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# Saskatchewan Medical Journal

VOL. 2

SEPTEMBER, 1910

No. 9

## Fellows' Syrup of Hypophosphites

~~A worthless substitute  
for the original~~

~~Worthless substitute  
Preparations "Just as Good"~~

~~The following is a list of the~~

~~Agents for~~

~~the various~~

~~copies~~

# Saskatchewan Medical Journal

A MONTHLY MAGAZINE OF MEDICINE AND SURGERY

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VOL. II.

SEPTEMBER, 1910

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ONE DOLLAR A YEAR

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## NOTICES

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# THE SASKATCHEWAN MEDICAL JOURNAL

VOL. 2

SEPTEMBER, 1910

No. 9

## Original Memoirs

### "THE CONSERVATION OF ALBERTA'S GREATEST NATURAL RESOURCE" \*

By Daniel G. Revell, B.A., M.B., Edmonton

*The first wealth is health*—EMERSON.

When the armies of Greece returning home from their triumphs abroad brought with them the germs of malaria and this disease thus gained a foothold in the country, that nation was doomed to decline from the premier place in art, science, civilization and military power of the world, to almost the lowest rank. The power of Rome was doubtless also in great part similarly destroyed. It is only within very recent times that the advances of modern medical science have revealed the malaria mosquito in its true character and have made the fair land of Greece and Italy again safe for human abode.

~~Disease defied the best efforts of France to construct the Panama canal.~~ Scores of thousands of her citizens' lives were destroyed in the heroic attempt. But within the present decade modern sanitation has made the Panama isthmus as safe to live in as New York is—safer than many United States cities. The conquest of yellow fever, malaria and typhoid in the Panama Canal Zone is one of the greatest triumphs in the history of the world. Without this conquest the United States would never build the Panama Canal.

\* Read before the Alberta Medical Association, Banff, August 12, 1910.

Again, the "no good" whites in the southern United States are the victims of the hookworm disease. Proper sanitary measures will soon place the Southerner on a par with his enterprising and energetic brother of the northern States, and with the health of her people established all the other rich natural resources of the South will be rapidly developed.

What is the greatest menace of the power of England today? Baden-Powell (see page 177, "Scouting for Boys") and many others think there is much reason for fearing that it is the physical deterioration of her people.

How stands the case with this fair province of Alberta? Is there not special need of a most vigorous health campaign in Alberta to prevent the preventable waste of the health and lives of our citizens?

To a very great extent *environment* (or those things and conditions by which we are immediately surrounded) has an influence on our physical and mental well or ill-being. A large part of the outdoor conditions are man's own production. This man-made part of the outdoor environment varies in amount with the concentration of population—it is almost nil in the sparsely settled district, it reaches its maximum in the crowded city. In this regard Alberta and all the new west have a unique opportunity. The resources of this country in climate, soil, and minerals remained unknown to the world until quite recently. Now they are so generally known that an immense and growing stream of immigration is flowing in and nation-building is proceeding at a rate almost unparalleled in history. Towns and cities are being laid out and developed with extraordinary rapidity, so quickly indeed that along the line of the Grand Trunk Pacific railway it has been possible to give the towns names with initial letters in alphabetical order, going through the alphabet several times with very few breaks from the existence of towns already named. (See G. T. P. railway time-table, Winnipeg to Edmonton.) In a word, we are starting with almost a clean slate and within a shortness of time which gives the greatest plasticity, we are building towns the general layout of which we can, if we

choose, make as nearly ideal as possible. We have the models of all that is undesirable and of much that is good in the towns and cities of the East. Those grew slowly and *usually without municipal thinking*, and in many instances their mistakes have to be either put up with or corrected at enormous cost. Ours is the opportunity to at least avoid the mistakes. And we should strive not merely to avoid the positively bad but to realize the positively good. Both the building of all new individual houses and also their aggregation into village, town and city, can and should be intelligently carried out with full regard to the demands of hygiene, sanitation, economy and beauty.

Many houses are today in course of erection in Alberta which will be lived in for twenty-five to seventy-five years or longer. The builders will occupy them for the remainder of their days: their children will have them as their lifelong domiciles and their grandchildren will, in many instances, succeed these as the occupants. How important a matter it is that, so far as practicable, these houses should embody the best conditions for the happiness and therefore for the health of those who are to spend from one to two-thirds of their lives in them. How many men are out-of-doors sixteen hours of the twenty-four, and how many women are out-of-doors eight hours a day? I challenge anyone to deny that the faulty planning and construction of many of these houses will be directly responsible for lowering the health and shortening the lives of some if not all of their occupants. On an average about one-third of a person's time is spent in bed and about one-half is spent *indoors*. Indoors we can to a very great extent control our environment and make it favorable or, if we are uninformed or indifferent and careless, we may submit to unnecessary injurious influences and knowingly or unknowingly suffer the evil consequences that result to our bodies and minds.

Tuberculosis is a *house* disease. This means not only that the disease is apt to attack successive occupants of the same house because of transmitted infection but also that within

houses and other confined spaces are found those conditions of atmosphere and light which favor the persistence of the life and virulence of the tuberculous germ and the lowering of the vital resistance of the human body to disease—in other words, we *contract tuberculosis indoors and not out-of-doors*. Good ventilation and abundance of well-placed window-space lessen the difference between in and out doors, *i.e.*, remove or lessen the evils of house-dwelling. Health is promoted and disease germs are destroyed by fresh air and sunlight.

In what percentage of the house-plans to which Albertans are building today is adequate thought given to these really prime necessities of fresh air and sunlight? How often do we see houses which would be actually improved by turning them right-about so as to bring the present north side to the south! Furthermore, the ideal viewtation of a house places the corners toward the cardinal points of the compass and this *gives sunlight in every window* everyday the sun shines.

Sunlight has the very peculiar property of readily passing through ordinary colorless glass (such as is used for windows) and of then being changed to heat which can pass through glass hardly at all. In other words window glass is transparent to light and opaque to heat. In effect the window is a heat trap which lets the sun's rays enter the room readily but also prevents their escape.

Much more cold enters through the north wall of the house than through any other. Or, to state it exactly, the difference between the heat lost from the interior and the heat gained from the exterior is much greater for the north than for any other side of a house. Therefore the heat conductivity of the north wall should be made as small as possible. How seldom, if ever, is the north wall made proportionately warmer in construction. Yet economy of heating is a vital problem in every country with a winter.

