; how it displays to him the marvellous contrivances and adjustments of organized bodies; and, with the sidelights of modern biology and embryology, the stupendous achievements of mutation and selection are advantages which need not be labored over again by me. As an initial training anatomy is better suited to youth than the more abstract principles of chemistry and physics. And as modern research is integrating physiology more and more with anatomy, so the study of structure and function—two aspects of

the subject matter—are becoming more and more associated with the advantage and enlightenment of the student. The movement towards university teaching of these cardinal subjects—a movement which I am here to-day to celebrate—has, then, my cordial goodwill and advocacy.

In his first two years the student who only seeks a diploma should make his own a knowledge of anatomy and physiology, as broad and thorough as university teaching can make it, a discipline to be broken into as little as possible by intercurrent diversions. The element of physics the student should bring with him from school, where mechanics should form a vitalizing part of his mathematics, and to construct the apparatus of heat and electricity might well occupy some part of the school hours of every boy. With chemistry the case is different. I agree with Sir William Ramsay that this is not a good subject for boys; nor, indeed, in the course for a diploma has it proved possible to teach chemistry on the scale of a pure science, to teach it comprehensively for its own sake and as mental training. In a five years' course it is, and perhaps can be, taught only as a technical department—introduced, that is to say, partially and incidentally as immediate utility requires; but after this manner, as pharmaceutical chemistry, physiological chemistry, as an instrument of clinical diagnosis, and so forth, it should accompany the paramount and thorough training in anatomy and physiology, and be carried forward with the whole course of medical instruction.* Under present methods the student in his first year fags up some rule-of-thumb chemistry, with no great scientific advantage and on no comprehensive scale; and when his first examination is over dismisses this subject from his mind; his receptiveness has its limits and the ship must be lightened. Anatomy and physiology, on the other hand, should be taught scientifically and for their own sakes—taught, that is, on university methods, taught as education for univer-

* In place of formal examination in chemistry for a diploma, I am disposed to prefer—at any rate in part—the submission of laboratory books, initialled weekly or monthly by a university demonstrator.

sal as well as for technical ends: and, as at least as much chemistry would be learned in a utilitarian way as is learned at present, in two full years a really solid scientific foundation would be laid; the three following years would give a more adequate time for the medical studies of men whose minds had received this sound training, and the anxious candidate need not spend his last and most precious year with his nose in his book.

Apprenticeship.

There are not a few physicians who, unable to avail themselves of a fuller education at the commencement of professional study, would gladly enlarge their education at some later time of life; what facilities do we offer for advanced study? Is any student, indeed, when just released from the wards of a hospital at the end of his fifth year, quite fit for private practice? We are assured that he is not, not even if after qualification he has held the usual house appointments; that for private practice there is still much in which even a highly-educated student is ignorant or unskilled. My old friend and colleague, Mr. Wheelhouse, used to impress this upon us time after time, and on the ground of such deficiencies to lament the abolition of apprenticeship. Recently, Mr. M. A. Wardle, of Bishop Auckland, has temperately and persuasively expressed the same opinion.² For my own part, while I admit how much the young diplomé or graduate has to learn in the way of little adroitnesses and tact in the management of private patients and in the conduct of trivial but vexatious disorders which do not find their way into hospitals, yet surely to revive the bond of apprenticeship for these comparatively minor accomplishments is to burn a house for roast pig. Manual dexterity, it is true, can only be gained in early life, but this would come with the earlier application to anatomy which I advocate. The apprentice did not always get the best or most conscientious of masters; in any case he was liable to be infected, and too often was infected, at a critical time of his life, with an incurable empiricism, and became habituated to a narrow routine. A convenient and

elastic routine and a wise and discriminating empiricism are good, but these resources should not be the beginning of wisdom; after the scientific habit of mind is established, these can be added to it, and I am of opinion that, especially with our exceptionally short period of pupilage, six months' occupation with an able and intelligent family physician would prove and invaluable finish to hospital instruction. But I think that such residence should be with masters recognized for their special fitness by the General Medical Council.

Graduate or advanced work, both in the fields of instruction and research, has received of late much of the attention which its great importance demands, and I think the profession does not quite realize the debt we owe to Mr. Jonathan Hutchinson for his enthusiastic and indefatigable exertions in the development of such advantages for qualified practitioners who have still much to learn, as class co-extensive with the whole of us. We ought not to be satisfied until such advanced studies are so organized as to lead up to a university degree, though it follows from what I have said before that in this case they must include some subjects—such as history, philosophy, or literature—to enlarge and enrich the mind beyond the scope of medicine, and even beyond the wider but far from catholic dominion of science itself.

One Portal.

The undergraduates who are listening to me will expect me to touch at least upon the distressing subject of examinations. It has been inferred, no doubt, from what I have already said that, like every disinterested observer of medical education, I am in favor of that "one portal" which is established in virtually all the other nations of Western Europe, and the advent of which is certain in our own, though, after the way of Englishmen, we shall waste the usual time in trying to apprehend any idea not materialized in custom. To all persons thus qualified the appellation of "doctor" has so long been granted by English custom that it must now have official recognition; and the Conjoint qualification should carry with it the membership, not of one only, but of both

