

# The Canadian Journal of Medicine and Surgery

A JOURNAL PUBLISHED MONTHLY IN THE INTERESTS OF  
MEDICINE AND SURGERY

---

---

VOL. XVII.

TORONTO, APRIL, 1905.

NO. 4.

---

---

## *Original Contributions.*

NIELS KYBERG FINSEN—HIS LIFE AND WORK.\*

BY CHARLES R. DICKSON, M.D., TORONTO,

Electrologist to Toronto General Hospital, Hospital for Sick Children, St. Michael's Hospital;  
Fellow and ex-President of American Electro-Therapeutic Association, Member  
of Canadian Institute, etc.

THE beneficial action of sunlight, both in maintaining health and in combating various diseases, has been recognized from time immemorial. The ancient Greeks anointed their bodies and exposed themselves to sunshine on the flat roofs of their houses, both for pleasure and health. The Romans also indulged in the sun-bath, frequently following it with cold sponging, according to Vestricius and Cicero. Later, they had special buildings, called solaria, in which they took the Heliosis or sun-bath. Herodotus, C. Aurelian, and Antyllus recommend sun-baths in diseases of the skin and other affections, and many of the writers of antiquity advise the use of the sun-bath as a curative agent.†

This early belief in the therapeutic value of the rays of the sun is well nigh universal. Natives of South and Central America and Mexico lie full length on their backs for hours in the blazing tropical sun, as a remedy for consumption, a method said to antedate the advent of the Spaniard.‡ And in China, Japan, Hayti, and Mexico, the injurious effects of sun-

---

\* Revised Abstract of a paper read at meeting of Canadian Institute, Toronto, Jan. 28, 1905.

† Freund, "Radio-Therapy."

‡ Rogers, "Luco-Therapy."

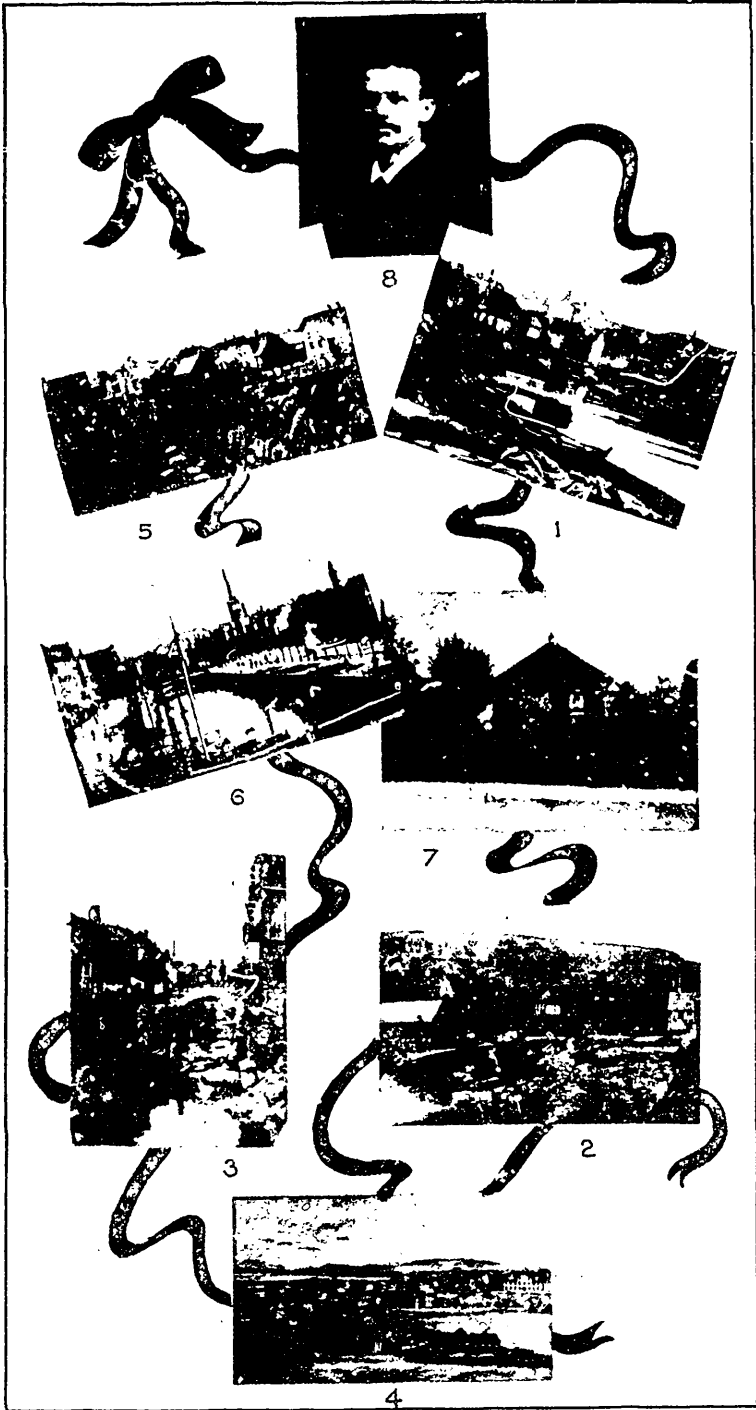
light in certain conditions are also known, so that while some patients are given sun-baths, others are kept from the light.

Systematic phototherapy dates from the beginning of the nineteenth century, when Professor Lobel, of Jena, set forth definitely the indications and contraindications for light treatment, and described a special apparatus for the purpose, since which time much has been accomplished in placing phototherapy upon a scientific basis.

But it remained for the immortal Finsen to gather the threads of evidence of the powerful influence of light upon health, to crystalize the discoveries of others, and to carry on his own ingenious, extended, and most strangely simple series of observations.

Born on the Faroe Islands, and living until his twenty-first year in Iceland, sunlight always had a great charm for him, and the sunless days depressed him greatly. Even as a boy he noted the action of the sun's rays upon certain animals. He spent eight years at the University of Copenhagen, in Denmark, graduating in 1890 as Doctor of Medicine, thirty years of age, but already a confirmed invalid since the age of twenty-three, with heart, liver and organs of digestion hopelessly affected, and active practice of his profession absolutely impossible. For three years after graduation he acted as Prosector of Anatomy under Professor Chiewitz at the university, and they still use there a dissecting knife invented by him. But, though handicapped so greatly bodily, he possessed keen powers of observation, the faculty of investigation highly developed, a rare intelligence, and an indomitable will, in spite of almost constant physical suffering.

Finsen was always keenly anxious to probe the mysteries of light, and from before the close of his student days had been experimenting with it. His first investigations dealt with the injurious action of the so-called chemical rays of light, of the blue, violet, and especially the ultra-violet parts of the spectrum, the most refrangible; where the chemical effect is at the maximum, the heating effect at the minimum; while at the other extremity of the spectrum the opposite phenomena obtain, the red and ultra-red rays being least refrangible, and the chemical effect at the minimum. In July, 1893, he had set forth some striking theories as to the action of light, and later, in 1894, he expounds and elaborates them, first drawing attention to the fact that "with the exception of the influence of light upon plants and upon the organ of vision, our knowledge of the physiological action of light and its effects, whether good or bad, is very limited." He considers the injurious influence of the chemical rays upon the animal organism, first, not because he regards this



1. Thorshavn, Stromo, Capital of the Faroes, from the Harbor, Government House.
2. South Harbor, Fish Stores, etc.      3. The Stream through Thorshavn.
4. Reykjavik, Capital of Iceland.      5. Business Quarter of Reykjavik.
6. Copenhagen, Capital of Denmark.      7. Finsen's Home, Copenhagen.
8. Niels Ryberg Finsen, "The Wolf-Slayer." Born Dec. 15th, 1860, at Thorshavn, Stromo, Faroe Islands. Died Sept. 24th, 1904, at Copenhagen, Denmark.

property as their only influence, but because it constitutes the very foundation of the subject.\*

He notes that the deleterious or fatal influence of light upon the majority of bacteria is already known: that Duclaux, in 1885, had said that "sunlight is the best, cheapest, and most universally applicable bactericidal agent that we have;" that Downes and Blunt, in 1878, had shown that this effect was almost exclusively due to the chemical rays; that Graber, in 1883, found that earthworms in a box covered with strips of colored glass representing the colors of the spectrum, always crawled to the darkest places, viz., under the red glass, and Dubois, in 1890, had shown that the proteus was least comfortable in white light.

Brucke, in 1851, had explained that the chameleon changed its color by moving the pigment cells in its skin nearer to the surface, thus protecting itself against a disagreeable light impression; Paul Bert, in 1878, noted that while red and yellow light did not influence the pigment cells, blue and violet rays caused strong reaction, and in 1887 observed that if half of its body were illuminated through red glass and half through blue, that under the red remains a long time whitish, while that under the blue becomes blackish almost instantly.

Finsen had noticed that horses and horned cattle suffered from solar erythema, limited almost exclusively to non-pigmented parts of the skin. Wedding, in 1883, and Virchow later, observed that cattle and sheep fed on buckwheat are subject to vesicular cutaneous eruptions, more marked in the whiter animals and those exposed to light. Those kept in the dark were not affected, and a white cow coated on one side with tar, had the exanthem only on the opposite side. Livius Furst noted that in preparing animal vaccine, calves with a light skin were preferred, because pustules did not develop well upon those with a dark hide. Volkmann learned this practically in 1891, but did not explain it.

Una, of Hamburg (1885); Widmark, of Stockholm (1889), and Hammer, of Stuttgart (1891) definitely demonstrated that the chemical rays, particularly the ultra-violet, are exclusively the cause of erythema solare, or eczema solare, and physiological pigmentation of parts of the skin exposed to light, explorers in polar regions and tourists on glaciers suffering severely from erythema caused by the reflection of sunlight by the ice, even with a temperature below zero.

Finsen regarded pigmentation as a protection from injurious action of the chemical rays, the coloring matter preventing them from penetrating too deeply, and proved this to his satisfaction. Painting a band of Indian ink around a part of his arm unac-

---

\*Finsen, "Photo-Therapy."

customed to direct sunlight, he exposed it to a hot sun for about three hours. Removing the Indian ink disclosed a white band of normal skin, while that on either side was red, and later became inflamed, painful and swollen, remaining so several days, and finally becoming much pigmented, the white band remaining quite normal. On again exposing the arm without blackening it, the white zone became the seat of inflammation, while the pigmented parts were not affected except to become more pigmented. Oarsmen experience the protection of pigmentation. Furred animals, whales, reptiles, birds and fish are colored most on the side most exposed to the sun; fish require this protection because water, while it absorbs the red and ultra-red rays largely, allows the ultra-violet to pass freely. In plant life, pigmentation is also provided for protection against too much light.

The acute effects of chemical rays upon human skin vary from a feeble irritation to inflammation with epidermal desquamation, depending upon the intensity of the light, the proportion of chemical rays it contains, the duration of exposure, amount of pigmentation and thickness of epidermis. Ordinary lamps give proportionately less, and electric arc light more chemical rays than the sun.

The inflammation, unlike all other of similar duration, does not develop immediately, only attains its greatest intensity from twelve to twenty-four hours after exposure, develops only upon parts directly exposed to luminous rays, and leaves a pigmentation of the skin. It is thus unlike that caused by heat rays.

In smelting metals in an electrical furnace, men suffer severely from the effects of the light upon their skin and eyes. Widmark proved that this was due to the action of ultra-violet rays alone, and not to heat rays. As long ago as 1859, Charcot expressed the opinion that it was the chemical and not the heat rays that occasioned erythema solare, and that the dermatitis caused by a very strong electric light is identical with erythema solare, but it was not till 1889 that Widmark gave the scientific proof thereof.

An electric arc of twelve thousand candle power was used; by passing its light through a thick enough layer of water, the heat rays were absorbed, and by passing the light through a plate of common glass, the ultra-violet rays were absorbed and thus excluded. When the heat rays alone were excluded, skin subjected to the influence of the light developed the characteristic inflammation, but when only ultra-violet rays were excluded, the skin exposed to the light was unaffected.

Having considered the microscopic phenomena of light and the form of inflammation caused by a special irritant, Finsen turned to histological changes, to determine whether the inflam-

mation was simple or complex in character, and early in 1893 experimented with tadpoles. After ten to fifteen minutes' exposure to sunlight on the stage of the microscope, with precautions to exclude the effects of heat, the circulation in the capillaries, which were dilated, slowed, then ceased; leucocytes and red corpuscles escaped through the walls, as in simple inflammation, and the red corpuscles contracted, which demonstrated a direct action upon the capillaries and upon the blood itself; others had shown that light would cause living protoplasm to contract.

Pigmentation being nature's defence against the rays, from the location of the pigment cells, both in man and in animals, it would appear that the blood vessels and the blood need protection. The chemical influence of light is in direct proportion to the amount absorbed, and no living tissue absorbs so much light as does the blood, and especially violet rays. Other experiments showed that light had much influence on the nervous system.