The cheapest, most efficient and most easily applied disinfectant is *sunlight*, especially the direct sunlight, but also the indirect, which is known as diffuse daylight. Efficient disinfection is a necessary agent in the

prevention of tuberculosis and other preventable diseases. Plenty of light is the untiring arch-enemy of indoor dirt and low spirits, fertile causes of ill-health. But too often the frugal housewife suffers this to save the color of her carpets and upholstery.

In brief: the ideal plan of the hygienic and economical house calls for a maximum of window-space on the sunny sides and an adequacy of non-conducting material and construction in the north wall—the sunlight and heat should be let in on the sunny sides and the cold kept out on the north side. Those rooms and places in a house where the occupants tarry much (living rooms, dining and bedrooms) should be given the preference of the sunny exposure. Stairways, halls, clothes closets, etc., should be given the cold north side or north-east and north-west corners. Or, better still, the corners of the house should be north, south, east and west. Judged by their work, few architects understand or heed the most elementary hygienic requirements. Costliness of materials and high class construction can not redeem a faulty house-plan. The money put into building a house for a home is an investment from which the dividends are (or should be) comfort, health and happiness. Without these we can not do our best work. They broaden, deepen and lengthen life.

The reputation of our climate for curing "weak lungs" brings us many tuberculous people in search of renewal of health. At the same time the long, cold winter induces people to shut themselves up pretty tight when indoors, several months in the year, and therefore to "ruminate" the house-air. And tuberculosis is a disease of indoor life. In Alberta in 1909 tuberculosis caused 212 deaths; all other infectious diseases killed 277 Albertans. I venture to assert that if we had prevented the 212 we would, by the same measures, have likewise cut off the 277 other preventable deaths. So an anti-tuberculosis campaign has a definite tangible purpose, giving *point* to the hygienic measures resorted to and definite *results* to be aimed at; it is therefore more feasible than a generalized public health propaganda yet, if thorough, *it must embrace all*

*personal household and public hygiene*; in fact, everything that goes to secure the greatest measure of health to the people. Good health is the best and only cure preventive against tuberculosis infection. At present tubercle bacilli germs are so nearly ubiquitous that practically all human beings are exposed to them at some time or other, and the incidence of the disease in a given community is a fair index to the susceptibility of the people there.

Modern bacteriology replaced the old superstitions regarding the malevolent effect of foul odors as a cause of disease with the firm establishment of the theory of specific germ causation, but until recently "place infection" was regarded as paramount in the propagation and spread of infectious diseases. Hence "terminal disinfection" (*i.e.*, disinfection of the room or house after the case has terminated by removal, recovery or death) was regarded as the main requisite in prophylaxis. Now we know, however, that "person" infection is nearly the whole thing and terminal disinfection for most diseases is of value chiefly as a placebo and for its moral effect on the ignorant public. Very few kinds of pathogenic organisms flourish outside the human body and most of them may be destroyed or safely disposed of as they escape from the body of the sick person. This is termed "concurrent disinfection" and is the form in which disinfection should always be practised. The endless chain of most human diseases would be completely broken and ended could we but properly safeguard the exits of the germs of all existing diseased *persons*. It has been calculated that 7,200,000,000 tubercle bacilli may be given off in twenty-four hours by a single consumptive patient, but these do not multiply after they escape from the body.

The three fundamental factors in tuberculosis are: (1) *The Seed* or Tubercle Bacillus. This, though not ubiquitous, is very abundant, especially in the immediate neighborhood of the tuberculous, *in whom it is exclusively produced*; (2) *The Sower* or channel by which the germs are conveyed from the diseased to new victims; (3) *The Soil* or susceptible tissues of

the individual in which the germs gain a foothold and flourish once they have found entrance. Preventive measures, to be comprehensive, must be directed to all three factors.

As pointed out by Lawrason Brown, the struggle must be *against the disease* tuberculosis, and *not against the tuberculous patient*. There is at present too exclusive attention paid to the *patient* and too little regard given to the *disease*. This is very good as *treatment and cure* but of little value as *prevention*.

A comparison of the circumstances obtaining in smallpox and in tuberculosis is instructive. Smallpox is an acute disease with a most pronounced and definite onset; the clinical picture of the classic form with its outward terrorizing manifestations, its former high mortality and its traditional horror all make easy the enforcement of the most drastic measures for the limitation of this malady; the very simple and entirely effective protective agency of vaccination likewise simplifies the task; immense expenditure of money, work and suffering are continually directed to the prevention of this disease which in 1909 caused one death in Alberta. On the opposite, with tuberculosis the onset is concealed, unobserved and gradual; the victim instead of being repulsive, becomes in many cases more attractive in failing health; he may not be incapacitated for years; and the necessary preventive measures are so many and so lifelong in application that it is extremely difficult to get the necessary public sentiment and individual effort for the effective treatment and prevention of this destroyer which in 1909 killed 212 Albertans.

Public health work has usually heretofore been regarded as having no value as a political asset but rather as being a necessary evil or a decided nuisance to be abated and not encouraged. In fact the endeavor to protect the health of the people should be pointed to as one of the very best reasons for the loyal support by the electorate for any Government which makes this a definite active part of its policy of administration.

The highest economy and efficiency in public health administration requires the organization of all existing public

health forces into one system and supplementing these with other measures which as yet have not been included in spite of their being essential. This calls for a federal bureau or department adequately comprehensive and authoritative. This will not supplant nor render superfluous any existing provincial, municipal or other public health agency but rather will it supplement and co-ordinate these and create new or additional ones where necessary. National health laws and international health measures are rapidly coming into existence.

The increasing activity in the forces that make for health conservation is having a curious effect in an opposite direction. It is stimulating organized action among those "interests" which are in part the cause of ill-health and of those which fatten on it like a veritable vampire, namely the impure food manufacturers and the dishonorable patent medicine manufacturers. These have, it is said, formed an "International Organization of Ill Health"—but not under just this name—whose main purpose is to oppose progress in the conservation of health. I have no word to say against pure food manufacturers nor against those who market medicines under truthful claims and through legitimate channels.