the Colleges. The multiplication of modern universities in England—one of the most inspiring features of our day—must compel the institution of one portal; the steam roller of the General Medical Council cannot even pretend to equalize so multiform a system. In my university I find that the one portal is virtually in force, for from 70 to 80 per cent. of our men take the diploma of the Colleges before presenting themselves for our more advanced graduation. Sometimes I say to them, "Get qualified and then we can proceed with your education." But as this proceeding of theirs is not universal or compulsory we do not derive the benefit of it; still are we obliged to load our examinations with tests of the memory, and of the sharpness and fluency of our candidates, which indeed tend rather to stifle real study, and at any rate testify in no direct way to the broader training and enlarged capacities which are particularly our concern. For qualification I regard the Conjoint examination as excellent; the examination of a university, however, ought to have a somewhat different aim and method from a test of conventional equipment and efficiency; it ought to be much less inquisitive and exacting, much more of a leisurely, continuous, and individual appreciation. We want to move away from tests of results without methods, of practical habits which stand still while knowledge is progressing of bookish acquirements without experience, of seedlings on stony ground which have no root in themselves and so endure but for a time; to move away from the reproduction of other men's notions, and towards the recognition of a critical and flexible judgment, and a habit of looking problems fully and intelligently in the face. For these qualities it is that a university degree is to be conferred; and to this end it is that in Cambridge—I believe with the loyal consent of all our medical graduates—that we retain and attach a cardinal importance to our thesis of M.B. In the thesis for M.B. the student—too often for the first time—realizes that he, too, can grapple with the interpretation of things, that he has got beyond the stage of beseeching his coach "to tell him how to answer but not for heaven's sake to explain the reasons for the answer."

Corruptio Optimi.

Yet in addressing a university, as virtually I do to-day, I cannot forbear to warn my brother professors that even the blessed word "research" does not deliver us from the bondage of formula and routine of a more deadening effect in that it is a corruptio optimi. The mere plotting of curves, the mere watching of levers or thermometers, the mere piling up of undigested or over-elaborated statistics is clerk's work which may provide material for a professor, but—as we may read in the bulk of published theses—do not develop, perhaps scarcely stimulate, that germ of originality in which every normal man varies from his kind. The clinical teaching of the hospitals is so much improved of late years that on this subject I have little advice to give either to teacher or to student. But there is still too much trooping after eminent teachers, too little quiet study of the patient. Reading a text-book at home is eating sawdust; I counsel you to carry your treatise into the wards, moving from bed to bed as you read. Thus you will get living knowledge which will make you into another man. The close neighborhood of the clinical laboratory whereby disease is studied in its dynamic aspects from rudimentary beginnings to perilous storm or even to wreck will teach you a lesson which the lay managers of a hospital conceive with difficulty, and never learn, that Medicine is not a Summa or Corpus of fixed axioms or principles, better or worse applied by this physician or that, nor, again, consists in "surgery and placebos," but is a living and progressive organ, only to be kept vigorous by incessant growth and renewal. And is not this living medicine educating not us only but also the butcher and the milkman, the family and the town council, nay, the State itself and its rulers, shaming the complacencies of the unidea'd and dissolving the formulas of the "practical man"? For clinical medicine has always been not only itself a sphere of scientific discovery but also the cause of discovery in other spheres. Over and over again clinical medicine has led the way for the physiologist as well as for the pathologist, and day by day has demon-

strated an interlocking of processes and sequences of events which not experimental work could compass, even if such combinations could be foreseen. Every hospital, therefore, large or small, if its work is to thrive and its patients are to reap the benefit, should be open to students. In teaching his pupils the teacher stimulates himself—reveals to himself his own latent capacities. Thus not only should the London hospitals enter into a union of free interchange of students but all country hospitals also should be gathered into the system. I often urge our own men to escape for a few weeks from the hustle of a great metropolitan hospital into the quiet wards of a country institution where a few cases can be thoughtfully considered, and not rarely shrewdly interpreted, by an efficient and unassuming physician or surgeon of the staff who is glad of an intelligent hearer.

The Outlook.

Never was there a time when the study of medicine offered such visions of reward—social, scientific, and beneficent—as at present. From these manifold visions it is bewildering even to choose a few illustrative glimpses. A recent address by Sir John Burdon Sanderson revealed to us the wider significance of oxidation in the animal body. Each in his own direction, physiologists, such as Langley and Sherrington, have traced the intricacies and yet the integration of parts and functions; while others, such as Starling and Bayliss, have detected the wonderful functions and reciprocities of internal secretions. Allied to these are the specific products of cells, every cell of the body a microbe with its own juice—its toxin, if you will—all playing against each in mutual attractions and repulsions, and not with each other only, but in marvellous fore-ordination with extrinsic agents capable of entering into relation with this or that specific tissue or cell, for good or evil, and if we can but tame them to our uses; potent for therapeutical ends. We are shown how digestion is but one phase of these equivocal processes—food or poison as circumstances may determine; and, by how a ferment in one phase undoing molecules, in another is no less efficient

in constructing them. The busy, curious spirit of modern physiology is not arrested even before the riddle of the complexity of the albuminous molecules, probably a finite series, and is reading them, as Ehrlich, Fischer, and Hopkins are, indeed, doing now, by analysis or synthesis; and not their own constitution only but also, as Pavy is discovering, their relation to the molecules of carbohydrate and fat. How, again, with the disappearance of foolish mediaeval divisions of the practice of our profession, the influence of workers in all branches will reinforce each other is remarkably illustrated by the light thrown upon some of the gravest problems of general disease in the sessions of the new Dental Section of the British Medical Association. Dietetics, again, which had made some indefinite advance by the empirical observations of the physician, has been raised nearer to the rank of a scientific study by the investigation of food values by Chittenden and Atwater, and of the purin bodies by Fischer, Walker Hall, and others. And if these brilliant prospects are opened out to the private physician, how far more dazzling are the promises of preventive and public medicine! By the hands of Koch, Manson, Ross, Bruce, Leishman, and their peers plague-swept areas of the world are being restored to culture and civilization; by the work of Nuttall and Haldane and many others, as chronicled in the Journal of Hygiene, the standard of health is raised, dangerous occupations are made wholesome; and the conditions of child-life and education are being moulded for infinite good by the physician, who thus, from the private duties and modest social ambitions of a healer of the ailing individual, is rising to the functions and dignity of the statesman. Could I but touch, as hitherto I have failed to do, the imagination of a rich man that he might see how much his progress would be accelerated if we could rise above our present anthropocentric medicine and establish a laboratory and professor of comparative medicine! For in disease, as in generation, all life is kin, and by a universal pathology our conception of these problems of the perversions of health would be infinitely enlarged and our knowledge of them increased, not for man only but for our herds, our fish and the

fruits of the earth. But no; the unimaginative Englishman is content to blunder along knowing little of the natural world about him and content to spend his money in charity to mitigate calamity and suffering which by more timely aid he might have prevented. But "for knowledge," said Sir William Wharton shortly before he was taken from us, "money is hard to get until the necessity for its expenditure is patent to the smallest intelligence."