He then considered acute diseases of the skin which the chemical rays might cause, and those which might be unfavorably influenced by the rays; for if they could produce a severe inflammation in healthy skin, they should injuriously influence a diseased skin.

In the midst of these experiments, Finsen found in the library of the university some articles alluding to the unfavorable action of light upon smallpox. One by Picton, of New Orleans (1832), mentioned that during an epidemic of smallpox, some soldiers confined in dark dungeons recovered without suppuration or pitting, but did not attempt an explanation. The English physicians, Black, Parlow and Waters (1867, 1871), had also published observations without attracting attention. Finsen thought that all these observations agreed with the fact that the parts most exposed to light, the face and hands, were the seats of the deepest and most confluent scars, and that the chemical rays had much to do with this, hence, in July, 1893, he proposed to treat smallpox patients in rooms from which the chemical rays had been excluded by filtering the light through thick red curtains.

Two months later, Dr. Lindholm, chief military physician in Bergen, Norway, and Dr. Svendsen, his assistant, made the first trial on eight patients, including four unvaccinated children, bad cases. The result was that the stage of suppuration did not appear, there was no elevation of temperature and no edema, and scars did not occur. These results were repeated by many other physicians, and where failure was reported, either some essential detail had been omitted, or treatment had been commenced too late. Finsen pointed out that any preceding successful methods for avoiding scarring had been based upon the exclusion of chemical rays,



10



15



11



9



12



13



14

9. Finsen ready for work. 10. Royalty at the new Lys-Institut at Rosenvaengøf, Copenhagen. Main Room. Visit of Queen Alexandra, Dowager Empress of Russia, Crown Prince and Crown Princess of Denmark, April, 1903. 11. The first Finsen Lamp in England. Presented to London Hospital by Her Royal Highness Alexandra, Princess of Wales, completed May 28th, 1900. 12. The first large Finsen Lamp in America, at Chicago. 13. The original Arc Light Apparatus at the First Light Institute (showing the tubes with large glass lenses). 14. Treatment by Concentrated Sunlight at Copenhagen. 15. King Edward and Queen Alexandra at opening of new Finsen Light Room, London Hospital, June 11th, 1903.

without knowledge of the *rationale*, for instance, painting with iodine, or lunar caustic, or wearing a mask variously medicated.

Even red had been used in smallpox from early times. Thus, John of Gaddesden, who wrote the famous medical treatise, the earliest in the English language, "*Rosa Medicinæ*," and who died in 1361, treated the son of King Edward I. for smallpox by covering him with scarlet blankets and counterpane, placing scarlet hangings about his bed, gargling his throat with mulberry wine, and having him suck the juice of red pomegranates, the patient recovering without scarring. And in the time of Queen Elizabeth, red curtains, red coverlets, and red glass about the bed were highly vaunted in smallpox. Scarlet hangings and coverings were thus used early in the eighteenth century in France. Japan and Roumania have had similar notions for ages. In Tonkin the patient is placed in an alcove, and all light excluded by red hangings.

Finsen's plan involved as absolute protection from the chemical rays as the photographer accords his plates and paper. A candle was permitted while examining the patient, or while he was at his meals. Treatment should commence as soon as possible after the rash appeared—there was less hope after suppuration—and continue until all vesicles had dried up. It was not claimed that death would always be prevented, but that if taken in time and all rules observed, suppuration would rarely occur, and there would be no scars or very slight ones. In 1898, Finsen published an appendix to his paper on smallpox, showing the good results of many other observers.

Had Finsen accomplished nothing more, he would have merited the gratitude of the entire world and his name would ever have been honored, not alone for his actual achievement, but even more for the new avenues of research he had opened up. But a greater triumph yet was to reward his unassuming genius, for in 1895 he gave the world a paper which has been as a light in the darkness to many an afflicted, hopeless, despairing sufferer, a revelation of many a mystery in life's mystic volume, an interpretation of many a dream of the plodding, patient investigator, an inspiration and incentive to all co-workers in this most alluring field, the dawn of a brighter day. Hitherto he has dealt with light as an irritant, now he reveals to us "*Light as a Stimulant.*"

In observing the development of the eggs of the frog, and of the salamander, Finsen noted that movements of the embryos were increased by direct sunlight, and on experimenting with various colored lights found that violet rays produced the greatest effects. With salamanders an hour old, and others a day and a night old, a beam of light reflected upon the dish containing them excited lively movements, which ceased when they reached a shady



spot. Red, yellow and green rays did not affect them, but blue provoked as rapid action as compound light. Tadpoles kept in the shade for some weeks became very lively when exposed to daylight when the water was changed. Tadpoles raised under red light became very excited when exposed to daylight, while those raised under blue light were quite indolent, being accustomed to the chemical rays, while the former were not; red filtering out the stimulating rays. Earthworms exposed to various colored lights were uncomfortable in and avoided blue light, but sought red; some worms that had met with an accident and were weak, were revived by exposure to sunlight. Earwigs, woodlice, and beetles were much agitated under blue light, but quiet under red. All these dislike light, because the chemical rays excite them, but what of those which like it?

Butterflies were exposed to direct sunshine in a box, half covered with red glass, and half with blue. All beat their wings violently at first, but those under the red light soon became quiet, while those under the blue moved incessantly. When the sun ceased, those in the blue light became quiet, and an hour later the majority were under the blue zone. Reversing the cover, the majority moved to the blue zone again; the experiment seeming to indicate their preference for the chemical ray, and the influence of these rays on their movements. Experiments with meat flies showed that the different colors did not influence them in daylight, but that flies like to sleep in places where the excitation of light is most feeble.

Finsen's conclusions were that the action of the chemical rays (blue-violet) on these animals, compared with that of the heat rays (red), and light rays (yellow), was very considerable, and might broadly be defined as an excitation of the nervous system, so pronounced as to provoke well-marked reflex actions (in the embryo), and in other cases very powerful and special reactions (in photophobic and etiolated animals); and that it could truly be said that these chemical rays were promoters of life and energy, and that their action was constant and of daily occurrence, and must be of great importance in the carrying on of vital functions. Rays charged with such energy, when absorbed by the body, must have this energy transformed in many ways, one being this excitation of the nervous system, which doubtless influences in a secondary manner all the vital functions. And if the chemical rays influence inferior animals so markedly, why not man?

So confident was Finsen of the correctness of his theoretical deductions that he unhesitatingly stated that he believed implicitly that in the future use would be made of this new therapeutic agent, and the proof experiment once made, it would be easy to carry it out practically under the form of light baths; and lastly,

to determine whether they were to be blue or violet, the variations in their strength and duration, and whether natural or artificial. He noted that light baths had been used in antiquity, and that General Pleasonton had, in 1877, published a book in Philadelphia, vaunting the influence of blue light in cultivating plants, raising animals, arresting disease, and restoring health in acute and chronic disorders to man and animals. But while Pleasonton "approached the truth," his experiments were faulty and he was too apt to look upon blue light as a panacea.

Finsen cites, as a final argument for light as a stimulant, the marked effect of a sudden change from a cloudy to a clear sky upon insects, reptiles, birds, and ourselves, and maintains that both his positive and negative experiments show that the chemical rays are chiefly responsible for this stimulating influence.

These researches were carried on in the spring and summer of 1894, and published in February, 1895, and represent but a very small portion of the observations Finsen was conducting, but being interrupted, was unable to continue; but in 1899 he published an appendix detailing experiments conducted in the spring of 1895, showing marked secondary effects of light upon the embryo of the frog, supplementing former results, and stamping the ultra-violet rays as the essential exciting cause of the action. These experiments proved that the effect of the chemical rays was only evident after a certain time, and might even attain its maximum after exposure to them had ceased, and suggested opportunities for new researches.

Some charlatans having, meanwhile, exploited incandescent light baths, pretending they were based upon his work, and otherwise using his name in an unwarranted and distasteful manner, Finsen drew attention to the fact that the influence of light as a bactericidal agent, its power to cause inflammation and pigmentation of the skin and its stimulating action all depend upon the chemical rays, of which the light from incandescent electric lamps contains less than ordinary diffuse daylight does, and that such baths simply promote perspiration by reason of the heat rays given off, while proper light baths are cold, and cause a marked effect upon the skin; recent researches had proved that the dilatation of the capillaries and blood vessels of the skin produced by light was not temporary, but of long duration, and on account of a more active blood supply, better nutrition of the skin is promoted, and greater functional activity. In Finsen's sunlight baths, patients walk naked in a courtyard, and to avoid perspiration, water is sprinkled about or douched over the patients. In the electric light bath, patients lie naked on couches, in a room divided by radiating partitions; a couple of large arc lights of one hundred amperes are suspended about six feet from the floor in the middle

of the room, the temperature of which is kept so low that artificial heat is necessary.

But Finsen's greatest victory was yet to be won. There is a disease much more common in some lands than here, and formerly thought to be cancer; the laity called it "wolf-cancer," but it is due to the presence in the skin of the bacillus tuberculosis. Although it is not called cancer now, its old name sticks to it, and



16, 17. Cases of Lupus cured at Finsen's Lys-Institut, showing also increased growth of hair from effects of light stimulating the scalp.

it is still called "wolf," or lupus vulgaris, and well deserves the name, for it is a cruel, gnawing, wolfish thing, rarely conquered, except at cost of much scarring; attacking chiefly the face, going on, sparing nothing, rarely killing, but often disfiguring greatly, sometimes destroying the eyes or contracting the mouth.

In 1897 Finsen published his epoch-making paper, "The Treatment of Lupus Vulgaris by Concentrated Chemical Rays," having put it to a practical test for two years. Recalling the fact

that the powerful bactericidal influence of light is now fully recognized, and that theoretically its use should be beneficial in superficial skin diseases of bacterial origin, while practically it has been neglected here, Finsen determined to study the question from the beginning, and because the bactericidal action of light is slow, to concentrate it by mirrors or lenses, excluding the heat rays, the ultra-red, red, orange, and yellow, which would destroy the tissues by combustion while the more easily diverted rays above them are the active bactericides.

To first make sure that the bactericidal action of light was really proportional to the extent of concentration, he coated the insides of two flat flasks with gelatine-peptone, and sowed them with pure bouillon cultures of bacillus prodigiosus, or with Eberth's bacillus, or the anthrax bacillus; the outside of the flasks was covered with paper, black on the side next the glass, to prevent the light affecting the cultures so protected, and white on the outer side to avoid absorption of heat rays. Round openings were cut in the paper, and across the openings numbers were traced in Indian ink, indicating in minutes how long each opening was exposed to light. A couple of hours after sowing, one flask was exposed to direct sunlight, the other to concentrated sunlight, and then kept one or two days in the dark to allow the cultures to develop. The results were very plain, for "the numbers indicating the space of time in which the light had killed the bacilli were clearly marked on the culture by the colonies which had developed in the shelter of the parts colored black. In this manner the bacteria themselves indicated the time of exposure necessary to kill them." Many similar experiments proved that sunlight concentrated by his apparatus killed microbes fifteen times more rapidly than direct light, and that the concentrated arc light was still more intense in its effects.

Finsen at first thought that the more blood in the part to be treated the better, because blood contained such a large proportion of oxygen, and oxygen is necessary to enable light to kill germs. But, placing a piece of photographic paper behind the lobe of his wife's ear, and projecting a cone of blue-violet light from his solar apparatus upon the other side of the ear, he found no change in the paper after five minutes; he then repeated the experiment, but pressed the blood out of the lobe by pieces of glass on each side, and the paper was blackened in twenty seconds, proving that blood prevented penetration of the rays, and so he devised glasses of different shapes to render parts anemic while being treated.

Finsen was now ready to try concentrated chemical rays in various bacterial dermatoses, especially lupus vulgaris, as it is caused by the tubercle bacillus, is local, and often superficial, and

light can not only kill the bacillus tuberculosis, but also stimulate nutrition and excite activity in granulation, assisting recovery.

His method varied according to the severity of the disease, and the tolerance of the tissues to light. An area of from one to three centimetres in diameter was exposed to the concentrated chemical rays daily, for several days or weeks, according to circumstances. Treatments lasted two hours at first; later, with improved apparatus, one hour. When one spot was sufficiently treated, another was attacked, until the whole affected area had been attended to; if any suspicious spots were left, they were then treated. Patients were examined after some months, and treated if necessary, until no more spots were found. Every patient had a nurse, who kept the spot in range of the rays, and saw that the rays fell perpendicularly upon the pressure glass. The immediate effect of treatment was to cause erythema, which was sometimes quite severe, depending on the intensity of the light, or idiosyncrasy; sometimes there was edema, rarely vesication, with the subsequent formation of crusts. When the parts had been sufficiently treated, the elevated margins became flat, redness disappeared, a normal appearance resulted, and ulceration, if present, cicatrized. Scars were insignificant. The effect of treatment continued after treatment was discontinued, sometimes for many months.