There is still diverse opinion among bacteriologists as to the exact part (or even the general part) which *milk* plays in the tuberculosis chain. Koch claimed that tuberculosis is conveyed from cattle to man not at all frequently. On the other hand V. Behring thinks milk causes the infection of very many children. Certainly we can make no mistake in dealing with the matter from the latter view-point and regarding milk as responsible both directly and indirectly for a large percentage of tuberculosis: *directly*, it conveys the tubercle bacilli into human beings; *indirectly*, it is the cause of tuberculosis when (as is so often the case) it is responsible for acute infections or toxæmias which so lower the vitality that latent tuberculosis lights up—and the individual who has not latent tuberculosis at some time is probably rare.

No matter how important and vital a thing may be, when it becomes commonplace it is less and less paid heed to, hence

the necessity of continually giving a new form to an old story that should be impressed on the public mind and enforced until the desired result has been achieved.

With what fervor and zeal do we pray in terms of the litany of the English Church Prayer Book: "From \* \* \* sudden death. Good Lord, deliver us!" and with what equanimity and silence do we passively submit to the much more frequent slow death, one of the commonest of which is that by the White Plague route.

In 1909, according to official figures 212 Alberta citizens died of tuberculosis. The real number was probably quite a bit larger, many deaths being put down to other causes which were either merely *terminal to* tuberculosis, or were *special* forms of tuberculosis, *e.g.* intestinal, meningal, etc., but were recorded as "marasmus," "inanition," etc. On a liberal estimate of our population there was one death by tuberculosis in every 1,500 Albertans.

Many, the great majority, of these were young adults, the most valuable class of citizen. We do well to foster immigration of desirable citizens into Alberta. Would it not also be well to save them after we get them here? And, remember, *tuberculosis is preventable*. Osler says it can be wiped out in three generations. Now, Osler is a pessimist in therapeutics, yet he says we can cure the human race of its worst disease in three generations. We know tuberculosis as the greatest single living scourge of our fellow citizens. Our children's grandchildren *may* know tuberculosis only as dead history recorded in books! This can be accomplished only, however, if everybody does his part.

How much interest and attention have these deaths attracted as compared with other groups? At the other extreme of suddenness let us consider for a moment the deaths caused by the snowslide on March 4, 1910, on the railway line at Roger's Pass, in B. C., just beyond our western provincial boundary. The snowslide swept out of existence in a twinkling some sixty-two men. That they were in the fullness of health together with the suddenness of the disaster, excited

our keenest sympathy and, horror-stricken, we exclaimed, "Terrible! Terrible!" On the other hand, with what apathy does the public receive the news that the glacier of the white plague in passing over our province in 1909 ground out the lives of over three times as many of our citizens. Most of those snowslide victims were foreigners; most of these white plague victims were our dearest loved and most valuable citizens. *That* was an unforeseen and unpreventable accident; this was both foreseen and preventable and *will be repeated this year!* What are we going to do to prevent it? Can we hesitate one moment to put into operation every known means to stay the havoc of the white plague glacier in Alberta?

It has been abundantly proved that the most effective preventive is *education of the public*. This is carried on in various ways of which the most important are state sanatoria, descriptive literature, and public lectures and exhibits. Lack of space permits me merely to mention these. My endeavor here is *to show the need of doing something*. Alberta almost alone of all the Canadian provinces is without a sanitarium for tuberculosis, and a sanitarium not only *cures*, but also *prevents* by teaching proper habits.

How much better it would be if in place of the slow killing by tuberculosis we could substitute sudden death in good health.

In 1911 let us have a bargain with the devil as follows: On one side of the bargain there shall be no tuberculosis. As tuberculosis is an evil and as the devil is the author and dispenser of all evil, this shall be his part of the bargain. On the other side, we shall do all in our power to eradicate the causes and conditions of preventable diseases and also every year shall hold a great conclave, say in the fair city of Calgary. To this, free transportation shall be given from all parts of the province and we shall bring our loved ones in the fullness of life and health; 212, or more justly, for every 1,500 people in the province, one person, shall be chosen by lot. The father, mother, sister or brother of each of the chosen ones shall select shooting or drowning as the form of sudden death and

shall either shoot the victim or push him or her into the swift running Bow from the centre of the west bridge, while all the people line the banks to witness the spectacle. This ceremony shall be observed annually for ninety years, *i.e.*, three generations. On the ninety-first anniversary, or in the year 2000, if we do our part faithfully, the devil will receive his last payment and thereafter the celebration shall be carried out in detail with the exception of the killing. In place of the slaughter our great grandchildren shall have a thanksgiving for their deliverance from the devil of infectious diseases—and for the blessing of abundant good health for all the people. Would the horror of this sufficiently impress the people to drive them to the full performance of their part in eradicating preventable disease, or would they again grow callous and allow the devil to claim his annual toll unheeded?

Seriously, this would be a good bargain for us to make. We shudder at the publicity and the personal elements thus given to the deaths, and yet *we are voluntarily carrying out a worse bargain*. The death by tuberculosis is a living death, slow, sure, dying by inches, absolutely far worse than drowning or shooting, *and we know how to prevent it*. Shall we?

The really most important, and until recently entirely ignored, factor in the future elimination of tuberculosis is *eugenics, that is, the science of improvement of the human race by intelligent and selected breeding*. Until recently little has been known of the facts of heredity; as regards the children, very aptly has marriage been termed a lottery. That eugenics strikes at the root of the matter of health is due to the large part which inherited susceptibility plays in the incidence of every kind of disease.

Much of a parent's happiness is identified with the happiness and well-being of his children and so in turn as the happiness of the latter depends largely on their children we must look to the well-being of our children and grandchildren if we would secure the fullest measure of our own happiness. Many children are before birth already doomed with absolute certainty to definite diseases, insanity or low level physical

moral and mental condition, the unwitting parents entailing misery both on themselves and their unfortunate offspring. How much better off the State would be if all "unfit" individuals were either wiped out or, better still, were substituted by healthy, capable citizens! *Eugenics will do this*, and largely within the next few generations. The citizen of one hundred and fifty years hence will look back with wonder and perplexity at the tardiness with which we will put into operation this first essential to advancement of the human race, years after we have, by means of it, brought domestic animals and plants to a high standard of all desired qualities.