The Moral.

In all this cry about learning you may ask me, Where is the wool? Where does action come in? Now, if I am earnest with you for learning, I would be even more robust with you for action. Revolve, agitate, test continually the stuff of your knowledge till you have to act; then ponder no more. If you have made a good machine of yourself you will act better by your acquired nature, by the instincts you have truly constructed, than by looking back for your learning. Whether as teacher or practitioner come to a decision, and then stick to your course dogmatically and imperiously. To pretend to know more than we do is one thing: to be vague and indecisive in counsel or action is another. Vacillation spells failure. Doubt breeds diffidence. When tried by an anxious case do not keep turning it over and over in your mind. To carry through a second best course is better than to falter in the best. To let a case hang about your mind while neither observing it nor reading it up, and especially to do this by night, throws the facts out of perspective, and harasses you when your mind with a little rest would create a truer conception by itself. If you want more information, if events be not as expected, seek more light by book or bedside. If after all you are in doubt, go back formally to the beginning; examine the patient as if you had never seen him before, if possible with an intelligent medical friend. Some forgotten fact of the early history or a sign of local change may thus come to light to bear significantly upon the subsequent events.

We have dwelt upon education as progress from ignorance to knowledge, from feebleness to strength; but as we cannot

regard intellect apart from imagination so we cannot separate the moral from the mental part of man. Either without its supplement is incomplete. None knows better than the physician that emotion, religious or other, must have a strong skeleton of intellectual principles; conscientiousness without enlightenment has to account for some of the darkest chapters of human history. At my time of life I feel that I may never again address so important a body of students as those of this great College, and if I must not thrust upon you thoughts of a kind which to-day we may scarcely be in the mood for, I cannot conclude without touching upon some graver matters of that higher life without which we can never prosper either as a nation or as individuals. It was by what Sir Philip Sydney called "the ancient piety and integrity of the English people" rather than by far-seeing wisdom that this nation weathered the storms of the last two centuries. There are now many rich men among us, and there has never been a time when in their monotonous amusements they have seemed—to us poor men—farther from the kingdom of heaven. But England will never dance to the pipe of Omar Khayyam or take for its motto "Sapias, vina liques, et spem longam reseces." If there be some ominous signs of corruption of moral habits, on the other hand we may see still more vividly the signs of a new ethical earnestness and insight as pure and intense as the awakening of Wesley and Newman, and far more permanent in its elements. It is your great privilege to be born in a time of breaking up of dogma, or the deliverance of the spirit from the bondage of the letter, of the scrapping of the machinery of religion for the recovery of its essence and for a new embodiment of it. Such was the breaking up of ancient ritual by Christ himself, and, in their measure, by Wycliffe and Luther. Now in this our time we are set free to return not to the sixth century but to first, to the original source of the Christian life. As to dogma, hear what all men say but follow no man; follow the lights which you will find within you. In the growing purity of your hearts you will not fail of your revelation, and by this touchstone you will distinguish even in your contemplation of Nature the true

from the false, you will interpret that higher secret which by her eyes you see that she knows but cannot express, and will read into her message ideas which no analysis, scientific or even philosophical, can reveal. Remember, if you are ever bored with you own self there is something wrong with you. Physiology tells you that you must always be building or you must degenerate; no impure, petty, or rancorous thought but makes a mark not to be undone and weakens the habit of virtue. It has been said, and with some truth perhaps, that men of science are apt to forget we cannot play curiously with base and shameful things and then wipe them away as if we had never been occupied with them. Upon those physicians whose painful duty it may be to examine physiological filth rests the heavier responsibility of a jealous concern for their own the purity of hearts. Our decisive moments, as George Eliot says, are not those of our better hours—protected by wholesome happier dispositions, but when we have in us less devotion—for so we vary; when we give way to little insincerities, little uncharitablenesses, shiftinesses, low standards, tampering with worldly folk, little tempers, and jealousies. In the Phaedrus we find the profound truth that if the soul be not destroyed by its own proper evil it cannot be destroyed by any other; a lesson there enforced by the figure that the soul is the charioteer of two winged horses, the one of noble the other of ignoble breed, and sooner or later it may be dragged to earth by the baseness of the ignoble steed and there lose its own wings also.

Ethics.

The opinion is current since the time of William Henry Green that spiritual goods are essentially non-competitive, that the survival of the fittest does not apply to the field of the highest ethics, which is a field rather of inward than of outward occupation. This has always seemed to me a shallow distinction; surely a race is set before us and we run all. Competition is, indeed, now rather between large social than between individual units, but the strongest bond of the parts

of the social unit, that by which it survives, is surely the higher ethics. We can no more get out of Nature's methods than out of our own skins. That progress comes by adversity has been told us by Christ and St. Paul, by Tauler and Herbert, as well as by Darwin and Haeckel. Tauler says: "If we were wise and industrious the devil's opposition and his discipline would be more useful to us than those of the good angels; for were there no conflict there could be no victory." A knowledge of the highest endowments, deeds, and creations of man must therefore form not only a part of the universal education but also of our personal meditation, whether it be found in Greek, Latin, or Hebrew.