The apparatus first used was for concentrated sunlight, and consisted of a hollow plano-convex lens, twenty to forty centimetres in diameter, filled with water colored blue, to exclude heat rays; but, later, the coloring was omitted, as it excluded most of the useful ultra-violet rays, and plain distilled water was used, as water absorbs ultra-red rays largely, and they are the chief cause of the heat. The apparatus was on a stand, and could be readily adjusted, the rays of the sun were focused upon the part by it; the patients sat on chairs or lay on tables in the open air. But as the sun's rays were not always available, the voltaic arc was utilized through a contrivance like a telescope with four plano-convex lenses; two, near the source of light, caused the divergent rays of the arc to become parallel; the other two were arranged to make the parallel rays converge into a cone, which is directed upon the part being treated. Between the two latter lenses was a layer of distilled water, to cool the light, and outside was a blue solution light filter, which was discarded later. From thirty-five to fifty amperes was used, the apparatus was suspended from the ceiling, and to economize current four tubes were arranged about each arc at an angle of forty-five degrees, so that four patients could be treated simultaneously at each lamp.

In 1897 Finsen improved his apparatus, using an arc light of

eighty amperes, and lenses of rock crystal, permitting ultra-violet rays to pass, which are absorbed by ordinary glass, thus increasing the curative effect and the rapidity of treatment, so that a lupus the size of a pea disappeared completely after an exposure of from fifteen to twenty minutes. Unfortunately, such lenses are very expensive, and can only be obtained of small dimensions. Other improvements consisted in surrounding the proximal end of the tube with a cooling chamber through which cold water could circulate, discarding the pressure glass and substituting for it a hollow compressor of rock crystal, also constructed to permit a circulation through it of cold water, thus neutralizing the extra heating power of the increased current.

Finsen hoped to see the method still further improved, the disadvantages being the expense of apparatus, the time consumed at each treatment, and the protracted character of the treatment.

Finsen's first lupus case was of eight years' duration, during which time excision, curetting, escharotics, actual cautery, and other methods had been resorted to without avail. In the autumn of 1895, Finsen employed an ordinary arc light, converging its rays upon the part daily for one or two hours by a reading lens, filtering out the heat rays through a blue solution in a glass capsule, curing the patient in six months.

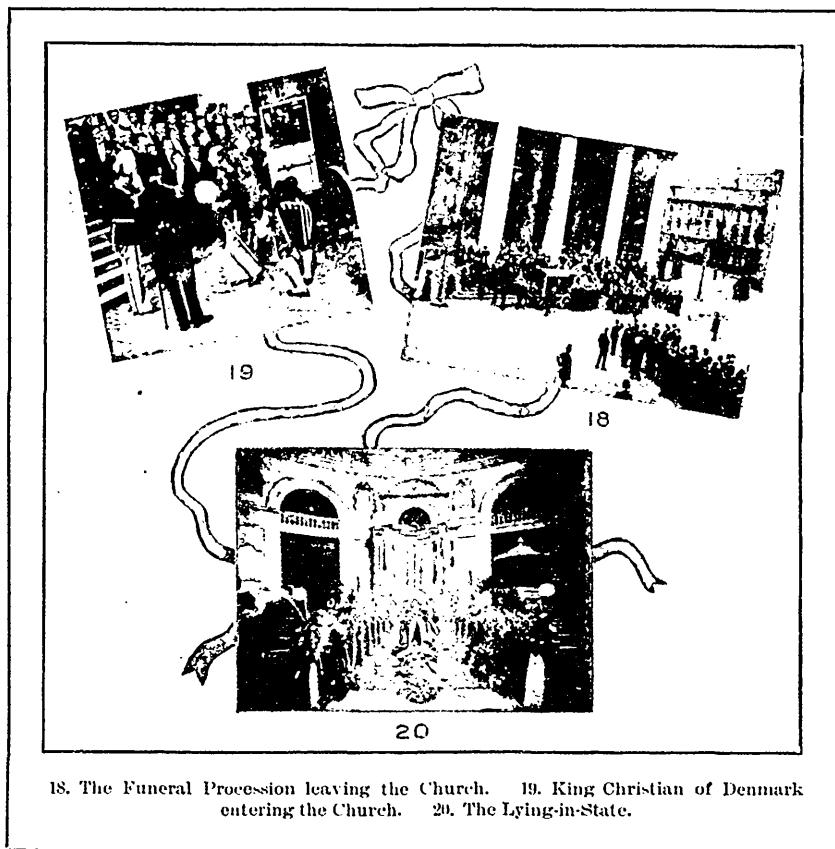
To carry on such treatment required capital, and two wealthy Danes soon came to Finsen's assistance, Mr. G. A. Hagemann and Mr. V. Jorgensen, and with their assistance the Light Institute was founded in Copenhagen in April, 1896. The Commune Hospital gave space in its grounds for some small buildings in which the experimental work went on more extensively, and the Institute achieved such results that the Danish Government granted a loan without interest, and the Institute removed to Rosenvaenget, a pleasant suburb, and was much enlarged; it contains laboratories and a clinic for phototherapy.

In the first six months only ten or twelve cases presented, and one nurse sufficed; but up to last September over two thousand patients from all parts of the world had been treated, with about ninety-eight per cent. of cures, and its staff had grown to six physicians and about sixty nurses. Its results are chronicled in a special publication in Danish and German.

Many attempts have been made to overcome the disadvantages of the original Finsen light, but although some of the contrivances are very ingenious, none can compare with the original, where deep penetration is required. Many of the substitutes give out rays much richer in ultra-violet than the original, and for superficial work are much more rapidly bactericidal, but all fall short of the original in penetration, lacking the less refrangible rays of lower velocity.

But this ingenuity has not been in vain, for with the smaller and cheaper apparatus a much wider field has been opened up in diseases due to bacteria, parasites and fungi, and not so deeply seated as lupus, and even some of the apparently hopeless cases of lupus of long standing are amenable to the ultra-violet rays of the iron electrode arc.

Another outcome of the quest for a substitute was the employ-



ment of the X-rays, and the first successful use of the X-ray as a curative agent was in the treatment of lupus vulgaris; and the best treatment of to-day consists in the careful, discriminating use of these two agents as the main features; all else of value is merely secondary, which is one more debt we owe Finsen.

It was but natural that such a self-sacrificing student should attract about him kindred spirits, warmed by his enthusiasm, and fired with his ambition to know all. It was his privilege.

in part his reward, to surround himself with many such, and their combined labors merit naught but unstinted praise for the accuracy, clearness and exactitude of their observations.

What did the world of science think of Finsen during his lifetime? The most widely accepted authority on light-therapy, Dr. Leopold Freund, of Vienna, after chronicling a long list of honored names of those who had also labored in this alluring field, and setting forth all that they had accomplished, says: "None, however, has done such work for the furtherance of light-therapy as Finsen (from 1893 onwards). He first made careful experiments of his own, and tested thoroughly those of others, and then, having laid a sound theoretic basis, he constructed the apparatus by which he was able to prove the usefulness of light when applied in its most intense form to malignant growths such as lupus." And one who has done the most valuable work on this continent in light-therapy, Dr. Margaret A. Cleaves, of New York, in her recent splendid volume, "Light Energy," after alluding to the fact cited by Professor Freund, that similar apparatus to Finsen's had long been used for experimental work at the Vienna Institute for Practical Pathology, remarks, "All of which is illustrative of the fact that the means to the attainment of a definite end in all matters of scientific development lie at our door awaiting the interpretation of and application by the intuitive intelligence. Such is the order of the genius possessed by Finsen, and having proved by his experimental work the action of light, he was at once able to supply the needed apparatus for the utilization of the intense chemical frequencies of light energies from an electric arc."

It was Finsen's privilege to be appreciated by his confreres and the public ere he died, which was a great reward. He was the recipient of sincere praise and honor from most varied quarters.

The royal family of Denmark were interested in his work from the first, and thus Her Majesty Queen Alexandra, when Princess of Wales, and her sister the Dowager Empress of Russia, while visiting their father, King Christian, in Copenhagen, heard what was being done, and investigated matters for themselves at the Lys-institut, and soon physicians were sent from their respective countries to familiarize themselves with the technique. A Light Institute was shortly after opened in St. Petersburg, and the Princess of Wales presented a Finsen lamp to London Hospital in 1900; a second lamp was soon added, and later both were endowed in perpetuity, the amount necessary, \$100,000, being raised by Sir Alfred and Mrs. Harmsworth and Mr. Percy Tarbutt. With recent additions, twelve patients can now be treated at the same time. Charing Cross and Westminster Hospitals,



Liverpool, Manchester, Royal Hospital in Dublin, and others, soon installed Finsen lamps also.

And what of the man himself? Niels Ryberg Finsen was born on December 15th, 1860, at Thorshavn, the capital of the Faroe Islands, lying between Iceland and the Shetlands, and belonging to Denmark. His father was domain judge, and being descended from an old Icelandic family, Finsen's boyhood was passed at school in Reykjavik, the capital of Iceland, until his twenty-first year, when he entered the University of Copenhagen, in Denmark, remaining there for eight years, and graduating as Doctor of Medicine in 1890, aged thirty and a confirmed invalid, but already deep in the investigations which were to make him famous and which had begun in a small attic of the old Surgical College. To one who spoke of his work, he replied, with touching humility, that all that he had accomplished in his experiments with light and all that he had learned about its therapeutic value had come because he *needed* the light so much himself. He longed for it so. With heart and liver hopelessly diseased since twenty-three years of age, and then dropsy necessitating frequentappings, the strictest and most rigid discipline of diet was required of him. Yet this man, who knew the depths of suffering, would laugh at pain that would have rendered many another helpless, studied the diseases which he knew would kill him soon, watched their progress, contributed articles on them to the medical papers, and once remarked that he regretted his inability to be present at his own post-mortem examination. A few weeks before he died he sent a paper to the London *Lancet*, reaffirming his unshaken confidence in the therapeutic value of the red light treatment of small-pox, stating that some who had recently reported unfavorable results had not given the method a fair trial, all their patients being placed under treatment too late; this paper was published in November, 1904, after his death.

Finsen's home life was very happy, in spite of suffering; he was a devoted husband and father, and a staunch friend; his intense devotion to his work, his constant struggle against his physical condition with such rare courage, his unusual modesty and total absence of self-seeking, endeared him to all who came in contact with him. When the Nobel prize in medicine was awarded him in December, 1903, he wished to give the whole amount, 100,000 crowns (about £8,000), to the Light Institute. Finally his friends prevailed upon him to allow one-half to be placed at interest for the benefit of his family, for he was a poor man, the balance going to the Institute. His old friends, Hagemann and Jørgensen, comforted him by presenting the Institute with an additional 100,000 crowns.

On Saturday, September 24th, 1904, Finsen died. The

Copenhagen daily *Vort Land* said of him: "The universal judgment of him will sound like a universal thanksgiving—thanks from the land whose honored son he was, thanks from the scientific world for which he opened up new avenues of achievement, thanks from the unfortunates from whom he lifted the heavy burdens of disease. . . . More than twenty great sanatoriums, in as many cities throughout the world, stand to-day as lasting monuments to his fame. . . . A few days before his death he requested his physicians and friends to perform an autopsy on his body in order that, even in death, he might serve his profession. The dissection revealed the fact that he had been suffering from slow ossification of the heart membrane."

As in life, so in death, Finsen was honored. The whole two miles of his funeral procession was lined with respectful, silent crowds. The services at the Marble Church were attended by King Christian of Denmark, King George of Greece, Her Majesty Queen Alexandra and Princess Victoria, the Dowager Empress of Russia, the Crown Princess of Denmark, all the royalties in Copenhagen at the time. The royal families of Europe sent floral tributes, Her Majesty Queen Alexandra bringing one personally, while King Edward sent another from England. A deep impression was made when two hundred persons who had been cured of lupus by Finsen took their seats among the mourners.

In an admirable article on Professor Finsen, the *London Spectator* quoted thus most appropriately: "One passage out of the many fine passages in which Robert Louis Stevenson has written of life and death rises to the memory as a comment on the life of Professor Finsen. 'It is better to lose health like a spendthrift than to waste it like a miser. It is better to live and be done with it, than to die daily in the sick-room. By all means begin your folio; even if the doctor does not give you a year, even if he hesitates about a month, make one brave push and see what can be accomplished in a week. It is not only in finished undertakings that we ought to honor useful labor. A spirit goes out of a man who means execution, which outlives the most untimely ending. All who have meant good work with their whole hearts, have done good work, although they may die before they have the time to sign it. Every heart that has beat strong and cheerfully has left a hopeful impulse behind it in the world, and bettered the traditions of mankind.'"

## SYPHILITIC GANGRENE.

BY R. B. EWAN, M.D., C.M. (McGILL), CHENTU, CHINA.

THAT syphilis is a fruitful source of arterial disease with its far-reaching and varied train of evils has long been recognized, but that it may be, and not infrequently is, a direct factor in producing gangrene of the integument and extremities, seems to have received but slight attention, judging from the spaces devoted to it in even such standard works as Allbutts' "System of Medicine," Erichsen's "Art of Surgery," and Cheyne and Burghard's "Manual of Surgery." The only account I have been able to find is in Taylor's "Venereal Diseases," 1895, Vol. II., page 744, who devotes less than two pages to "Gangrene and Gangrenous Ulcers." From this short article I make the following quotations:

"In some cases of syphilis, as a result of changes in the coats of arteries and veins, gangrene is produced, by which portions of the integument and extremities are destroyed. Until recent years all ulcerations occurring in syphilitic subjects were regarded as evidence of the breaking down of syphilitic infiltrations. Today we clearly recognize the fact that spontaneous gangrene of the skin and its resulting ulcers may be due to syphilitic arteritis or to endarteritis obliterans.