The first law of health is "to be born of healthy parents." Many years ago when I first came across this statement I thought it was mockery. I was already born and had not the power of choosing my parents. Now, however, it is clear to me that this is a *fundamental law defining man's duty in regard to parenthood*. Unfit shall not become parents; fit shall mate only with fit.

A beginning to this has already been made in all civilized countries in laws governing marriage and requiring a state license to wed which is (or should be) granted only on certain defined conditions. But the marriage license should exact much more than it now does, thus furnishing the basis of eugenics. And logically this is easily possible: In every marriage contract there are three interested classes, *viz.*, the contracting parties, their children to be, and the state, of which these children will be members. The fundamental rights of each of these classes must be recognized and secured. This fundamental is *good physical health*—the basis of sound mentality and morality. No person suffering with an active communicable disease that is a menace to marriage partner can now legally marry. This will be extended to debar those with disease transmissible to offspring, and later further extended to debar those with bad physical, mental or moral tendencies which are hereditary and a menace to the state. The nation is the sum of the individuals in it. The state has and must exercise the power to protect itself against the introduction of bad citizens either by immigration or by birth within its boun-

daries. To prevent bad citizens is absolutely the first and greatest duty of every government. In a few of the most advanced states this duty has been in part implemented in laws to sterilize criminals. More and more is it being recognized and established that many so-called private rights are not private—we are approaching the day when beauty in the front lawn will rank with cleanliness in the back yard. As yet our health laws are largely negatives—"Don't be dirty and repulsive" is being changed to "Do be clean and attractive."

"Governments spend scores of thousands of dollars and establish rigid inspections to prevent the spread of the *coitus* disease of the horse, but the *Spirochete* parasite that causes the corresponding disease, syphilis, in man and entails endless misery on hundreds of thousands of innocent children may be disseminated by anybody, and is being disseminated by scores of thousands of persons in this country [U. S.], unchecked, under the protection of the 'personal liberty' flag. Alas! that so little thought is had to the loss of liberty of the infected children. Marriage of persons with venereal disease is not only unfit—it is a hideous and dastardly crime; and its frequency would justify a medical test of all males before marriage, innocent as well as guilty."\*

Tuberculosis of the lungs causes more than ten per cent. of the deaths in the United States but it is easy to find say ten families including one hundred deceased persons among whom, instead of the expected ten *not one* died of consumption. There are also many families in which no nervous disease has occurred in three generations; others without kidney diseases; and so on. On the other hand, in some families forty to fifty per cent. or even eighty per cent. are attacked by lung and throat troubles or nervous defects. These remarkable differences in family groups are not due chiefly to environment, because they occur in families of which the members are widely dispersed and have varied occupations. They indicate fundamental differences in the protoplasm, *i.e.*, in the living substance of the bodies of these persons. Unfavorable environment collects its toll first from those who are, by heredity, least resistant.

\* Davenport, *Eugenics*. Henry Holt & Co., N. Y.

As regards the art of eugenics in some cases, at least, definite rules may already be laid down. The fundamental law is: Whenever the same unit defect exists in both parents it will appear in all the offspring. The "unit defect" is not easily determined, nor is a given gross defect probably identical in the parental strains unless the parents are cousins.

By a proper investigative research we could not only learn the method by which human characteristics are transmitted but we could also discover those lines which supply our families of great men: our great statesmen, our inventors, our captains of industry, our octogenarians, nonagenarians and centenarians. Thus could also be learned whence come the whole list of famous men who stand high above the average, and likewise the sources of the insane and feeble-minded, the tens of thousands of blind or deaf, the hundreds of thousands that are annually cared for in our hospitals and homes, the hordes of criminals and paupers that are found within and without prisons and almshouses.

"Greater tasks than those contemplated in the broadest scheme of the eugenics committee have been carried out in this country [the United States]. If only *one-half of one per cent.* of the thirty million dollars annually spent on hospitals, twenty millions on insane asylums, twenty millions for almshouses, thirteen millions on prisons, and five millions on the feeble-minded, deaf and blind, were spent on the study of the bad germ-plasm that is the real cause of the above annual expenditure of nearly one hundred million dollars, we might hope to learn just how it is being reproduced and the best way to diminish its further spread. A *new* plague that rendered four per cent. of our population, chiefly at the most productive age, not only incompetent but a burden costing one hundred million dollars yearly to support, would instantly attract universal attention, and millions of dollars would be forthcoming for its study as they have been for the study of cancer. But we have become so used to crime, disease and degeneracy that we take them as necessary evils. That they *were* such, in the world's ignorance, is granted. That they must remain so, is denied.

"One cannot fail to wonder that, where tens of millions have been given to bolster up the weak and alleviate the suffering of the sick, no important means have been provided to enable us to learn how the stream of weak and susceptible protoplasm may be checked. Vastly more effective than ten million dollars to 'charity' would be ten millions to eugenics. He who, by such a gift, should redeem mankind from vice, imbecility and suffering would be the world's wisest philanthropist." (Davenport, *loc. cit.*, upon whom I have freely drawn in this paper in regard to eugenics.)

We hear a good deal about race suicide and the need of encouraging larger families. But our real need is *quality* not *quantity* of citizens. Life is saved and prolonged by modern medicine, hence a growing need to find a substitute for the "struggle for existence" and consequent elimination of the unfit. The world will sometime be filled with people, *then* we *must* have eugenics. Meanwhile, however, "art is long and time is fleeting" and a beginning should be made. It is a curious reflection on the disregard we have for human betterment that eugenics has as yet, I believe, been taken up for serious study only by the American Breeders' Association and only as having regard to the improvement of domestic animals. Man is not yet popularly accepted as an animal amenable to the same natural laws that are followed for the improvement of the so-called "lower animals."

To summarize: Good health is the real basis of individual happiness and of national prosperity. Good environment is an essential to good health. In Alberta rapid development of that part of environment formed by houses and their aggregations is taking place and gives a unique chance to realize almost the ideal if wisely and intelligently guided. A good health propaganda should be organized in this province, specifically for tuberculosis, but so thoroughgoing as to embrace all disease. This includes continual education of the public by all effective means. Eugenics is the greatest requisite for the ultimate eradication of the physical ills—and to a very great extent also of *all* ills, mental and moral—of the human race.