The physician is wont to learn how noble is his profession, how profound the debt of the public to him, and how devoted society is to his lofty calling, in after-dinner speeches. But it is true that our calling is gentle, unselfish, wise in its intimate converse with Nature and mankind. "Humanumque genus communi nomine fovit." We know, with George Herbert, "it is some relief to a poor body to be heard with patience." Furthermore, it teaches us the secret of the "simple life," which for society too often means a clean slate on which to daub new excitements, for there is no ennui like the ennui of the man of pleasure. By the realism of its daily practice it hardens us against carnal temptations. It saves us from the withering sin of cynicism, as it inspires us with the building of a world ever better and better—a work in which we are the artificers, for if the world may not be very good we thing it possible for us to make it so. No good physician was ever a misanthrope. Yet, if all professions have their safeguards they have also their temptations, and our own is no exception. Laymen—even those most friendly to us—tell us of our testiness, of our jealousies, of an angularity in our relations with our brethren, especially with those who live near us and ought to be our colleagues, but whom we are too apt to call our "opponents" and so to regard as such. This, to say the least of it, is bad policy; it gives our enemies a handle against us and grieves even our friends who discern our fault but not our temptations. That members of other professions are free from

this personal distrust comes of the different conditions of their engagements.

Unfortunately the game of medicine is played with the cards under the table. Whether the clergyman be a good preacher or pastor, whether a barrister conducts a case well or ill, whether a tradesman sells good soap or bad, is not only a matter of which the public can form some fair judgment, but also these transactions are, so to speak, in market overt. In the intimacies of medical counsels, on the other hand, who is there to note the significant glance, the shrug, the hardly-expressed innuendo of one or other of our brethren of whom it might be said, as it was said of Roderick Lopez—Queen Elizabeth's physician—that "he is none of the learnedest or expertest physicians, but one that maketh a great account of himself?" Thus we work not in the life of public opinion, but in the secrecy of the chamber, and perhaps the best of us are apt at times to forget the delicacies and sincerities which, under these conditions, are essential to harmony. But the more careful we make ourselves of these loyalties the less we shall suspect others, and the more candid and sincere we become with our brethren the less they will suspect us. Most of such offences are due not to malevolence, but to want of imagination or good breeding. In any case, let us always remember that, as we have many benefits, so we must be vigilant and forbearing in the perils to which the temper of the physician is exposed. For such trial and unrest as we have let us dwell on the words of Montaigne, that "we have the most sweet and gentle medicine in philosophy; for of others no man feels the pleasure of them but after his recovery, whereas she pleaseth, easeth, and cureth all at once."

The Higher Life.

It was said before Chaucer that the physician is no ritualist; in this audience I am addressing men of many creeds, and some, perhaps, who fondly think they have none. At any rate, the physician learns to follow a true instinct in seeking the ideal not in dreams, emotions, or transcendencies but in the actual, in the high choice and promise of the real.

No delicacy, or remoteness, or fantasy can make a false idea into a true one. Yet Professor Lloyd Morgan has well said, "the prime condition of progress is to believe more than can be demonstrated." In the rough and tumble of all callings, however, the higher life gets obscured, and we have to seek quiet moments when we can enter into that inner chamber of the mind wherein dwells that self by which we differ from all other individuals, for which we are responsible, and yet wherein, by this difference, are—even those whose hearts are warmest—alone. To this end, whether I could or would go to church or not, I have always "differentiated" my Sundays. If I stay away from a place of worship the greater my responsibility, the more my duty to the higher life. Whether your "studies be on the Bible" or with Shakespeare is for each of you to choose—or perhaps both; but for that one day of the week be thankful to eschew idle books and newspapers, petty cares and business, and even professional usages which can be postponed, so that we may live one day in the presence of men greater and purer than ourselves. And what I say of one day in the week I say also of some minutes in every day; in that inner chamber store for the day some sweet verse, some line of gentle wisdom or lofty thought which—to repeat a phrase with which I began—shall still make the habit of virtue and reason easy and pleasant to us. Then when the new song is sung we may find ourselves among those who could learn that song, for they were redeemed from the earth.

References.

1. Scholae Academicae, p. 171.
2. British Medical Journal, September 21st, 1902.

SCHOOL DOCTORS AND CHILDREN'S TEETH.

Some time ago I published an article in the "Socialist Review" called "Physical Deterioration as Seen by a Dentist." In the meantime, the inspection of school children by state medical officers has been added to the long list of Socialist measures this individualistic nation has been compelled to adopt. And what every tooth mender and ender knew perfectly well, has been confirmed by the examination doctors, viz., that the teeth of John Bull's children are bad, very bad, and rapidly growing worse. Some report sixty per cent.; but where the doctor in his hasty peep into each of a hundred mouths find 60 with decay, the specialist with mirror and probe would discover 90. I was talking to one of these new servants of the state, who is keenly interested in his work, and he summed up the case in the following phrase. "If I could only put the youngsters to rights at both ends—prevent the foot and mouth diseases they nearly all have—the health of our schools would go ahead splendidly." Before coming to my own department let us see what the man meant by foot diseases. Every boy, that is a boy, when he meets a puddle on his way to school, samples that flood with his feet. Scold as you like, the genus boy, will continue to walk through puddles, while the little girls imitate their brothers, and soak their own slighter footgear. And the foot gear of the average elementary school child is not damp proof, while the best of boots turn traitor when treated as the puddle paddler serves them. Into school they merrily troop, hang up their wet overcoats in a nice, warm lobby, then sit at the desks dangling those damp understandings below, while the schoolmaster stimulates the understandings above. And every health student knows that it is safer to have warm feet and wet clothing above, than dry jackets and cold, damp toes. This observant medical inspector had looked low enough to see the cause of half the winter colds and lowered vitality of his flock. "I want my charges to come barefoot, or change their shoes and

stockings for dry slippers before yonder brain gardener attempts anything." The point need not be pressed in the present paper, but if you think squarely about it, the school clinic that is preventive in its policy will not deal in cough mixtures or even operations for enlarged tonsils and adenoids until it has prescribed dry, warm feet, while mental stimulation is proceeding.