"This degenerative condition usually begins in persons of poor nutrition, in those who are debilitated in consequence of bad regimen or excesses, in subjects who have not been properly treated and who live in squalor.

"The first evidence of syphilitic cutaneous gangrene is a mottling, with perhaps some scaling of the skin. The color then changes to a greenish-brown, and it finally becomes blackish-brown. In some cases this eschar is soft and succulent; in others it is tough, dry, and withered. In some cases there is local pain; in others a want of sensibility and coldness in the parts is complained of. Trauma, heat, cold, or caustic applications have nothing to do with these lesions."

Under the title "Primitive Gangrene," Fournier describes a syphilitic manifestation which Bazin called "tuberculo-gangrenous syphilide." He thus describes the morbid process: "The lesion as soon as it has been formed, takes a livid color in the centre and a chocolate color in the peripheral portions, with insensibility of the diseased part, for in reality the formation of

an eschar takes place, under which the mortified, insensible, sloughy tissues are found; no external occasional cause being recognizable. The mortified parts take on the appearance of gangrene; they become detached and underneath the syphilitic ulcer is found at last."

The author goes on to say that he has had several such cases under his care, and refers to cases reported by Podres, Lang, Cabot and Warren, Aune, Mendel, and Schuster, in which the upper and lower extremities were variously affected as well as localized and superficial areas of the integument. In Prof. Podres' case "microscopic examination showed inflammation of the external tunic of the arteries, degeneration of their endothelium, with thickening of their walls and obliteration of their calibre. There was also atrophy of the cutaneous nerves and glands. All of these changes were attributed by Podres to syphilis."

"Veins may be attacked by syphilis in much the same way that the arteries are, in both the secondary and tertiary stages. One or many veins may be attacked simultaneously or in succession. According to Mendel, the lesion is a gummatous deposit round the vessel."

The following cases, which have come under my notice during the past eighteen months, are offered as a small contribution to this subject:

CASE 1.—A man, forty-eight years of age, very little above the beggar class came to the clinic complaining that twelve days previous, while carrying a piece of timber, he had stepped into a hole and snapped his patella. I cut down, using the large horse-shoe incision and flap. The tissues were found mottled and discolored, and the bone so friable that the wire had to be passed through the tendon below. The wound healed by first intention, and for the first few days the result was satisfactory, but at the second dressing signs of gangrene began to appear in the flap. The eschar, which was dry and quite superficial, when it separated, left an ulcer about two square inches in size, which refused to heal till brisk anti-syphilitic treatment was administered. The mixed treatment caused stomatitis and had to be suspended for a time, during which there was a circumscribed necrosis of the new bone thrown out around the wire, with superficial abscess, which had to be lanced, and later the wire was removed. He finally recovered with limited motion in the joint.

CASE 2.—A chair-bearer, twenty-nine years of age, walked or rather hobbled into clinic, suffering from a diffuse, suppurating aneurism, extending from upper border of popliteal space to within six inches of heel, which had come on suddenly ten

days before. I cut down and tied the artery just below the apex of Scarpa's triangle, evacuated the clots and drained. During the first thirty-six hours circulation was much impaired, but after forty-eight hours improved rapidly. Three days later a large spot of moist gangrene, involving the tissues down to the bone, appeared on the outer aspect of the leg; on the end of each toe there was also a spot of dry gangrene. The sloughs developed in what appeared to be perfectly healthy tissues, and certainly those on the toes were not due to pressure. He made a fairly rapid recovery under anti-syphilitic treatment.

CASE 3.—It was reported to me that a beggar was going around the streets with a pair of "black legs and feet like a Chinaman's dress boots," and a few days later he appeared at the hospital gate. He was suffering from symmetrical gangrene of feet and legs. The line of demarcation had formed slightly above the junction of the lower and middle third of each leg, and the bones at this point were quite bare for nearly an inch. The tissues were shrivelled, blackish, and almost dry, except in vicinity of line of separation.

The condition came on suddenly, following convalescence from an attack of fever. He had been exposed to cold while soldiering, but the possible effect of frost was excluded by the fact that he was in Szechuan several months before he was taken ill. Both legs were amputated just below the point of election, and the tissues, including the arteries, especially of one leg, were found friable and apparently of low vitality. He made a good recovery and grew fat on free anti-syphilitic treatment.

I have now in the hospital ward another case of diffuse popliteal (?) aneurism, extending from apex of Scarpa's triangle to within five inches of heel. The history pointed to a rupture of the artery forty days before he came to the hospital, and his leg was in a terrible condition; in fact, he seemed to be dying. On the inner aspect of the calf was a large livid spot two and a half by three inches, which he said had developed within four or five days, and which next day began to separate in the form of a slough, leaving a punched out ulcer, extending to, but not involving, the muscles. Owing to the late date of observation, I simply mention this case as being at least suggestive.

In conclusion, I would present the following summary as pointing to syphilitic gangrene:

1. With one exception the patients were young men, and were not, so far as could be detected, suffering from general atheroma.
2. In each case there was reasonable proof of syphilitic taint.
3. In each case the rupture or occlusion came on suddenly, and if this occurring in the brain points to syphilis, as is claimed

by some authorities, may not the same hold good for other parts of the body?

4. No apparent or sufficient cause. This applies specially to Cases 1 and 3.

5. The eschars in their development, color, separation, and the resulting ulcers closely resembled the description given by the author quoted.

6. The therapeutic test.

On account of space, I have confined myself to a bare outline of each case, but trust I have said sufficient to draw attention to an apparently frequently overlooked sequel to this extremely prevalent disease.—*The China Medical Missionary Journal.*

## DIPHTHERIA COMPLICATED BY SUBCUTANEOUS EMPHYSEMA.

BY W. J. WILSON, M.D., TORONTO.

ALICE S., aged 10, always delicate, was taken ill with diphtheria Dec. 27th, 1904.

She was a mouth breather, and had suffered most of her life from adenoids and very large tonsils. Was called to see her Dec. 30th, and found a thick membrane covering the tonsils and extending downwards into the larynx and up through the nose. There was commencing laryngeal stenosis, and it was because of the croup that medical aid was sought.

She was given 2,000 units of Mulford's antitoxine between the scapulae, a tent was improvised, and 20 grains of calomel evaporated every three hours. In the interval between the calomel fumigations, the tent was kept filled with steam containing tr. benzoin co. and ol. eucalyptus. This fumigation was kept up for about two days, and the steam ten days.

On the third day after the antitoxine was administered the membrane had for the most part separated. A spray of hydrogen peroxide was used every two hours from the first. After the membrane had separated, it was re-formed to some extent. This was thought to be due to the irritation of the spray, and the peroxide was changed for a solution of boric acid and alum, with satisfactory results.

There was some swelling of the glands of the neck, especially on the right side. On Jan. 1st this glandular enlargement was distinctly less, but the neck in this situation was more swollen than before and a marked crackling sensation was felt on palpation. This emphysema extended up over the right side of the face and then appeared in the left upper eyelid. The right eyelids were not affected to more than a slight extent, neither was the lower lid on the left side. The arms and trunk became swollen to the depth of about one-half inch. The legs were not affected. Temperature at first visit was 100.8 F.; respiration 45 and pulse 96. This was the third day of illness. On the fourth day of illness temperature was 99 deg., pulse 108, respiration 48. Fifth day, on the morning of the appearance of the emphysema, temperature was 98 deg., pulse 100, respiration 40. Sixth day, pulse 112, temperature 99 deg., respiration 40 in the morning, but at 7.15 p.m. pulse was 112, temperature 103.2 deg. F., and respiration 52. This was the highest temperature reached during the illness; although on the eighth day of illness tempera-

ture reached 102 2-5 deg., pulse 140, and respiration 62. From this time onward for days the temperature ranged from 100 to 102 deg. F., and the pulse a little over the hundred. The respirations varied from 46 to 52 for about a week longer. Voice was only a whisper all this time.

During the greater part of the illness there was a mild delirium, with at times a good deal of drowsiness. Patient took liquid nourishment with stimulants fairly well, and was given a mixture of iron and nux vomica. There was no albumin in the urine. The respirations remained rapid for about thirty days, when they came down to 18 to 22. The emphysema disappeared entirely about this time, having remained longest over the lower part of the abdomen and flanks.

In a swab from the throat Dr. Harold Parsons found a bacillus answering the description of the gas bacillus. In an anaerobic culture in agar, gas was produced in the depths of the media. Gas was also found to a slight extent in an inoculated rabbit. The rabbit, however, seemed to show rather good resisting powers against the germ.

Culture was not taken from the emphysematous tissue, as we did not wish to disturb the patient.

The appearance of the emphysema on the side of the neck, and not at the site of injection of the antitoxine, as also the finding of a gas-producing germ in the throat swab, would seem to free the antitoxine from the suspicion of infection from that source.

No efforts at intubation had been made, and patient had no violent coughing or straining likely to either produce a tear in the laryngeal mucosa or force respiratory air into the tissue. This, with the appearance of the gas in the left upper eye-lid without a perceptible spread across the face from the right side, the length of time the gas remained in the tissues, the finding of a large rod with a capsule in the swab, and the bacteriological findings, weigh strongly against the theory that ordinary air was the source of the emphysema.



# Surgery.

IN CHARGE OF . . .

BRUCE L. RIORDAN, M.D., C.M.,  
AND F. N. G. STARR, M.B.

## NOTES ON LOCAL ANALGESIA.

BY ARTHUR E. BARKER, F.R.C.S.

Professor of Surgery, University College; Surgeon to University College Hospital, London.

MR. ARTHUR E. BARKER, F.R.C.S., in a recent *British Medical Journal*, gives some useful notes on local analgesia. He says:

To obtain the best results from the injection of B eucaine many facts have to be kept in memory, although this drug is the only local analgesia employed in the method under consideration. We have first the discovery by Corning, in America, and simultaneously (1885) by Feinberg, in Russia, that cocaine applied to the trunk of a sensory or mixed nerve abolished sensation throughout the whole distribution of the same. The practical significance of this last fact is still apparently not fully realized by many who try to carry out the procedure in question. Schleich, who undoubtedly did much to popularize local analgesia, gave it too little weight in his rather cumbrous procedure. But later Cushing gave it its full value in his very interesting observations. Of equal importance was the discovery of Oberst that if the circulation of a part was retarded by a ligature or the application of cold, the action of the analgesic compound injected into it was maintained and even intensified so long as the circulation was controlled or retarded.

Based upon these observations, the employment of local analgesia has grown considerably during the last few years and has improved in proportion to the full recognition of the importance of each. But its employment has been limited by two considerations. First, by the fear of the toxic effects of cocaine, which restricted the use of this drug to small quantities over comparatively narrow fields of operation, and, secondly, the relatively short analgesia in those parts of the body where Oberst's method of restraining the circulation by band could not be applied. But the discovery of B eucaine, which is far less dangerous than cocaine, while possessing analgesic properties little if at all inferior to it, has removed the first of these objections, while Braun's suggestion of the concurrent use of adrenalin for the purpose of securing a retardation of the circulation equivalent to Oberst's constriction of the part, has removed some of the objections both as to the duration of the analgesia, the extent of the area which can be dealt with, and the amount of the toxic drug to be employed.

It is now well known—Schafer, Moore, and others—that adrenalin possesses the property of constricting the smaller vessels of a part into which it is injected. Such a part is seen to be blanched and anemic, as though emptied of blood by constriction or cold. Now, when adrenalin combined with B eucaine is injected, several very notable effects are produced. By the retardation of the blood flow the eucaine remains in the area injected, and is not washed away at once by the blood stream into the general circulation. From this it follows that its effects on the nerves of the part are intensified and prolonged to a large extent, and, therefore, if combined with adrenalin, less of the drug is required to produce a full effect. Moreover, as it is thus retained in the tissues locally for a long time, often hours, it only reaches the circulation, and through it the higher nerve centres very slowly, if it ever reaches them at all in the form of B eucaine. For there is reason to believe (Braun) that before it is parted with by the local tissue elements it is altered in their protoplasm into other compounds innocuous to the nerve centres. At any rate, it has been found, experimentally, that a dose of cocaine capable of rapidly killing an animal if injected alone, is quite harmless if combined with adrenalin.

A knowledge of these facts enables us on the one hand to employ less of the drug when adrenalin is added, seeing that its analgesic action is thereby intensified, and on the other justifies us in increasing the area of injection, and, if necessary, the amount of eucaine, seeing that its general toxic effects are restrained or abolished. As a matter of fact, I have several times injected more than 6 grains of B eucaine, combined with adrenalin, in adults where large areas had to be dealt with, no ill effects being noted. Of course it is necessary to be very careful with a new drug, and I prefer to regard 6 grains as the maximum, especially as in practice it suffices for the largest operations. To utilize these data in clinical work we have to keep in view several questions.