## " ACUTE DILATATION OF THE STOMACH " \* With Report of Two Cases

By Dr. V. A. Lincoln, Medical Superintendent, Calgary General Hospital

The subject of acute dilatation of the stomach was recently rather forcibly brought to my attention by the following cases:

I. Miss L. G., aged twenty-eight, gave a history of indigestion for many years characterized by flatulence and by what she termed bilious attacks. When about ten years old had what appears to have been a severe attack of appendicitis. At one p.m. February 26th, she was taken with severe pains in abdomen and vomiting; no rise of temperature or pulse rate, very little tenderness. At ten p.m. condition much the same. Next morning the temperature had risen to 101 and pulse to 120. Pain not so severe, but tenderness and local rigidity were marked. Patient removed to hospital and operated upon at once. Appendix was found greatly enlarged, gangrenous and full of pus, but not ruptured. Removed without much difficulty and abdomen closed with a small drain leading down to stump of appendix. Ether was given by the drop method and by an experienced anaesthetist and was well taken. Time of operation: fifty-five minutes. Patient's condition following operation was good, but during the afternoon there was some vomiting and belching of gas. About six p.m. her condition became alarming. Complained of extreme pain in the epigastrium, pulse was barely perceptible, expression drawn and anxious and skin of a greyish blue tinge. Upper part of abdomen greatly distended. Patient was belching a great deal of gas and bringing up mouthfuls of greenish brown flocculent material. A diagnosis of acute dilatation of the stomach was made and stomach tube passed. It was found necessary to pass the tube much further than the usual nineteen

\* Read before the Alberta Medical Association, August 12, 1910.

inches before any fluid was obtained, then between one and two quarts of the greenish fluid was removed, in spite of the fact that no fluid had been taken by the mouth for over twenty-four hours. The removal of the fluid gave great relief from the pain, the distention subsided and the condition improved. Atropine was given hypodermically and charcoal by mouth. At 10.30 p.m. patient again began to belch gas and feel uncomfortable and stomach tube was again passed and a smaller amount of gas and fluid removed. Patient was then given mag. sulph. by mouth, high turpentine enema and eserine salicylate hypodermically. Some flatus was passed, but no stool until after the administration of calomel the following day. From then on the patient made a good recovery. Temperature rose slightly immediately following operation, but fell in a few hours, and never again rose above normal. The wound healed nicely.

I am indebted to Dr. McGuffin, Calgary, for the privilege of reporting another case which occurred in his practice.

Mrs. A., aged thirty. Operated upon for a pustule. Ether was given by drop method and well taken; time of operation one hour. Patient came out of anaesthetic well and, apart from some temperature, was in good condition, making a very good recovery. On third day complained of a smothering feeling, pulse became rapid and weak, expression anxious and skin cyanosed; abdomen greatly distended, especially in epigastrium; superficial stitches gave away from distention; vomiting greenish fluid and belching large amount of gas. The gas would come away with an explosive sound that could be heard all over the hospital, and this would give relief. Patient would press on abdomen to aid expulsion of gas. A few hours later condition recurred until gas was again expelled, which gave relief, and this occurred several times, but eventually patient made a good recovery. I fear my powers of description do not give a good picture of this condition, as one has to see it to appreciate its severity. The nurse in charge when the attacks came on thought the patient was dying, so severe was the shock.

Using this as an introduction, I shall endeavor to review the subject, which I believe is one greatly overlooked by many practitioners. Up to 1909 the total number of recorded cases is only two hundred and twenty-five, yet I am convinced that the condition is not an uncommon one; the only conclusion being that it is often overlooked or more probably diagnosed as some other condition.

Dilatation of the stomach in some of its more or less chronic forms we are all familiar with, but dilatation coming on suddenly and accompanied by symptoms so alarming, I venture to state, is not so quickly recognized. The cause of this condition is as yet somewhat obscure. There have been many theories advanced, none of which are entirely satisfactory.

The two main theories are (1) a mechanical obstruction due to a prolapse of the small bowel into the pelvis, thus causing a mechanical pressure of the mesentery upon the duodenum as it crosses the spinal column. Experimentally this has been produced by a rope attached to the mesentery in the cadaver and drawn through the pelvis with a weight attached. By this it was estimated that the weight of the small bowel in the pelvis was sufficient to cause enough obstruction to produce an acute dilatation. Against this theory is the fact that the small intestines are often found prolapsed into the pelvis yet acute dilatation is not found. Again in many of the autopsies no compression or distention of the duodenum has been found.

Another theory is that it is due to a paralytic condition of the nervous supply of bowel and stomach. In proof of this is the fact that acute dilatation can be produced in dogs by section of the vagi, and also that it often occurs following an anaesthetic or injury where there is shock. Nervous influence might explain those cases following a blow on the head, and pressure on the vagi might also explain those cases occurring during pneumonia or pleural exudates. The truth of the matter is probably a combination of both factors; one factor being more prominent in one case, another in another.

**ETIOLOGY.** *Age.* Most cases occur in young adults, the youngest patient reported was nine months, the oldest seventy-four.

*Sex.* Females are slightly more liable.

*Cases following operations.* This is an instructive group and comprise 47 per cent. of cases. About 69 per cent. of these follow abdominal operations and most frequently following operations on gall bladder or bile passage. Seventeen such cases are recorded. Next in frequency are operations on the kidney, eleven of these having been recorded. Dilatation following operation on the stomach itself is comparatively rare, only four cases being reported. Operations on the ovary and appendix only four and five cases respectively reported previously to our two cases. It occurred eleven times following various operations on the extremities.

Where the anaesthetic is recorded fourteen were ether and thirteen chloroform; in both of my cases ether was used. In the recorded cases no mention is made of the length and amount of anaesthetic.

The onset following operation varies in time from immediately to two weeks after, but in the majority of cases occurs on the third or fourth day. This was the case in one of our cases, in the other it occurred on the same day.

Another interesting group of cases are those occurring during some other disease. Fifty cases occur in this group. The largest number are where some spinal deformity is found, five of which were thought to be due to application of a plaster cast. Six cases occurred during pneumonia and five during convalescence from typhoid. Other conditions in which it occurred are chronic pulmonary tuberculosis, carcinoma of esophagus, abscess of jaw, gonorrhoea, arthritis, disease of the brain, acute rheumatism, miliary tuberculosis, hip joint disease, sciatica, chorea, grave anuria, sarcoma of the humerus and scarlatina. A point to be noted in these cases is that it usually occurs in extreme prostration, emaciation or prolonged decubitus.