Now for the aching teeth; which Shakespeare observed we cannot abide, and which even Christian Scientists rule out of reckoning when imagination is said to abolish pain. The direct injury and suffering are bad enough, but inasmuch as one tender tooth prevents proper mastication, and the habit of good chewing is soon lost by a child, one sees how food is being worse than wasted by being bolted, and half the municipal meals lavished vainly on bairns with bad molars. If we take as an approximate figure, 50 per cent. of school children with mouths that ought to be treated (and that is far below the ghastly fact), how in this year of grace 1910 could the matter be dealt with if we had the will to do it? About as well as the land of Britain could be properly cultivated by the remnant, only three-quarters of a million strong, of agricultural laborers left on the land. There are not enough trained men in the civilized world to meet the dental deficiencies of the civilized races. And it takes five years at the very least, to train a young man for the task. On the dental register for Great Britain and Ireland are the names of less than 5,000 men. Among those are many that are getting old, and some are too well off to trouble much about practice. The folly of our competitive system is illustrated too by the numbers of young dentists who are waiting for patients behind brass plates, and not half their time occupied during the prime of life. A busy dentist in general practice can deal with scarcely one hundred patients per week—extractions, anaesthetic cases, stoppings, plate work, etc. Among the hundred may be fifteen children of school age, and so trying is dental work for school children, that I profoundly pity the man who has a greater proportion of juveniles. To earmark a dentist for "laboring with child" would be a punishment to even the

strongest, kindest, best of men, and need a new phrase in a revised litany for his especial benefit. He would be a nervous wreck in a year if he only gave eight hours a day honest work to the children's teeth. So banish from your minds the idea that we can specialize the dental speciality, and keep a brand of school-tooth doctor among our public servants. You would need more lunatic asylums to house the wrecks, and the job would not be paid for a thousand a year.

Well, if the 5,000 dentists tackled fifteen children per week each, and allowed only three visits per year per child a little calculation will show that if every registered man was doing his share of duty in the juvenile department, only $1\frac{1}{4}$ millions of children would be attended to. And I suppose there are over eight millions of school children, more than half of whom will need urgent dental treatment. Of the unregistered advertising tooth providers I say nothing, for they scarcely deal at all with the teeth of children beyond extractions, their function being mainly sweeping away the fragments that remain later on in life, and selling new sets of teeth. In any case the state cannot and does not recognize the existence of any but those duly qualified and registered; and I recommend any anti-Socialist doctor or dentist to see where this fact leads him; and how is only real hope for the elimination of the quack, is that all public appointments must go to real professional experts. In the extension of public service lies the chance of the man with a diploma and training.

So far my position is pessimistic in the extreme; but there are other methods than the frontal attack with forceps and stopping tools. Suppose in a given city a man who knew how to teach as well as practice was told off to lecture both scholars and masters and mistresses on all questions connected with the growth and preservation of the teeth. With diagrams and models, the lectures could be made interesting, and prizes for the best-cared-for mouths given periodically. Tooth brushes doled out wholesale are not much good. A child has to be taught how to use one, and even the parents could be invited to attend the lectures, and the vital importance of

dental integrity be insisted on. One man, if he had the gift of tongues, could prevent more decay by teaching ten thousand than breaking his heart by trying to cure two hundred. Knowledge should be the first line of defence, and the scientifically-planned school meal the second.

Most of us recognize that necessitous children are going to be with us for a long time yet, and by and by, the regular feast will be a much more general affair than to-day. Secondary results in manners and cleanliness are added to immediate improvement in nutrition. And experiments from a dental point of view can be made to see among large numbers, what effects certain kinds of diet cause. The soup and slop feeding will be taboo with the tooth curator; and hard tack, raw ripe fruit and nuts, genuine wholemeal bread, and milk figure on the menu. In dealing with a group of children in a charitable institution, whose ages range from five to ten years, I have found that regular treatment three times a year is sufficient to keep things fairly right, and severe suffering from dental disease is prevented. But in another institution, where I have had the privilege of observing some scores of girls during the period between thirteen and sixteen, the dentist has far more to do and far less satisfaction in attempting it.

As the supply of skilled artisans in some trades is shown by the new Labor Exchanges to be deficient, so the number of dentists, practically all of whom are now employed, is inadequate to the demand newly made on behalf of school and poor-law children. We are confronted with quite a different problem from what the Socialist usually holds forth about. Not two men seeking one master, but four children vainly waiting for one knight of the forceps. If only some can be cared for, choose the little ones first; take them when they come at five and follow up the care of these mouths from the infant school onwards. Many of the older pupils are dentally past reform.