1. How to reach on the proximal side of our area of operation the nerve branches supplying it, and how to saturate them as far as possible with the solution containing the drugs mentioned.

2. How far we can dilute the latter so as (without forfeiting their potency) to have enough of the medium to carry the active agents to all the parts required, even if extensive.

3. How to maintain the analgesia long enough for any ordinary operation without being obliged to infiltrate further, as in the older methods (Schleich).

1. The first of these questions is mainly an anatomical one, best met by considering the course and distribution of all the possible nerves which supply a part. There are, of course, gaps

in our knowledge of the ultimate distribution of many nerves, notably of those supplying the parietal peritoneum; but these are being steadily filled up by the anatomists (vide Ramstrom, Dogiel, Timofejew).

In reaching the nerves of a part hollow needles of varying length are thrust into their immediate neighborhood or across their course at some distance from the area of operation, and thus the fluid injected through them is carried as near to them as possible. We can also make use of fascial planes and areolar spaces, along which the fluid will pass easily. For instance, in removing the vermiform appendix in the stage of quiescence we have to deal with the skin, muscles, parietal peritoneum, and its reflexion to form the mesenterium of the vermiform appendix. To render the skin and areolar tissues insensitive is a simple matter. We have only to inject a somewhat larger area of these than we are likely to cut (— local analgesia). The muscles are not quite so easy to deal with. Here we enter a very long, blunt, hollow needle through the skin already infiltrated about two inches outside the line of incision at its lower end and push it slowly upwards between the layers of the muscles, injecting slowly as we go until we have nearly reached the costal margin and used 10 c. cm. of fluid. From the upper end, in the same line, the needle is now pushed downwards through the deeper layers as near the peritoneum as possible, using another 10 c.cm. We thus cross the line of the nerves supplying both muscles and peritoneum (Ramstrom). In some cases I have injected the subperitoneal tissues underneath the cecum and appendix, either from above the iliac crest or from below Poupart's ligament, just inside the anterior iliac spine. I had done this previously on the cadaver with blue injecting fluid, and been surprised at the way the fluid spread along the iliac fossa.

This is simply an illustration of how the nerves of a part can be reached ("regional analgesia"). For the groin no better guide can be taken than some diagrams published a propos of the subject by Cushing. These are especially valuable for radical cure of hernia and for removal of testicle, of which I have had several cases in markedly phthisical patients, whose lungs would hardly have tolerated either chloroform or ether.

As to abdominal organs, it appears almost certain (Lennander) that they are *per se* insensitive to pain so far as they are independent of the parietal peritoneum in any of its reflexions. For instance, I have watched a patient's face while inserting a trochar in several directions deeply into the liver, and it showed complete indifference. When asked, he stated that he felt nothing. The incision through the abdominal wall had been previously made under eucaine. Again, I have several times divided the vermiform appendix with the actual cautery without pain, though

the analgesic fluid had only been applied for the paretics. But a drag on the mesenterium or on adhesions about the vermiform appendix is felt as griping unless the injection have reached them.

It is plain, then, that our injection must in every case be carried out with special reference to the nerves of the part (regional analgesia).

2. The strength of the B eucaine solution has only been settled after much practical experience. We must, on the one hand, keep within the safe dose of the drugs, and on the other have at our disposal a large enough quantity of the fluid medium to render it possible to spread the analgesic agents over large areas. If we suppose 6 grains of B eucaine to be about the full dose when combined with adrenalin, a good deal of fluid will be required. My own experience (now a long one) leads me to the conclusion that for ordinary surgical work the following solution answers well:

Distilled water.....	100 c.cm.	= 3½ oz.
B eucaine.....	0.2 gram	= 3 grains.
Sodium chloride.....	0.8 gram	= 12 grains.
1 pro mille adrenalin chloride solution	...	11 x

The actual strength of adrenalin in this solution is one in two hundred thousand (1:200,000).

All this quantity of fluid can be used in an ordinary case if necessary, and is quite sufficient for most. But I have often injected twice as much when large areas had to be dealt with, and have seen no ill results from the 6 grains of eucaine or 20 minims of adrenalin. The latter amount corresponds to just about 1 mg. of adrenalin, namely 20 minims — circa 1 c.cm. of 1 pro mille solution.

I have also used 4 grains B eucaine to 100 c.cm., but noted no appreciable increase of analgesia.

I have made several observations on this fluid with Beckmann's apparatus to prove its osmotic tension, and found that it is as nearly as possible isotonic with the blood. If not isotonic such a solution would produce pain on injection, and might also lead to necrosis of the tissues into which it was injected. This was actually the case in the practice of a friend of mine, who used 2 per cent. of eucaine simply dissolved in boiled water without any addition of sodium chloride. The analgesia was excellent, he told me, but necrosis of the injected tissue followed. To test the osmotic tension of a 2 per cent. of B eucaine alone I froze it in the Beckmann's apparatus and showed him that it registered—0.28 C. as against human blood—0.56 C. Hence his trouble.

With the solution given above we have never seen the slightest sign of loss of vitality. In short, it was "isotonic" and "indifferent" to the tissues. It is very easily made. In a Jena

glass beaker, or 7 oz. wide-mouthed flask into which a syringe will go, 3½ oz. (—100 c.cm.) of distilled water is put and boiled. To this is added a powder containing the B eucaïne 3 gr. and pure sodium chloride 12 gr. After a couple of minutes' boiling it can be let cool to blood heat, or cooled by standing the flask in cold water. Then 10 drops of the 1 per thousand adrenalin chloride solution of commerce is added, and the solution is ready for use.

The adrenalin solution is best measured by drops from the bottle itself with a loosened stopper. Other ways of measuring are wasteful, and above all expose the fluid to air and light, which soon spoil it, and to septic contamination of the whole bottle, which would be dangerous. If it is dropped as described, and the stopper refastened, the fluid in the bottle will keep good for months in my experience, if left, besides, in its box in the dark. I have often tested these drops with a standard measure, and find about 18 or 20 go to the cubic centimetre. Adrenalin solution should not require boiling. It is already sterile or will not keep. I have sometimes put the drops into the solution while boiling and found that this did not destroy its specific properties, but they seemed to pass off more rapidly than when the drops were added from the bottle direct to the solution at blood heat. Any alkali spoils it at once, hence the Jena glass. The syringes must, of course, be boiled, but not in the usual soda solutions, for the same reason. The needles are best sterilized in alcohol. The ordinary Freienstein's needles fitted into fine caps screwed on to hollow rods, answer all the purposes of limited injections, the finest size being used for the skin, the larger for moderate depths of tissue. But where greater distances have to be reached—for example, the whole length of the inguinal canal—a longer needle is necessary. For this I have devised a needle which so far answers all purposes. Two sizes—1 mm. and ½ mm. thick—are used. Each is 5 in. long. As such a length of fine steel tubing is very flexible and difficult to force through the tissues, especially if blunt (as it should be to avoid injury to vessels), it is so arranged by a little device of my own that it can be set to begin with at a short length until it has entered the tissues, when it can be lengthened up to 4½ in. This is provided for as follows: Each needle is a plain, straight, fine tube slightly bevelled at the distal end or closed blunt with a lateral opening. It is passed through the lumen of a small section of ¼ in. of the finest rubber catheter (Jaques). This little rubber collar just fits into the screw-cap, which is then screwed up on the straight rod into which the needle runs, the other end of which fits on the syringe. When the cap is screwed down on the rubber the needle is fixed water-tight. When it is unscrewed a turn or two the needle can be drawn out of the hollow rod or pushed in and again fixed.

All these needles should be washed in plain hot water after use, to remove the salt solution, and then be washed in spirit, their stylets being finally replaced in them. The rubber cap should also be removed from them, as it spoils the metal if left long in contact with its bright surface. When thrusting these blunt needles through the skin it is well to prepare the way by a puncture with a large sharp-edged needle through the spot previously anesthetized by the fine needle of the first injection.

3. The duration of the insensibility is secured by the admixture of the adrenalin. Without it sensation is only abolished by eucaine for about fifteen minutes, with it for three or four hours—that is, as long as the anemia lasts. But, on the other hand, the analgesia is produced more slowly when adrenalin is employed with the eucaine. It is, therefore, well, before all larger operations, to wait some thirty minutes after injection to allow time for the insensibility to become fully developed. After this the effect appears to deepen for a couple of hours. In one case of operation for a recurrence in the breast involving the removal of a mass of skin as big as half my hand, I had injected two and a half hours before. Sensation was still absolutely abolished, the patient spontaneously expressing her wonder and delight that she had felt no pain at all. She made an interesting remark besides—that is, that she could tell when a knife was used and when a needle by the touch, but both were absolutely painless. Others have said the same, showing it is not anesthesia but analgesia. Waiting for half an hour or so may sometimes be inconvenient, unless the time be utilized for preparation of instruments, etc. In hospital it gives little trouble. Three or four cases can be infiltrated at once, or one after the other, and left in the wards, while some other operation requiring general anesthesia is done. They can then come in in succession.

Waiting has another advantage which places this above the earlier methods of repeated infiltration of eucaine alone. When the latter is employed the operation must be practically done at once. It will then be found that the tissues are still in a state of artificial edema from the amount of fluid injected. This edema may mask the anatomical details unpleasantly for beginners. When, on the other hand, adrenalin has been added to the eucaine solution, and we have waited, say, forty minutes, the artificial edema has disappeared, and we cut through pale and almost bloodless tissues, where the details are very clearly seen. Rapid injection is to be avoided; the sudden distension of the tissues is disagreeable, if not painful. The fluid should not be allowed to become cold, or be used too hot for the same reason. These and other small details will soon be learned by any one who is in earnest and patient.

Of course, all dragging on the parts is to be avoided, lest

structures be pulled upon which lie beyond the area of infiltration. This is the crux of abdominal operations. The parietes can easily be rendered insensitive to pain over a large area. But if the hand has to be introduced it will, in many cases, reach beyond this area and so produce pain, for the *parietal* peritoneum is particularly sensitive (Lennander, Dogiel, Ramstrom). Again, in handling the intestines (themselves insensitive), say, in a colotomy, one must be careful not to drag on the mesentery, which has the reflexions of the parietal peritoneum at its root. For these reasons, at all events for the present, it appears undesirable to employ this method alone for the longer operations on the abdomen where dragging to some extent is unavoidable. But in such cases the prolonged use of the general anesthetic can be much curtailed by the previous injection of the tissues by this method. Then the abdomen can be opened, and when the patients begin to feel pain chloroform can be given, perhaps only for a few minutes until any dragging manipulations are over. Then the chloroform can be at once stopped, and the tedious stitching, whether of the insensitive intestines or infiltrated parietes, can be finished without pain. For instance, in an appendectomy, in the "free interval" this course was pursued. My patient had chloroform for just one minute, a matter of some importance to her lungs and kidneys, and the avoidance of subsequent sickness, as she was a lady past sixty. She said the pain of tearing some adhesions round the appendix was slight, and she could have borne it easily, but took the few drops of chloroform at my request. Another patient had seven or eight minutes of chloroform while I was finding and separating the appendix. Here there was short after-sickness.

As for general anesthesia, so also for the local, the preparation of the patient beforehand is most important. But here a preliminary fast is not desirable. Those who have had a light meal previously are always, *ceteris paribus*, the better for it. The rule is to give them an egg beaten up with some milk and a little brandy, or a cup of tea or coffee not long before the operation. Again, some patients, if anxious, are soothed by a little morphine hypodermically. The feeling of *bien être* thereby induced enables them to bear the tedious lying on the back all the better. Of course, some individuals are nauseated by morphine, and if this is known of any particular patient it will be avoided.

With a little experience the surgeon, too, will have confidence in the method: and by manner and a word or two will communicate this feeling to the patients. It is a very bad policy to suggest to them that they may have pain. At the very most, if they inquire, they can be told that, at their slightest wish, they shall have chloroform at any moment. A cup of tea or coffee given during the operation is a way of distracting the attention of the patient frequently employed with the best results.

As to the question of depressing effects following on the use of B eucaïne, I can only say that I have never seen any in a long series of operations, although in several up to 6 gr. of the drug have been injected exceptionally. To judge from the reports of those who employ cocaine for producing local analgesia, the contrary is the case, and they recommend the subcutaneous injection of strychnine and the use of camphor and other stimulants during the operation (Lennander). They also insist that the patients should be kept quietly in the horizontal position for some hours after operation. With eucaïne patients have taken no harm from walking away from my house, even when it had been used freely, and in hospital no after-treatment has been necessary. This appears to be a strong point in favor of eucaïne in contrast to cocaine if the abolition of pain is in any degree equal in each. And from what I have seen and heard, the method here described appears to have given better results in this respect than those in which cocaine was employed; and the fact that all the injections can be finished before the operation has been begun, and need not be repeated, places it for long operations far above those in which (Schleich) injection has to be done over and over again in the course of an operation. With painstaking study and watchfulness in a large number of cases alone has it arrived at its present stage of efficiency; and that, with longer observation and wider experience, it is capable of further development seems certain. But when, during twenty-four hours, I have been able by this method to perform the following operations with the most satisfactory results, it must be admitted that important progress has already been made: (1) Amputation through the knee-joint for gangrene of the foot, due to diseased arteries and diabetes; (2) abdominal section and opening of the stomach and jejunum in search of a source of severe bleeding (not found); (3) removal of a cyst of the thyroid; (4) Bassini's radical cure of inguinal hernia; (5) removal of a silver wire from round the patella.