Another group is where indiscretions of diet is given as the cause, either by the ingestion of too large amounts or of indigestible material. Twenty-four cases are here recorded. Twelve when the symptoms appeared in persons apparently in good health and symptoms occurred following a single meal; in the other they were suffering from some malady which may have been a contributing factor. Five followed some form of effervescent drinks. One case followed the ingestion of dried apples.

In seventeen cases the condition followed some form of traumatism, but in only five was the traumatism applied to the abdomen. In four cases the injury was to the head or spine.

In four cases no cause could be ascertained, one occurred following a paroxysm of laughter and another followed severe fright.

In twenty-one cases when previous stomach symptoms were inquired for, they were present in eleven and absent ten times. In our cases stomach symptoms were present.

It was found complicating pregnancy in two cases.

A point worth noting is that peritonitis, which one would expect to cause the condition, is only given as the causative factor twice.

*Morbid Anatomy.* At autopsy the prominent feature is the great dilatation of the stomach; in some instances it has reached to the pelvis. Microscopically in the few cases examined no great abnormality was found. Evidences of chronic gastritis is rare. In thirty-five out of one hundred and twenty autopsies the duodenum is dilated. Obstruction of the pylorus was found in five cases.

#### SYMPTOMS AND PHYSICAL SIGNS.

The important symptoms are vomiting or nausea, epigastric pain, abdominal distention, collapse, severe thirst, constipation and scanty urine.

Vomiting is almost invariably present and in most cases is the first symptom. The amount vomited is usually large and consists of a dark greenish flocculent fluid, but may be brown or black. The fluid vomited is often very great and is

strikingly in excess to the amounts taken. In one instance five basinfuls were said to have been vomited in a single night.

Eruetation of gas is a prominent symptom, and in some cases belching of gas can be heard at a considerable distance, as in one of our cases.

Pain in epigastrium is often severe and is usually present. It was noted as absent in four cases. Abdominal distention is often extreme and affects principally the epigastrium and down the left side. In some cases it is so extreme as to cause the superficial stitches to pull out, as in one of our cases.

*Collapse* is an important symptom and nearly always present. It is often severe and sudden, so that patient seems nearly moribund when first seen. This symptom often leads to a wrong diagnosis. The pulse is weak, the expression anxious and drawn, the skin cyanosed, the respirations hurried.

*Thirst* is usually present and in many cases is agonizing.

*Constipation* is usually present and may lead to diagnosis of intestinal obstruction, but flatus is usually passed.

#### DIAGNOSIS.

The first case seen is usually incorrectly diagnosed, but once having recognized the condition the diagnosis is usually easy. Peritonitis is the wrong diagnosis most often made. But in dilatation of the stomach we have a normal or sub-normal temperature, no tenderness or rigidity of the muscular wall, and the presence of vomiting large amounts of fluid.

Intestinal obstruction is frequently mistaken for it, and here the diagnosis is often difficult. Obstruction comes on more slowly and is not relieved by the passage of the stomach tube.

Other conditions that have been mistaken for it are retroperitoneal hernia, post anaesthetic vomiting, chloroform poisoning, appendicitis, acute pancreatitis and uremia.

It is unnecessary to discuss the differential diagnosis of all these conditions.

The main points are: The presence of vomiting of large quantities of fluids, pain and distention of the epigastrium and collapse.

Prognosis is not good. 65 per cent. of the reported cases ended fatally, but it is probable that many mild cases are overlooked. The duration varies. Some ended fatally in two or three hours, others lingered several days—one as long as sixteen days. Of the cases which recovered, some, when suitable treatment is instituted, relief is almost immediate, while in others it took several days.

#### TREATMENT.

*Preventative.* Patients should be given no large meals while in bed. Nourishment following an operation should not be commenced too soon. Patients should be allowed to change their position and move onto the side occasionally.

*Active Treatment.* Stop all ingesta by the mouth. Pass stomach tube immediately, no matter how moribund the patient may seem. Tube should be passed far enough, as the stomach is often distended, so the tube needs to go much further than usual. The stomach should be well washed and the tube repassed on the recurrence of any symptoms. Foot of bed raised. Good results have been obtained by placing patient on the abdomen or even in knee-chest position. Eserine given and continued until bowels are freely opened. Stimulants—hypodermically as required.

*Operative Treatment* has been tried in some cases and the stomach drained or gastro-enterostomy done, but the results have not been encouraging, while the remedial treatment if understood early promises good results.

The fact that I wish to leave with you is that this condition is much more frequent than is generally recognized, and if not diagnosed and properly treated is very fatal in its results, and my hope is that the recital of these cases may aid in the recognition of this condition, which I am sure arises sooner or later in every man's practice.

# THE SASKATCHEWAN MEDICAL JOURNAL

HARRY MORELL, M.D., C.M., *Chairman of Publication Committee*

All communications relating to this publication should be sent to the  
Saskatchewan Medical Journal, Regina, Saskatchewan, Canada.  
Box 1106.

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## Editorial Notes

Elsewhere in this issue is an article, "The Conservation of Alberta's Greatest Natural Resource," contributed by Dr. Revell. This subject is of great practical importance and intensely interesting. Many of us have failed to appreciate the close relationship between health and development to environment.

Dr. Revell has treated his subject splendidly, and it ought to bear fruit. We refer particularly to the question of sunlight in the home and the proper building of the home and planning of its surroundings.

Quite recently we had the pleasure of hearing Mr. Henry Vivian, a member of the English Parliament who at the suggestion of Earl Grey came to Canada to give his views on "Garden Suburbs and Town Planning" and its relation to health and moral development. This is not the place to enlarge on this subject but we might mention that one does not realize the startling comparisons brought out by Mr. Vivian. For instance, he quoted that the children brought up and educated within the industrial village of Port Sunlight and those living in the unhealthy, unsanitary and badly housed districts in the slums, show the remarkable

Relation of  
Environment  
to Health

difference of five inches in height and thirty pounds in weight; not only this, but the difference in mental and moral character of the children was remarkable.