As a profession, we have never faced the national question of British teeth, the causes of decay, the dimensions of the task, and the supply of enough men to meet it. Our work has poured in upon us, and yet only the fringe of the popula-

tion has been helped. Some day, and that soon, we must as a nation face this ugly fact—that with a declining dental condition we cannot long survive. That eyes and noses, ears and teeth are weak among masses of our people, not only where poverty reigns, but in every class. But don't let us look to national or municipal clearing houses for disease. Asylums, hospitals and poor houses are vested interests in failure, and the school may be made successful in raising the health standard of the people by slow but very sure degrees. Firms like Cadbury's, Peak Frean & Co., Jacobs & Co., and Rowntree's do employ doctors and dentists at good salaries to help their workers back to health. It pays them to do it, though better motives than profit doubtless inspired the policy. But a few oases in a desert of commerce will not save an empire, and the chief use of these enterprising experiments is in the teaching given. If there is one sphere of service more than any other that should pass from the realm of private profit to public use it is the health-preserving or disease-preventing brigade. And the moral of my paper is this—as far as teeth are concerned, teach in the schools the elementary truths of oral hygiene, and if you try to catch any patients for dental school clinics catch them young and catch them often.

—Charles Fox, in "Socialist Review."

EDITORIAL

The Question of Immigration.

We have been asked to comment on the Regulations which have been formulated on the question of immigration. It seems first of all regrettable that the profession most qualified to be an authority on the subject should not have been asked to assist at the formulating of the Regulations. Dr. MacPhail, in the organ of the Canadian Medical Association, says he considers it an impertinence that medical journals should have been asked to comment on these regulations, he gives strong expressions to this opinion in an article in the Toronto Saturday Night. From our point of view it is very pertinent. If we have not been asked to give advice regarding the formulation of these regulations we have been asked to criticise and possibly the next step will be to call in the medical profession to confer on such matters as is now done in England. The question of who shall come to populate our western land is of vital importance and should be of great interest to every present inhabitant of the land and especially to the medical fraternity, for are they not best able to appreciate and point out to others that it is not money which will be the root of our future wealth. It is studying the question from the race aspect. Instances could be adduced of good future citizens lost for lack at the moment of the needful dollars, and instances given also of feeble creatures coming in and settling because at the moment they had many dollars which they soon got rid of in the saloons, etc., and then became a drag on the city. We are surrounded by opportunities for money-making and so know the possibilities of our fertile soil that we are apt in our zeal to get impatient if riches do not pour into our country, whereby we may push works forward. We need capital, and there are great openings for capital, but that does not prove the

need for the money regulation being strictly enforced in the case of stalwart men and women who could get work the moment they arrived. There is "a penny wise and a pound foolish policy" often going on in this matter. What purpose do many of these regulations serve? Some ulterior object of some interest or to enrich low-class hotels and saloons. Still, like everything else, the requirement of \$25 is often wise, and so it just proves the great need for serious and thoughtful discussion of these matters not only by our politicians and civil servants but by those who look from the point of the medical profession and who comes in closer contact with the results of unwise immigration laws more than the family physician! The question whether \$25 could be of much use in helping the success of a man who landed at the wrong time is doubtful. Of one point we are very certain and that is the necessity for investigating the suitability of all who enter, not merely "immigrants." Many a rascal and wastrel has come over saloon or first-class with money whose record, if investigated at home or in the States, would have astonished the investigator. Such an individual starts a new career in the new land founded on misrepresentations and lies. His or her influence is, to say the least, unhealthy, frequently ending in disappearance with other people's money, and other sordid details. It is often by means of the saloon passengers that tuberculosis and other evils enter this land. By the honest medical examination of all incomers millions of dollars would be saved to the country besides being a great means to further the betterment of the race from a eugenic standpoint. A little delay might thus be caused in the ultimate prosperity, but when it came it would be founded on a sure foundation. First we must be healthy if we would be wealthy and wise—by fair means. As a nation, what is \$25 in the scales as against a good citizen and the government should be prepared to look after all worthy immigrants for a time. Many a fine workman has been lost to Canada by the callousness of those who tempted him out and then neglected him on arrival. Suitable immigrants are worth more than miles of railways requiring heavy subsidies.

Both are needed. Many societies clamouring in a sentimental fashion to bring out immigrants are not in truth paying proper attention to the selection of those they send. Who gets the benefit of all this? Not the country and not the immigrant! The cost of living is seldom fairly stated in emigration literature. An agent is reported by a London paper to have stated she had never seen a poor person in Canada! If by unwisely rushing in population we have for a short period a time of great material prosperity owing to the money brought in, we are only laying up a future day of reckoning by which we who have been so greedy and shortsighted will suffer and possibly cause Canada with her great possibilities to be while yet young a failure among nations. We scorn in this age of rush being slow—we are beginning to scorn being sure. But “the house that is not builded on a rock, etc.” Let us not in our strenuous work making our own young nation forget that Australia, Africa and New Zealand are doing the same, and those who have come hopefully here on wrong impressions pass on to tell a story varnished by their own individual experience to those far away who might also have been going to join us. Let us remember that even in Immigration “Truth is great and will prevail.”

VITAL STATISTICS

Diseases.	Cases.	Deaths.
Typhoid	12	0
Scarlet Fever	24	3
Diphtheria	16	1
Measles	256	3
Tuberculosis	12	8
Erysipelas	4	0
Whooping Cough	4	2
Chicken Pox	2	0
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	330	16

MEDICAL NEWS

The Henry Phipps Institute for the Study, Prevention and Treatment of Tuberculosis.

Mr. Henry Phipps, of New York, has selected the University of Pennsylvania to carry on the work of the Phipps Institute. Mr. Phipps has already acquired ground in Philadelphia on which will be erected a hospital for this purpose. The extent of the benefaction exceeds \$5,000,000.

The report of the Committee appointed to consider the future policy of the Institute has been approved by Mr. Phipps and the Trustees of the University.

The work will be divided into three general departments, each of which will be presided over by a director. For the directorship of the Laboratory, Dr. Paul Lewis, now of the Rockefeller Institute, has been selected. For the directorship of the Sociological Department, Mr. Alexander M. Wilson, of the Boston Association for the Relief and Control of Tuberculosis. Dr. H. R. M. Landis has accepted the appointment as director of the Clinical Department.