There is one further point which contributes largely to success. It is that the surgeon should operate with delicacy, and without dragging more than is absolutely necessary on the structures in the field of operation. From this it follows that whoever injects shall be quite familiar with the details of the operation from beginning to end. It is undoubtedly better, therefore, for the operator himself to make the injection; but if this is inconvenient he must have an assistant who is quite familiar with all his methods and style of operation; in short, one who has frequently seen and assisted him, and is perhaps an operator himself. Such an assistant I can now rely upon for injecting my cases, and his results are all that can be desired.



With the following list of operations performed recently under eucaïne analgesia before me, I find it difficult to understand why any one still employs cocaine, which is admittedly far more dangerous, and can hardly yield better results.

Numerous samples of the drugs above mentioned are sent to me from time to time from both home and foreign sources. Some are in solid, some in liquid form in sealed glass capsules. They are designed to save time in the preparation of the injection fluid. After much laborious testing of various methods, it appears to me that greater certainty and safety are secured by making the solution for oneself as above described, and that no time is lost thereby. The preparation of the fluid is simplicity itself, and it is all the safer from being made fresh for each case.

This paper is not intended to suggest doubts as to the benefits we all derive wholesale from general anesthetics. But we need no reminder that the latter have their drawbacks. And, from what I hear almost daily, this method appears likely to play a useful *role*, especially in the country and the Colonies, where the skilled anesthetist is not always at hand. But, even among ourselves in town, there are many cases in which the chief anxiety of the operator is how the patient will bear the general anesthetic, often necessarily prolonged. The diabetics—one of the amputation cases in the following list was on the borderland of acetoneemia—the aged people with strangulated hernia, the people with goitre, and even those simple cases where there is practically no danger from the operation itself, all undergo a certain risk from general anesthetics, which can be avoided by the above procedure. It requires some patience and experience to master the details of the latter, but it is certain that these are not thrown away.

LAST SERIES OF OPERATIONS PERFORMED UNDER EUCAÏNE ANALGESIA.

Abdominal Sections .....	8
Herniæ .....	23
Amputations (knee, 2; arm, 1; toe, 1) .....	5
Varicose Veins .....	12
Thyroid tumors .....	3
Orchidectomy .....	3
Internal derangement of knee .....	3
Pre-patellar bursæ .....	3
Malignant tumors .....	4
Large papilloma of axilla .....	1
Fistula in ano .....	2
Large lipomata .....	3
Rodent ulcers of face .....	2
Empyema .....	1
Incisions of ulcers .....	5
Hydrocele .....	1
Varicocele .....	1
Cyst of breast .....	1
Adenoma of breast .....	2
Smaller operations .....	8
	<u>91</u>

—British Medical Journal.

F. N. G. S.

## *Proceedings of Societies.*

### THE CANADIAN ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS.

THE great interest taken in the movement to cope with consumption in Canada was made abundantly plain at the annual meeting of the Canadian Association for the Prevention of Tuberculosis, which assembled on March 15th, at Ottawa, under the presidency of Senator W. C. Edwards. There has probably never been so large an attendance at any previous meeting, and we trust that it will result in the inauguration of further practical steps for combating the dread disease. A resolution was passed asking the Government to appoint a Royal Commission to investigate and report upon the subject.

The members of the medical fraternity present from Toronto were: Dr. Chas. Sheard, M.H.O.; Dr. Noble, Dr. E. H. Adams, Dr. E. J. Barrick, Dr. Chas. O'Reilly, Dr. J. J. Mackenzie, and Dr. Chas. A. Hodgetts, Secretary of the Provincial Board of Health. Among the others present were: Dr. W. M. English, Chairman of the Board of Health, London; Dr. Hutchinson, M.H.O., London; Dr. Langrill, M.H.O., Hamilton, and Dr. Arthurs, Sudbury.

The Chairman, in opening the meeting, said they could not but be gratified at the large attendance.

Rev. Dr. Moore read the annual report, which recited that not less than 785,000 pages of printed matter, in the form of pamphlets and leaflets had been distributed. Allusion was made to the great effect produced by the resolution in favor of Dominion sanitaria, brought before the House of Commons by Mr. Perley, member for Argenteuil. There was reason to hope that something would be done by the Dominion and Provincial authorities to stem the ravages of the disease. A report was also read from the Colchester (N.S.) Tuberculosis Association, showing that an active crusade is being waged in that part of Nova Scotia against consumption.

Dr. C. O'Reilly read a telegram from Dr. Thorburn, of Toronto, expressing regret at not being able to be present, and assuring the meeting of the sympathy and approval of the Toronto Association.

Prof. Robertson, on behalf of the Treasurer, Mr. J. M. Court-

ney, read the financial statement, showing a balance in hand of \$932. "I do not think," he said, in concluding his task, "that any other association ever had so much work done for such a small expenditure of money."

Mr. Lawrence said the subject of combating tuberculosis was receiving a great deal of attention in the county of Colchester, and this was largely owing to the lectures delivered by the Secretary. Nova Scotia, he was glad to say, had established the first government sanitarium in Canada. (Applause.)

Dr. Adami reported verbally on behalf of the Montreal Institute. The most important thing carried out had been the establishment of a tuberculosis dispensary. The City Council granted them last year \$700, and appointed one of its health officers to act as inspector for the association. A sum over and above the \$700 had been voted this year.

Dr. Barrick spoke interestingly of the work accomplished in Toronto. A by-law had been passed voting \$50,000 to this work, but another \$25,000 must be raised before the former sum would be available. Towards the \$25,000 many promises had been received.

On motion of Sir James Grant the Association resolved to petition the Dominion Government to take such action as might be expedient to constitute a Royal Commission, with authority to inquire into and report upon what active steps should be taken to lessen the wide-spread suffering and the great mortality among the people of Canada caused by the various forms of tuberculosis.

During the afternoon meeting one of the delegates raised the point that some cases of tuberculosis were caused by vaccination, but the idea was promptly frowned down by the rest of the meeting.

Dr. Chas. Hodgetts threw out the suggestion that there should be a Minister of Health and Labor, not only for the Dominion, but in each of the provinces as well.

Hon. W. C. Edwards was re-elected President, Mr. J. M. Courtney, Treasurer, and Rev. Dr. Moore, Secretary. Bishop Hamilton and Dr. Hodgetts were elected on the Executive Committee from Ontario.

A large and fashionable audience assembled in the Normal School Hall at night to hear the lecture of Dr. Adami, Pathologist at McGill University, on tuberculosis. Earl Grey presided, and announced his hearty sympathy with the movement. He urged Canada to try and take the lead in banishing tuberculosis from its midst.

Prof. Adami's address was a humorous and scholarly one, and abounded in details of the latest medical discoveries bearing on the question. In the course of his remarks he said that tuber-

culosis was a preventable disease, and cited the remarks of his Majesty the King to the International Congress in London, "Why not prevent it?" Although in some cases the tissues did not seem to have any resisting power, tuberculosis was by no means progressive. Out of 139 post-mortems performed by his department there were eighteen cases in which tuberculosis assumed a progressive character, and had assuredly been the cause of death. In forty-one cases there was absolute evidence that the disease had been arrested, and had seemed to heal. The evidence was all against the idea that human tuberculosis could be given to cattle. Where tuberculosis passed from cow to cow for a long period it became more virulent to cattle and less and less virulent to man. We had not so much to fear from milk containing the bacillus, but there was danger where young and weakly children were concerned. The danger in regard to milk containing tuberculosis bacilli was there, but it had been exaggerated. Dr. Adami suggested the stamping out of bovine tuberculosis, beginning with Prince Edward Island.

A vote of thanks to the distinguished lecturer was adopted on motion of Sir James Grant, seconded by Dr. Sheard, and in replying Dr. Adami made it clear that milk containing bacteria of any kind should not be drunk. The Governor-General was thanked for his presence and sympathy in a resolution moved by Hon. S. Fisher.

---

**A Physician's Covered Tilbury Cart for Sale.**--Any medical practitioner desirous of buying at about half price, an almost new Hutchinson Tilbury Cart, should communicate by postal card with Box 39, CANADIAN JOURNAL OF MEDICINE AND SURGERY. It is one of the best ever turned out by Hutchinson & Son, Toronto; full Collinge axles, lancewood shafts, and trimmed in blue, all-wool cloth, and cost \$375. Write at once.

**Ontario Medical Association.**--The twenty-fifth annual meeting of the Ontario Medical Association will be held in Toronto, in the New Medical Buildings, Queen's Park, June 6th, 7th and 8th next. Any member desiring to read a paper will kindly forward the title to the Secretary by May 1st. Papers must be in the hands of the committee by May 31st. Fifteen minutes are allowed for the reading of a paper. If too long to be read in this time an abstract may be presented. Five minutes is allowed to each taking part in the discussion. Dr. A. Primrose, Toronto, is Chairman of the Committee on Papers and Business, and Dr. Charles P. Lusk, 99 Bloor St. West, Toronto, is General Secretary.

## Selected Articles.

### DR. WILLIAM OSLER ON AGE.

HERE are the extracts in full from Dr. William Osler's farewell address at Johns Hopkins University, Baltimore, referring to middle age and old age, that have caused a great deal of comment:

"I am going to be very bold, and touch upon another question of some delicacy, but of infinite importance in university life, one that has not been settled in this country. I refer to a fixed period for the teacher, either of time of service or of age. Except in some proprietary schools, I do not know of any institution in which there is a time limit of, say, twenty years' service, as in some of the London hospitals, or in which a man is engaged for a term of years. Usually the appointment is *aut vitam aut culpam*, as the old phrase reads. It is a very serious matter in our young universities to have all of the professors growing old at the same time. In some places only an epidemic, a time limit, or an age limit, can save the situation.

"I have two fixed ideas well known to my friends, harmless obsessions with which I sometimes bore them, but which have a direct bearing on this important problem. The first is the comparative uselessness of men above forty years of age. This may seem shocking, and yet read aright the world's history bears out the statement. Take the sum of human achievement in action, in science, in art, in literature—subtract the work of the men above forty, and while we should miss great treasures, even priceless treasures, we would practically be where we are to-day. It is difficult to name a great and far-reaching conquest of the mind which has not been given to the world by a man on whose back the sun was still shining. The effective, moving, vitalizing work of the world is done between the æges of twenty-five and forty—these fifteen golden years of plenty, the anabolic or constructive period, in which there is always a balance in the mental bank and the credit is still good.

"In the science and art of medicine there has not been an advance of the first rank which has not been initiated by young, or comparatively young, men. Vesalius, Harvey, Hunter, Bichat, Laennec, Virchow, Lister, Koch—the green years were yet upon their heads when their epoch-making studies were made. To

modify an old saying, a man is sane morally at thirty, rich mentally at forty, wise spiritually at fifty—or never. The young men should be encouraged and afforded every possible chance to show what is in them. If there is one thing more than another upon which the professors of this university are to be congratulated, it is this very sympathy and fellowship with their junior associates, upon whom really in many departments, in mine certainly, has fallen the brunt of the work. And herein lies the chief value of the teacher who has passed his climacteric and is no longer a productive factor; he can play the man midwife, as Socrates did to Thesetetus, and determine whether the thoughts which the young men are bringing to the light are false idols or true and noble births.

“My second fixed idea is the uselessness of men above sixty years of age, and the incalculable benefit it would be in commercial, political and in professional life if, as a matter of course, men stopped work at this age. Donne tells us in his ‘Biathanatos’ that by the laws of certain wise states sexagenarii were precipitated from a bridge, and in Rome men of that age were not admitted to the suffrage, and they were called *deponati* because the way to the senate was *per pontem*, and they from age were not permitted to come hither. In that charming novel, the ‘Fixed Period,’ Anthony Trollope discusses the practical advantage in modern life of a return to this ancient usage, and the plot hinges upon the admirable scheme of a college into which at sixty men retired for a year of contemplation before a peaceful departure by chloroform. That incalculable benefits might follow such a scheme is apparent to anyone who, like myself, is nearing the limit, and who has made a careful study of the calamities which may befall men during the seventh and eighth decades.