In Western Canada today, be it said to our shame, we have our slums. We all know of the miserable little one-room shack, housing sometimes nine persons. What will this lead to? Only too well do we know.

What is our responsibility in this matter? If the medical men of this western country do their duty such a state of affairs can be done away with. Tuberculosis is curable. Certainly we know that it can even be cured in New York on a fire escape by putting the patient out on it each day in the air and sun.

The medical profession as a whole, as well as the general public, seem so indifferent, we are tempted to think, that, regardless of the knowledge, our medical men still cling to the ignorance and theory of the past. There is general apathy and the result is already shown.

Gaining steadily, the Dominion Registration act will soon be a reality, and we are very glad to print the following,

passed at the recent meeting of the Alberta Medical Association at Banff.

The Koddick  
Bill

Your Committee on Legislation beg leave to recommend that in the opinion of this Association it would be in the best interests of the Medical profession, not only of this Province, but of the whole Dominion, that Dominion Registration be brought about as soon as possible by the adoption of the Canada Medical Amendment Act, 1910. Carried.

So that our readers shall know the latest word and modern treatment of syphilis, we give herewith an editorial

Dioxydiamidoarsenobenzol  
in Syphilis

which appeared in the New York Medical Journal, August 27, 1910. This article includes a reference to a paper which appeared in the same journal, August 20, by Dr. Samuel J. Metzger New York.

The interest aroused by the announcement of the discovery of a remedy for syphilis by Professor Ehrlich recalls the excitement which was caused by the publication of the discovery of tuberculin in 1891. When the preliminary reports regarding the discovery of this latter agent were made public we took occasion to caution the medical profession against taking too sanguine a view regarding its efficacy. Unfortunately that caution proved to have been most timely, for the brilliant hopes based on Dr. Koch's announcement were not fulfilled, as the action of tuberculin has proved to be protective and diagnostic rather than curative. Bearing in mind this disappointment, it is well to accept with some caution the prophecies which have been made regarding the complete annihilation of syphilis in the near future.

There is, however, much more substantial grounds for the hopes expressed regarding the effect of 606, than was the case with Koch's tuberculin, for the latter scientist was practically forced into publication before the therapeutic efficiency of tuberculin had been determined experimentally. Ehrlich on the other hand, has been able to test the effect of his remedy thoroughly on animals and in German, Austrian, and Russian clinics. It has been used in something like 2,500 cases of human syphilis with practically uniform good results. We have therefore much more substantial grounds for hope in this case than in the case of Koch's tuberculin.

The reports which reach us from Germany indicate that Dr. Ehrlich has been deluged with applications for supplies of his 606, but that he has uniformly declined to furnish the remedy save to a few physicians personally known to him who are in charge of government hospitals and who are in a position to have complete control of their patients and keep them under competent and constant observation. As a matter of fact no supplies have been furnished to hospitals outside of Germany and Austria, save to one in St. Petersburg. In view of the severe and unjust criticisms to which Dr. Koch was subjected in connection with the use of tuberculin, it would seem that Dr. Ehrlich has adopted a wise policy in

restricting the use of the drug to official circles until such time as its uses and its methods of administration have been thoroughly studied and its value and limitations demonstrated beyond any possibility of doubt.

It is not improbable that unauthorized manufacturers will undertake to supply dioxydiamidoarsenobenzol, which is the systematic name of the base, or a valueless substitute, but any such product should be accepted with caution, for, so far as we have observed, Ehrlich has not published his method of procedure in such detail as to enable any one to manufacture the substance with assurance that it is identical in every respect with that made at the experimental institute at Frankfort. When supplies of the genuine product are available it must be borne in mind that the methods presented by Ehrlich and his associates must be followed with the most scrupulous care. It will be recalled that the most severe criticism of tuberculin came from those who did not know how to use it. The product prepared by Ehrlich and the methods to be followed in its use were set forth in detail in the *New York Medical Journal* for April 6, page 821; May 28, page 1138; August 13, pages 337 and 338; August 27, pages 435 and 436; and, finally, the whole subject has been treated in a concise but most lucid and effective manner by Dr. Samuel J. Meltzer in the *Journal* for August 20, page 371.

The drug is prepared in the Royal Institute for Experimental Therapeutics at Frankfort on the Main by Dr. Bertheim, one of Ehrlich's assistants. It is a sulphur colored powder having the formula  $C_{12}H_{12}O_2N_2As_2$ . It is put up in small sealed tubes *in vacuo*. It is *not* a patented remedy, but its preparation is protected by the government to prevent adulteration and poor imitation, and when the clinical studies have been completed and the results proved to be such as to warrant the conclusion that it is a specific, 606 will be within the reach of everyone, as it is now the case with vaccine virus, tuberculin, and the antitetanic and antidiphtheritic sera. It was first used clinically by Professor Konrad Alt, of Uchtsprunge, near Magdeburg, Germany. The dihydrochloride

is the salt which has so far been used. The dose is 0.3 of a gramme, or about five grains, injected hypodermically once or twice a week according to the severity of the case. The injection was made first in the gluteal region, but now the shoulder is used, or it is injected into a vein. The intramuscular injection has caused considerable pain lasting for some hours. The intravenous injection is not painful. The intramuscular injection has been used on the storage theory followed out in the injection of mercury, namely, that the system will absorb the remedy as rapidly as it is needed.

Clinical observations so far indicate that it will arrest the progress of syphilitic symptoms within twenty-four hours, the spirochætae disappearing from the blood within from four to ten hours after the injection of the remedy, and that it prevents a subsequent manifestation in ninety-two per cent. of the cases. As was pointed out in our last issue by Dr. Meltzer, the question of dose is still in an experimental stage, and the cases in which the results were not satisfactory may have failed to react merely because the dose was insufficient or improperly applied. One of the most interesting features of the remedy is that it seems to be a specific poison for all kinds of spirilla, having acted most satisfactorily in the dangerous intermittent fevers prevalent in St. Petersburg. If this specific toxicity to spirilla is general, as it appears to be, we may find that we have in dioxydiamidoarsenobenzol not only a remedy for syphilis, but a specific for that dread disease which has depopulated vast areas of Central Africa, the sleeping sickness.