In addition to a board of eight directors who will be directly responsible to the Trustees of the University, an Advisory Council has been created and will meet annually at the Institute. The following have accepted the invitation to serve as members of this body: Dr. Samuel G. Dixon, Harrisburg, Pa.; Dr. S. McC. Lindsay, New York City; Dr. William H. Baldwin, Washington, D. C.; Dr. Hermann M. Biggs, New York City; Dr. William H. Welch, Baltimore, Md.; Dr. Theobald Smith, Boston, Mass.; Dr. Gideon Wells, Chicago, Ill.; Dr. Simon Flexner, New York City; Dr. James A. Miller, New York City; Dr. Lawrence Brown, Saranac, N. Y.; Dr. Henry Baird Favell, Chicago, Ill., and Dr. James Pratt, Boston, Mass.

By the Jubilee Hospital (Victoria) Amendment Act it is enacted as follows: "All clergymen and ministers of every

denomination shall have free admittance to the patients in the hospital, but in no case shall any clergyman or minister of religion of any denomination nor any member of the Council of the corporation of the city of Victoria nor any medical practitioner be capable of being elected or appointed a director of the said hospital."

The Vancouver city schools rank high among similar institutions in Canada for the excellence of their system of medical inspection. Dr. Brydone-Jack is in charge of the work. He personally examines about 10,000 children. The children are taught the care of their teeth and personal appearance. Training in the use of the lathe is also given, 400 boys having gone through the course during the past 18 months.

A new prison in Glasgow, Scotland, which aims at teaching self-respect, gives a remarkable amount of freedom. It is built on entirely new ideas by an architect who holds that the most perfect discipline means the most perfect freedom. Outside it looks like a stone fortress; inside like a fairy palace of white painted balconies and light open iron staircases, built without the usual interior staircases and corridors in a series of radiating star-like wings divided from each other by lofty courts covered with glass. One warder seated at the centre can control the whole 300 or 400 inmates at a glance. There is no need for "keeking" at cell doors. The cells are not kept fast locked, yet the discipline is strict. Every kind of industry is taught that is possible. It will be interesting to see this new departure in treatment of prisoners.

The people of Calgary are still agitating for a University.

Vancouver is said to show a more rapid growth of population than Tacoma or Winnipeg. The latter is said to have doubled in 5½ years and Vancouver in four years. The school population of Vancouver in 1900 was 3,393 scholars and in 1909 it was 8,845.

Jamaica ginger has by the laws of British Columbia been placed on the list of recognized intoxicants. It is found to contain 90 per cent. of alcohol.

A by-law will probably be submitted to the public of Victoria, B. C., to raise \$45,000 for an isolation hospital.

One of the arguments put for Nelson, B. C., as the University site is that "England was built on Rowing, Cricket and Football," hence Nelson would be the best site. The Kootenay claims to have the greatest fishing river and on the arm the greatest rowing course in the world—five miles straight away.

Mrs. George Cran, who made a tour of Canada last year, in her book states that there is a great paucity of doctors in certain parts of Western Canada. She specially mentions that on Pender Island, B. C., there were 80 children and no nurse or doctor; that the Jubilee Hospital, Victoria, had no maternity wing; that Duncan on Vancouver Island had two doctors to a district of 40 miles; that the doctor in Davidson, Sask., attended a district of 60 miles; that there were no nurses at Yellow Grass or Wood Mountain; that the City Hospital at Regina had only three rooms for maternity cases. Will any reader give further information? She suggests as a remedy for this paucity of medical help on lonely homesteads far from hospital bands of itinerant midwives, a sort of mobile corps unattached to any town or building but working under efficient direction.

Dr. Helen MacMurchy in her report on Infant Mortality states that 150 babies in every thousand die in Ontario according to returns. This is a larger mortality than in England where it is 132 per 1,000—in London it is only 113 per 1,000. That in an agricultural province more babies should die than in London with its crowded millions is remarkable and points to a great need of the study to prevent such a state of affairs in a new country. Many lives might have been saved by good medical care and nursing and education of the mothers. Improper feeding is said to be the greatest cause. Dr. MacMurchy calls patent foods "Baby Exterminators." In Quebec, owing to the instructions given by a priest in a parish the death rate of infants fell in two years from 97 to 85 per 1,000. The question of the milk supply is also taken up. She con-

siders it should be the duty of the city and province to see that a pure milk is supplied:

The Daughters of the Empire of Vancouver have undertaken to erect a memorial to King Edward VII which will take the form of a hospital for convalescents and incurables.

We are glad to see that the West is taking up seriously the question of the Milk Supply. In Edmonton they are insisting on the tuberculin test in every case, and the question of housing cattle has been taken up in Winnipeg, besides the starting of a Diet Kitchen which provides pasteurized milk for infants.

Prince Albert has taken over the Victoria Hospital as a civic hospital.

Dr. Adami, of Montreal, has been chosen to represent the Canadian Association for the Prevention of Tuberculosis at the meeting in Rome.

A cottage hospital is being built for Estevan.

The Burnaley, B. C., School Board are requesting medical inspection of schools.

There are now 7,000 women physicians and surgeons practicing on this continent. 61 years ago there was not one.

MARRIAGES.

MONKMAN—RUSSELL—On June 29th at Regina. Dr. J. A. Monkman, of Loreburn, was married to Miss Emily Russell, of Pushbush, Ontario.

PERSONALS

Dr. Bapty has been visiting Stewart for the purpose of investigating sanitary conditions on behalf of the provincial health board.

Dr. and Mrs. Monro, of Vancouver, are visiting Seattle.