“Still more when he contemplates the many evils which they perpetuate unconsciously and with impunity. As it can be maintained that all the great advances have come from men under forty, so the history of the world shows that a very large proportion of the evils may be traced to the sexagenarians—nearly all the great mistakes politically and socially, all of the worst poems, most of the bad pictures, a majority of the bad novels, not a few of the bad sermons and speeches. It is not to be denied that occasionally there is a sexagenarian whose mind, as Cicero remarks, stands out of reach of the body’s decay. Such a one has learned the secret of *Hermippus*, that ancient Roman who, feeling that the silver cord was loosening, cut himself clear from all companions of his own age and betook himself to the company of young men, mingling with their games and studies, and so lived to the age of 153, *puerorum habitu refocillatus et educatus*. And there is truth in the story, since it is only those who live with

the young who maintain a fresh outlook on the new problems of the world.

"The teacher's life should have three periods—study until twenty-five, investigation until forty, profession until sixty, at which age I would have him retired on a double allowance. Whether Anthony Trollope's suggestion of a college and chloroform should be carried out or not, I have become a little dubious, as my own time is getting so short. (I may say, for the benefit of the public, that with a woman I would advise an entirely different plan, since after sixty her influence on her sex may be most helpful, particularly if aided by those charming accessories, a cap and a fichu.)"

---

### MUCH ADO ABOUT NOTHING.

---

THE American favorite funny story is about the Englishman who cannot see a joke. The tomato story with "They eat what they can and tin the rest" has circled the globe, and "What was the matter with the custard pie" is equally famous. But now it is the Englishman's turn to laugh. We fancy that for some years to come no American on English soil can hear the word "chloroform" without feeling silly.

Americans may not know that with all their ability to see a joke, they are world famous for not being able to take a joke; and a more jovial joker, a more epigrammatic and witty member of society than Dr. Osler never made after-dinner speeches.

The furor that has been raised over his retiring speech at Johns Hopkins reminds one of the "Hobson's kiss" episode, and the "Dewey's house" business. It is on a par with the marvellous facility of the press to kindle a mighty flame from a very little matter, and it illustrates most delightfully our national tendency to take ourselves very seriously. We can ha ha at our neighbor's expense, but not at our ourselves.

Now, when Dr. Osler in his dry and genial manner wished modestly to indicate to his fellow-workers that he felt he had lived his best days with them, he facetiously quoted from Anthony Trollope's novel, the "Fixed Idea," the scheme on which the plot hinges, of a college into which at sixty, men should retire for a year of contemplation before a peaceful departure by chloroform. He adds, pointing at himself, the barb which all the solemn readers of the daily news claim was hurled at their self-respecting selves, these words: "That incalculable benefits might follow such a scheme is apparent to any one who, like myself, is nearing the limit and who, like myself, had made a

careful study of the calamities which may befall men during the seventh and eighth decade."

He then adds, after recounting some of the well-known follies of the aged: "The teacher's life should have three periods. Study until twenty-five, investigation until forty, profession until sixty, at which time he should be retired on a double allowance." The press missed this point.

To round up his playful allusion he says, with affected hesitation: "Whether Anthony Trollope's suggestion of a college and chloroform should be carried out I have become a little dubious, as my own time is getting too short."

Dr. Osler is taking with him to Oxford a curious epistolary collection, for he has been bombarded with letters, telegrams and articles from the senile and the presenile all over the country, stating in good set terms why they should not be chloroformed.

If Dr. Osler was to stay with us much longer we fear that he would have to take to heart the advice of John G. Saxe, who says:

"Learn to wear a sober phiz,  
Be stupid, if you can;  
It's such a very serious thing  
To be a funny man."

—Ed. *New York Medical News*, Mar. 4th, 1905.

---

### THE VERNON HARCOURT INHALER.

BY DUDLEY W. BUXTON, M.D., B.S., M.R.C.P.  
Anesthetist to University College Hospital.

THE following abstracts comprise the favorable experience Dr. D. B. Buxton has had with The Vernon Harcourt Inhaler, proving its general facility, the slight amount of struggling on the part of the patient, and rapid recovery after its use:

A. Woman, aged 50. Exploratory trephining. Patient alcoholic, and induction prolonged and narcosis light (talking); 2 per cent. required for induction, 1 per cent. used during operation.

Male, aged 15, removal of testicle. Induction .5 to 1 per cent., six minutes. Quiet narcosis maintained with .5 per cent.

Male, 19, for genu valgum. Induction .5 to 1 per cent. in six minutes, maintained at .5 mostly.

Elderly male, Kraske's operation. Induction .5 to 1 per cent. for six minutes, then 2 per cent. Patient lying on his chest, anesthesia maintained 1 per cent. with occasionally 1.5 per cent. and 2 per cent., but owing to posture some leakage was probable around mask.



Powerful man, resection of cervical nerves for torticollis; 1 per cent. used.

Woman, aged 50, removal of breast; 1 per cent. used.

In these and other operations, Mr. Crawford (House Physician) remarks the period of induction was usually devoid of struggling. The patients took the anesthetic easily. The degree of narcosis was light; no dangerous symptoms arose.

B. Female, 31, femoral hernia. Induction .5 to 2 per cent. in seven and a half minutes. No struggling. Operation performed with 1 per cent; patient quiet, but C.R. present—duration forty-five minutes. 4 fl drachms used.

W. B., male, 19, for cerebral tumor. Induction 1.5 per cent. in two minutes, C.R. present. Operation done in thirty minutes under .5 per cent. No struggling. 1½ fl drachms used.

Female, 46, removal of kidney. Induction eight minutes, .5 to 2 per cent. Slight struggling. No movement during operation, although, owing to posture, some air probably entered round mask, reducing percentage below 2. C.R. present, although sluggish. Duration of narcosis eighty minutes. 1 fl oz. used.

In all these cases respiration was accelerated at times during operations, when dragging or other peripheral stimulation was practised, owing to anesthesia being light.

Male, 32, for cerebral tumor. Induction .5 to 2 per cent., ten minutes; was restless fifteen minutes. During operation 2 per cent., 1 per cent., then .5 per cent. Final sewing up caused movement, 2 per cent. given. Duration, forty minutes. ½ fl oz. used. Patient gained consciousness in five minutes after cessation of inhalation.

Female, 29, fissure and ulcerated pile. Induction, .5 to 2 per cent., ten minutes. Dilatation of sphincter caused quickened breathing. C.R. sluggish during operation. Duration thirty-six minutes. Regained consciousness in about half an hour. Some sickness during the night.

Male, 24, radical cure of hernia. Induction, .5 to 2 per cent., seven minutes; no struggling. Slight movement of limbs after skin incision, and quickening of respiration upon dragging on deep structures. After twenty-five minutes, as some duskiness was present, 1.5 per cent. used; cyanosis lessened. In thirty-two minutes 1 per cent. used, but coughing and finally vomiting occurred, so 2 per cent. was gone back to after three minutes. Final skin sutures quickened respiration. Recovered consciousness five minutes after discontinuance of anesthetic, and vomited. Duration, fifty minutes.

The cases cited were mostly done in my presence by my dressers, so the apparatus was subjected to a more severe test than if it had been in the hands of an expert. The most notice-

able points about the narcosis which was induced are: (a) the facility with which patients inhale; (b) the slight amount of excitement or struggling; (c) its light degree and the readiness with which it lightens; (d) the rapid recovery; (e) absence of anomalous symptoms.

---

### REFRIGERATING PLANT AT LONDON HOSPITAL.

---

THE refrigerating machine which is one of J. & E. Hall's No 8a horizontal type with separate evaporator and condenser, is driven by an electric motor through a small countershaft fixed on the roof of the chamber. The plant is also provided with a water circulating pump and a brine circulating pump.

For the sake of economy of water a water re-cooling arrangement is installed and placed on the roof of the engine room to spray the water, the spraying nozzles being surrounded by wind louvres and the spray caught in a shallow tank. The water, after it has passed through the condenser, is re-cooled and used over again, thus only a very small quantity is required to replace the wastage and evaporation.

The duty of the plant is as follows:

To manufacture about two tons of ice per twenty-four hours.

To cool an ice store situated below the ice plant and capable of containing about 150 tons of ice.

To cool to a temperature of about 32 deg. a mortuary containing twelve bodies.

To cool a freezing larder to a temperature of about 25 deg., this larder containing all kinds of frozen goods like meat, poultry, game, etc.

To keep at a temperature of about 35 deg. a larder of 1,600 c.f. capacity, this larder being used for storing the every day's provisions.

To cool a small store next to the ice store.

The machine is used for cooling brine, which the brine circulating pump distributes through the ice tank and the pipes in the various chambers where "cold" has to be produced, some of the chambers being at a considerable distance from the machine itself.

The mortuary and freezing rooms are cooled by means of large galvanized overhead cylinders. These contain a considerable volume of cold brine, thanks to which great regularity in the temperature of the chambers is obtained, and the cooling effect continues for a considerable number of hours after the machine

is stopped, so that there is no necessity for running the machine on Sundays.

The provision larder, where the temperature does not require to be so low as in the freezing room, is fitted with Messrs. J. & E. Hall's patent brine walls, which lie flat against the walls and take up very little room in the chamber.

Special attention has been given to the ice-making plant. The ice is manufactured in blocks of one cwt. each, and is quite transparent, as distilled water is used for filling the ice moulds.

This is only one of the many refrigerating plants which Messrs. J. & E. Hall, Limited, have installed in hospitals, asylums, etc., but it is certainly one of the most interesting, as the refrigerating plant is used for so many different purposes, and, thanks to the system of brine circulation used, the "cold" can be applied to any part of the building, sometimes at a considerable distance from the machine itself, as the machine, using as the refrigerant an entirely harmless gas, can be placed in any suitable position.

---

## THE INTERNATIONAL MAGAZINE OF SCHOOL HYGIENE.

---

UNDER the above title, written in three languages, German, French and English, a new magazine has just appeared, the first copy, published in Leipsic on January 13th, reaching Toronto on the last day of that month. It attests the great interest taken at present in the subject of school hygiene, an interest which is growing every day. The magazine is German with the exception of one page, the prospectus, which is in the three languages already mentioned. From it we learn that the subject matter includes: (1) Hygiene of school buildings and their furniture; (2) hygiene of residential schools and kindergartens; (3) methods of investigation in school hygiene; (4) hygiene of teaching and of teaching materials; (5) hygienic instruction of teachers and scholars; (6) physical education of youth; (7) diseases and medical service in schools; (8) hygiene of special schools; (9) hygiene of school children out of school; (10) hygiene of teachers; (11) general hygienic development in youth; (12) legal decisions and regulations regarding school hygiene; (13) conferences and congresses for school hygiene; (14) history of school hygiene.

The magazine is for the publication of original articles only, which will be paid for at the rate of fifty marks per printed sheet. It appears in parts of ten sheets, and the interval at which the parts appear will depend on the amount of manuscript

for publication. The first number contains nine articles and comprises 145 pages. There are 160 associate editors, of whom nine are English and Scotch, seven American, and two Canadian. The four editors are Le Docteur Mathieu, of Paris; Sir Lauder Brunton, London; Professor Johann Essen, of Christiania, and Professor Griesbach, of Mulhausen. An English translation of this interesting and valuable magazine is urgently required, and is, we believe, in course of publication.

---

**The Personal Influence of the Physician in Venereal Diseases.**

—H. D. Holton, Brattleboro, Vt. (*Journal A. M. A.*, March 11), calls attention to the great good that might be accomplished by physicians giving personal instruction to patients concerning the prevention of venereal diseases. He quotes circulars discussed at the 1903 meeting of the State and Provincial Boards of Health of North America, which are issued by the various boards to physicians in their jurisdiction.

**Reed & Carrick's New Canadian Agency.**—This well-known firm, with headquarters at Jersey City, N.J., have appointed Messrs. A. L. Massey & Co., 61-63 Adelaide St. East, Toronto, their sole Canadian agents. We think that Reed & Carrick have acted wisely in this connection, A. L. Massey & Co. having exceptional facilities for sampling and bringing Peptenzyme and other preparations made by this firm before the profession throughout the Dominion. Another agency secured by the new Toronto physicians' supply house is that for Homburg Salts, which is rapidly securing a place as a therapeutic agent.

**Biloxi Sanatorium.**—We take pleasure in referring our readers to the announcement, on page xlv. of this issue of the *JOURNAL*, of Dr. H. M. Folkes, President and Medical Superintendent of Biloxi Sanatorium, at the town bearing a similar name in the State of Mississippi. Dr. Folkes is known to quite a number of Canadians, and all who have the pleasure of his friendship know full well that he conducts an institution of the most ethical character. Biloxi Sanatorium is situated on the Gulf of Mexico, an ideal place for those desiring to thoroughly recuperate from illness. Dr. Folkes is anxious to have Canadian physicians become better acquainted with his institution, and will be glad to have suitable cases referred to him. He has a staff of physicians as well as a corps of competent nurses, and has special facilities for the treatment of neurasthenia, insomnia, asthma, dyspepsia and kindred ailments. The rooms are large and airy, spacious grounds with most delightful bathing summer and winter. Write Dr. H. M. Folkes, Biloxi, Miss., for full particulars.