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Miss Clearihue has entered upon her duties as matron of the Regina General Hospital. Speaking for the medical profession, we believe that she will be given loyal support. The duties which will be rather arduous on account of the overcrowding of the present quarters, will, we hope, become more pleasant when we occupy our splendid new building. We welcome Miss Clearihue to Regina and wish her every success in her work.

## The Month

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It is with a good deal of satisfaction that we are able to state that the government of Saskatchewan held the same views as set forth in former issues of our journal, viz., that one employed in the Department of Public Health as a public servant should not engage in general practice in competition with ordinary unsubsidized medical practitioners. This deduction has been drawn from the fact that the medical gentleman imported by our esteemed Commissioner of Health of Saskatchewan had to decide between a career in the public service or general practice. The latter was chosen.

We congratulate the administration on the firm stand taken. It will show that a public servant cannot override the wishes of a considerable number of citizens with impunity.

Before closing this matter, we may be allowed to suggest that the Department of Health of Saskatchewan would in future do well to confine its attention and energy to its legitimate work, and develop its efficiency. It does not appear wise to deliberately antagonize those who have the power to give loyal support to the department in times of stress.

One of our contemporaries has pointed out that in Toronto the police department of that city has made the statement in the daily papers that medical men have not the right to jeopardize the lives of citizens while answering an emergency call; or as the Montreal Medical Journal puts it: "Hurry cases do exist, but they do not occur as often as the public think they do, and no one but a medical man fully appreciates how few lives actually depend upon those two minutes that are saved by reason of the speed of the motor or other conveyance." The article then speaks regarding the "Speeding ambulances" in Montreal and says, "For years a patient public has had to put up with ambulances going at breakneck pace, with gongs that ring furiously, whose every sound is an excitant to nervous prostration."

This evil of noisy, frantic gong sounding and speeding ambulance, is noticeable in Regina and, before it gains a foothold, it should be prohibited. It is very rarely, indeed, that this furious hurry by doctor or ambulance driver means the saving of life. It smacks only of cheap notoriety and attention.

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It is now high time that the Council of the College of Physicians and Surgeons of the Province of Saskatchewan rendered an account of their stewardship. Time and again we have insisted that this Council give to the members of the college (*i.e.* every qualified practitioner in the province) a detailed financial statement of receipts and expenditures, to a cent. The following is quoted from this journal, in the May issue: "Do the practitioners know that we have or ought to have, about twenty-five to thirty thousand dollars in the treasury? Where is it? Who has it? Is it being administered properly? Is this fund placed so that it will draw a good rate of interest?"

What is the cause of delay in publishing this statement? Surely there is nothing to conceal?

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Another matter showing the procrastinating character of this council is the "Medical Register." A letter just received, is herewith copied.

"Can you inform us if the Medical Registrar for the province of Saskatchewan has yet issued a list of the medical practitioners, duly licensed to date, in the province of Saskatchewan? If this has not been issued, can you inform us if there is any likelihood of its being published at an early date?"

There has been no list brought out as far as we can find out, nor is there any possibility of one being published in the near future.

The statutes of Saskatchewan provide for the publication of this. Chapter 28, section 61. We reprint it in part:

"The registrar shall from time to time under the direction of the council cause to be printed and published a correct list of the names of the members of the college not under suspension which list shall show their names arranged alphabetically, their residences and their qualifications, etc."

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To summarize: The Council was organized in July, 1909. Since this date there has never been a report of any kind, as to the financial condition, nor has the official register been prepared and issued.

As the Council have not shown any disposition to furnish and issue these reports, we shall have to avail ourselves of Section 72 of the Act of 1908, Chapter 28, as follows:

"72. The registrar whenever required by the Lieutenant Governor in Council shall transmit to the Provincial Secretary a certified return under the seal of the Council setting forth all such information and particulars relating to the college as may from time to time be required or asked for."

## Book Reviews

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LIPPINCOTT'S NEW MEDICAL DICTIONARY: A vocabulary of the terms used in Medicine and the Allied Sciences, with their Pronunciation, Etymology and Signification, including much collateral information of a Descriptive and Encyclopaedic character. By *Henry W. Cattell*, A.M. (Laf.), M.D. (U. of P.). Editor of *International Clinics*, Fellow of the College of Physicians of Philadelphia, etc. Octavo. 1,100 pages, freely illustrated with figures in the text. Flexible leather round corners, patent thumb index. J. B. Lippincott Company: Philadelphia, London and Montreal. Price \$5.00.

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SURGERY OF CHILDHOOD INCLUDING ORTHOPAEDIC SURGERY. By *De Forest Willard*, A.M., M.D. (Univ. of Pa.), Ph.D., Professor of Orthopaedic Surgery, University of Pennsylvania, etc. 800 pages, with 712 illustrations, including 17 in colors. J. B. Lippincott Company: Philadelphia, London and Montreal.

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NORMAL HISTOLOGY WITH SPECIAL REFERENCE TO THE STRUCTURE OF THE HUMAN BODY. By *George A. Piersol*, M.D., Sc.D., Professor of Anatomy in the University of Pennsylvania. 418 pages and 438 illustrations many of which are in colors. Eighth edition (rewritten). J. B. Lippincott Company: Philadelphia, London and Montreal.

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CONGENITAL DISLOCATION OF THE HIP JOINT. By *J. Jackson Clarke*, M.B. (Lond.), F.R.C.S. 92 pages of text and many illustrations. Bailliere, Tindall & Cox: 8 Henrietta Street, Covent Garden, London.

"THE TRAIL MAGAZINE" for September contains many interesting articles, including "Is Medicine a Humbug." This journal should have the support of Western people. It is made, and has to do with the development of the Western Canadian Provinces. Price, \$1.00 a year. Trail Publishing Co., Regina.

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THE SPECTRUM. Without question, the most artistic brochure published. The September issue contains "A Cottage Bungalow" and many other useful hints on home decoration. The Sherwin-Williams Co., Cleveland, Ohio., U.S.

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ESSENTIALS OF HISTOLOGY; DESCRIPTIVE AND PRACTICAL.  
By *A. E. Schafer*, M.D., Sc.D., LL.D., F.R.S., Professor of Physiology in the University of Edinburgh. Eighth edition, 571 pages with illustrations. Longmans, Green & Co: 39 Paternoster Row, London, E.C.