Miss Ballare, the matron of the Lacombe Hospital, has resigned and Miss Pye, of Toronto, succeeds her.

Dr. and Mrs. Lee Patten have settled in Armstrong, B.C. Dr. Patten recently graduated from McGill.

Dr. and Mrs. J. B. Mackenzie, of Callington, have been visiting Vancouver.

Dr. Grace Wilson Cahoon, of Butte, Montana, has been elected secretary of the Montana State Medical Association.

Dr. Denman Ross, of the Faculty of Harvard University, is visiting Vancouver accompanied by Mr. J. Lindon Smith, of Boston.

Dr. and Mrs. Robert Mackenzie have been visiting Vancouver.

Dr. and Mrs. Hogle, of Nanaimo, have settled in Vancouver.

Dr. Goldsmith, of Langdon, has been visiting Calgary.

Dr. Metha, of Baroda, India, is visiting Vancouver.

Dr. E. B. Paul has been elected Grand Master of B. C. Masons. He is at present visiting the Kootenays.

Dr. McTavish and Mrs. McTavish have gone for a visit to Skagway.

Dr. Knight has returned from his visit to Chilliwack.

Dr. and Mrs. Swift, of Abbotsford, are visiting Vancouver.

Dr. Newcombe, Mr. W. Newcombe and Mr. Monteith have gone for a month's cruise to the Queen Charlotte Islands.

Dr. and Mrs. Burritt have returned from a visit to Eastern Canada.

Dr. and Mrs. Clifford have gone for a trip to England.

Dr. Eggert, of Prince Rupert, is visiting Vancouver.

Dr. Mackenzie, of Winnipeg, has been appointed Medical Superintendent of the C.N.R. between Fort William and Vancouver Island. He will reside in Victoria.

Dr. Doherty, of the New Westminster Hospital for the Insane, has returned from an extended Eastern tour in the course of which he visited leading institutions similar to that of which he has charge.

Dr. Fagan, Secretary of the B. C. Provincial Health Board, attended the Canadian Medical Association, visiting also Boston and other cities.

Dr. S. N. Alti, Brazilian Consul at Sydney, Australia, has arrived in Vancouver.

Dr. Douglass has returned from Ontario where he went to attend camp at Petawawa with his regiment, the Third Prince of Wales Canadian Dragoons of Peterboro. While away he qualified for the rank of Major which will entitle him to take command of a cavalry field ambulance corps in Saskatchewan.

Dr. and Mrs. Wheeler, of Moose Jaw, are spending a vacation at the Coast.

Dr. Seavey, of Port Townsend, is visiting Vancouver.

Dr. Cartmell, of Glenboro, has returned from a visit to the East.

Dr. J. T. White, of Winnipeg, has returned from a visit to the hospitals of Chicago and the Proctological Society's annual meeting.

Dr. Turcot, of Pincher Creek, Alta., has gone East for post-graduate work.

"EVERYBODY'S BUSINESS."

The New York "Tribune" takes cognizance of the latest effort in the direction of a professional reform from the inside, remarking:

Dr. Matthew D. Mann, of Buffalo, one of the physicians who attended President McKinley after he was shot at the Pan-American Exposition in 1901, in an address recently attacked "graft" in his profession. He openly charged his medical brethren with receiving "rake-offs" on fees for operations. "The business of cutting up people seems to be more profitable than doctoring them sometimes." "The statement by Dr. Mann," says the Buffalo "News," "should receive general attention. It is everybody's business."

"It is everybody's business." That is what is the matter, it would seem—for, humiliating as it is to admit it, Dr. Mann's ringing arraignment doesn't seem to have aroused any attention except in the columns of approving newspapers.

In this Dr. Mann's proposed reform is much like that suggested a short time ago by certain lawyers who were sensitive about graft in the legal profession. It would seem that the oldtime taunt, "Physician, heal thyself," has lost none of its point. It appears to be as hard for professional men to cure evil practices within the profession as ever it was. But when the physicians and the lawyers get at each other's professional sins—that is a different matter. Dr. Mann should interest some lawyers to stir up the medical grafters. Then maybe he would get something done.

Dr. Matthew D. Mann shows the courage of his convictions in attacking graft on the part of his profession. He charges physicians with receiving a rake-off on fees for operations in their cases, and what he says makes it clear, apparently, why so many medical cases turn out to be surgical. The business of cutting up people appears to be more profitable than doctoring them sometimes. The statement of Dr. Mann in yesterday's "News" should receive general attention. It is everybody's business.

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Application for entry must be made in person by the applicant at a Dominion Land Agency or Sub-Agency for the district in which the land is situate. Entry by proxy may, however, be made at an Agency on certain conditions by the father, mother, son, daughter, brother or sister of an intending homesteader.

DUTIES:

(1) At least six months' residence upon and cultivation of the land in each year for three years.

(2) A homesteader may, if he so desires, perform the required residence duties by living on farming land owned solely by him, not less than eighty (80) acres in extent, in the vicinity of his homestead. Joint ownership in land will not meet this requirement.

(3) A homesteader intending to perform his residence duties in accordance with the above while living with parents or on farming lands owned by himself must notify the Agent for the district of such intention.

Six months' notice in writing must be given to the Commissioner of Dominion Lands at Ottawa, of intention to apply for patent.

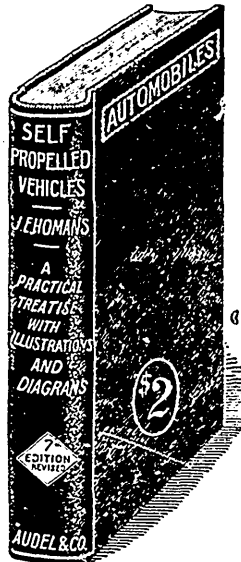
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
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