# The Canadian Journal of Medicine and Surgery

J. J. CASSIDY, M.D.,  
Editor.

43 BLOOR STREET EAST, TORONTO.

**Surgery**—BRUCE L. RORDAN, M.D., C.M., McGill University; M.D. University of Toronto; Surgeon Toronto General Hospital; Surgeon Grand Trunk R.R.; Consulting Surgeon Toronto Home for Incurables; Pension Examiner United States Government; and F. N. G. STARR, M.B., Toronto, Associate Professor of Clinical Surgery, Toronto University; Surgeon to the Out-Door Department Toronto General Hospital and Hospital for Sick Children; N. A. POWELL, M.D., C.M., Prof. of Medical Jurisprudence, Toronto University, Surgeon Toronto General Hospital, etc.

**Clinical Surgery**—ALEX. PRIMROSE, M.B., C.M., Edinburgh University, Professor of Anatomy and Director of the Anatomical Department, Toronto University; Associate Professor of Clinical Surgery, Toronto University; Secretary Medical Faculty, Toronto University.

**Orthopedic Surgery**—B. E. MCKENZIE, B.A., M.D., Toronto, Surgeon to the Toronto Orthopedic Hospital; Surgeon to the Out-Patient Department, Toronto General Hospital; Assistant Professor of Clinical Surgery, Ontario Medical College for Women; Member of the American Orthopedic Association; and H. P. H. GALLOWAY, M.D., Toronto, Surgeon to the Toronto Orthopedic Hospital; Orthopedic Surgeon, Toronto Western Hospital; Member of the American Orthopedic Association.

**Surgical Pathology**—T. H. MANLEY, M.D., New York, Visiting Surgeon to Harlem Hospital, Professor of Surgery, New York School of Clinical Medicine, New York, etc., etc.

**Gynecology and Obstetrics**—GEO. T. MCKEUGH, M.D., M.R.C.S. Eng., Chatham, Ont.; and J. H. LOWE, M.D., Newark, Ont.

**Medical Jurisprudence and Toxicology**—ARTHUR JUKES JOHNSON, M.B., M.R.C.S. Eng.; Corner for the City of Toronto; Surgeon Toronto Railway Co., Toronto; W. A. YOUNG, M.D., L.R.C.P. Lond.; Associate Corner, City of Toronto.

**Physiotherapy**—CHAS. R. DICKSON, M.D., C.M., Queen's University; M.D., University of the City of New York; Electrologist Toronto General Hospital, Hospital for Sick Children, and St. Michael's Hospital.

W. A. YOUNG, M.D., L.R.C.P. LOND.,  
MANAGING EDITOR.

145 COLLEGE STREET, TORONTO.

**Medicine**—J. J. CASSIDY, M.D., Toronto, Member Ontario Provincial Board of Health; Consulting Surgeon, Toronto General Hospital; and W. J. WILSON, M.D., Toronto, Physician Toronto Western Hospital.

**Oral Surgery**—E. H. ADAMS, M.D., D.D.S., Toronto.

**Clinical Medicine**—ALEXANDER MCPHEDRAN, M.D., Professor of Medicine and Clinical Medicine Toronto University; Physician Toronto General Hospital, St. Michael's Hospital, and Victoria Hospital for Sick Children.

**Mental and Nervous Diseases**—N. H. BEEMER, M.D., Mimico, Insane Asylum; CAMPBELL MEYERS, M.D., M.R.C.S. L.R.C.P. (London, Eng.), Private Hospital Dea Park, Toronto; and EZRA H. STAFFORD, M.D.

**Public Health and Hygiene**—J. J. CASSIDY, M.D., Toronto, Member Ontario Provincial Board of Health; Consulting Surgeon Toronto General Hospital; and E. H. ADAMS, M.D., Toronto.

**Physiology**—A. R. FADIE, M.D., Toronto, Professor of Physiology Woman's Medical College, Toronto.

**Pediatrics**—A. R. GORDON, M.D., Toronto; HENK MACMURCHY, M.D., Toronto.

**Pathology**—W. H. PEPLER, M.D., C.M., Trinity University; Pathologist Hospital for Sick Children, Toronto; Associate Demonstrator of Pathology Toronto University; Physician to Out-door Department Toronto General Hospital; Surgeon Canadian Pacific R.R., Toronto; and J. J. MACKENZIE, B.A., M.B., Professor of Pathology and Bacteriology, Toronto University Medical Faculty.

**Ophthalmology and Otolaryngology**—J. M. MACCALLUM, M.D., Toronto, Professor of Ocular Medicine Toronto University; Assistant Physician Toronto General Hospital; Oculist and Aurist Victoria Hospital for Sick Children, Toronto.

**Laryngology and Rhinology**—J. D. THORBURN, M.D., Toronto, Laryngologist and Rhinologist, Toronto General Hospital.

**Pharmacology and Therapeutics**—A. J. HARRINGTON M.D., M.R.C.S. Eng., Toronto.

Address all Communications, Correspondence, Books, Matter Regarding Advertising, and make all Cheques, Drafts and Post-office Orders payable to "The Canadian Journal of Medicine and Surgery," 145 College St., Toronto, Canada.

Doctors will confer a favor by sending news, reports and papers of interest from any section of the country. Individual experience and theories are also solicited. Contributors must kindly remember that all papers, reports, correspondence, etc., must be in our hands by the fifteenth of the month previous to publication.

Advertisements, to insure insertion in the issue of any month, should be sent not later than the tenth of the preceding month. London, Eng. Representatives, W. Hamilton Mill, 8 Boulevard Street, E. C. Agents for Germany Saarbach's News Exchange, Mainz, Germany.

VOL. XVII.

TORONTO, APRIL, 1905.

NO. 4.

## Editorials.

### DR. OSLER'S OPINIONS ON THE CAUSE OF GREATNESS IN MEN.

BENJAMIN D'ISRAELI, in "Coningsby," which appeared sixty-one years ago, proclaims the glorification of youthful genius, as evidenced in Hannibal, Bonaparte, Nelson, Clive, Cortes, Leo X., Richelieu, Loyola, Byron, Raphael; but he is careful to inter-

ject: "Do not suppose that I hold that youth is genius; all that I say is that genius, when young, is divine." And again: "Experience is the best thing in the world, a treasure for you, for me, for millions. But, for a creative mind, less than nothing. Almost everything that is great has been done by youth."

D'Israeli's thought is limpid. To genius, which has always been, and ever will be, exceptional, experience is little. The creative mind makes its own canons of taste in art and poetry, its own laws for the conduct of war, politics and statecraft. Men bow before it and call it divine. But youth is not genius; for life in general there is but one decree: "Youth is a blunder, manhood a struggle, old age a regret."

In a speech, delivered at the anniversary exercises of the Johns Hopkins University, Baltimore, February 22nd, 1905, Dr. Wm. Osler presented a thought similar to D'Israeli's, but the extract he takes from it is dissimilar. He said: "It is difficult to name a great and far-reaching conquest of the mind which has not been given to the world by a man on whose back the sun was shining. The effective, moving, vitalizing work of the world is done between the ages of twenty-five and forty, those fifteen golden years of plenty, the anabolic or constructive period, in which there is always a balance in the mental bank and the credit is still good." This is a plea for arduous labor between twenty-five and forty. When, however, Dr. Osler instances Vesalius, Laennec, Bichat, Harvey and Virchow to prove his contention, he confuses genius with "the fifteen golden years of plenty." It is true that a man of genius does his best work during the youthful period of his life; but does he make his wonderful advances, his startling discoveries, on account of his youth, or because he is a genius? Dr. Osler does not make this point clear, or, rather, he gives prominence to the importance of a man doing hard work before forty.

Andreas Vesalius, at twenty-two, was appointed Professor of Anatomy at Padua, by the Senate of Venice; at twenty-nine he issued his great work on anatomy, which showed a completeness superior to all that had hitherto been published on that subject. He died at fifty years of age. Was the advance effected by him in human anatomy the product of boldness and genius, or of the fifteen golden years before forty? Was not something

more than youth required to enable one man to stem the prejudice of the ignorant and the sloth of his own profession, so that physicians might dissect cadavers, which had been properly described, instead of accepting Galen's description of monkey anatomy?

Laennec succumbed at forty-five. His great work on mediate auscultation, a treatise on prognosis in diseases of the lungs and heart, based principally on the revelations of his own discovery, the stethoscope, was published when he was thirty-eight. When four years younger he had discovered the stethoscope. Did he make that discovery because he was thirty-four years old, or because he had a genius for observation and reflection?

Bichat died of tuberculosis at thirty-one, yet his life and his works (nine important volumes) were given to fame at an age when aspiring men are beginning to lay the foundations of a reputation for greatness. Was it youth or genius that inspired this man, who was called the "Napoleon of Medicine," when he wrote, before the age of thirty-one, "The Treatise on Membranes," and other works on general and pathological anatomy? It was fortunate for France, and still more fortunate for medicine, in the early part of the nineteenth century, that Bichat began to write when he was very young. His work is immortal; but its value does not depend on the fact that it was done when Bichat was between twenty-five and thirty-one years of age.

Dr. Osler contends, in reply to an interviewer, that a great man should create or collect what he intends to write about up to forty, and, after that period of his life, publish the results of his studies or discoveries. William Harvey lived to be fifty-nine, but, soon after 1613, when he was thirty-five years old, he began, through his lectures, to make known the doctrine of the circulation of the blood.

Although Virchow lived to be eighty-two, the first edition of his "Cellular Pathology" appeared in 1858, when he was thirty-seven years old.

According to Dr. Osler's view, a man of genius should have the conviction that he is going to live to a great age, if he calmly awaits the coming of his fortieth year before beginning to publish his discoveries.

And what about the sexagenarian? "Quite useless," says Dr. Osler. "I am going to prove this in an essay I am now writing,

which is to be entitled 'The Crisis of Forty Years.' He acknowledges that there have been some men of genius who have done good work at sixty, and a few salient examples occur to everyone: Michelangelo, Bismarck, Moltke, Gladstone.

Is genius rarer at sixty years than at twenty-five or thirty? True genius always was, and, it is likely, always will be, rare at any age. Owing to the operations of the school and the college, the cultured many are increasing rapidly in number; but the Edisons, the Marconis, the Ramsays, the Kochs are not evolved in a corresponding ratio.

Although culture is not genius, it has with it the enormous potency of experience, and can do much, both for one's self and for the people with whom one is thrown in contact. There is but one Shakespeare, yet millions of cultured people in many lands find pleasure and profit in his wise and witty words. There is but one Pasteur, yet the light of his discoveries illuminates medical laboratories all over the world, and cultured men of sixty help to swell the chorus of repetition as loudly as the most strong-lunged youngster of five-and-twenty.

Whether greatness be born of genius or a studious youth, of originality or skilful plagiarism, the new voice or its repetition, it will always be a good thing to help in the diffusion of knowledge, an incomparable service to mankind to increase the sum of knowledge. In this pleasure-seeking, force-loving twentieth century, Dr. Osler deserves credit for the stimulus he gives to the gentle student who spends the sapid years of his life working for more knowledge, striving to peer a little bit further into the encircling gloom.

J. J. C.

---

## **UNDESIRABLE IMMIGRANTS TO CANADA ARE DEPORTED.**

AMONG the nations of the world Canada lacks supremacy only because her population is meagre. Her undeveloped resources require people. So great, however, is the merit of her agricultural lands that they are attracting many American citizens, inducing them to leave their own land—an immense gain to Canada and an irretrievable loss to the United States. Besides, many of the strongest and most adventurous of the peasantry of the different European nations continue to press on through seaports



on the Atlantic coast towards Canada's great West, where the earth yields plenty and opportunity is still to be found.

With them, in the same ships, come the undesirable classes—criminals, the mentally defective, the constitutionally unsound and diseased. At Toronto, the growth in the number of immigrants, suffering from disease or deformity, is exciting attention, and a conference was held, February 16th, 1905, at the mayor's office, at which opinions on this subject were expressed by gentlemen, who are in positions to know the actual facts complained of, as they are found in this city. Speaking of sick tramps and undeserving persons who seek for hospital relief, Dr. Sheard, M.H.O., Toronto, stated that they were becoming a serious tax on Toronto. It was impossible to refuse assistance, but the limit of possibility was being reached. Many applications had been received recently for admission to the city hospitals from persons who had been in Canada only two or three months. He instanced one case, in which the applicant for hospital relief had been in the country only five months, three of which had been spent in the Toronto General Hospital.

Mr. Thomas Southworth, of the Ontario Immigration Bureau, said that most of the immigrants from London are of a poor type. He thought that immigrants should be inspected at the point of embarkation.

Such a method of medical inspection would yield the best results to this country. It would also save time and money to the intending immigrant, and help to free him from unnecessary trouble. If, for sufficient reasons, such a method of inspecting immigrants cannot be carried out, then the next best move is to have it thoroughly done at the port of arrival in Canada.

The medical inspection of immigrants coming to Canada is done under the direction of Dr. P. H. Bryce, Chief Medical Inspector of the Department of the Interior. He is assisted by an inspection and hospital staff of four medical men at Quebec, and there are also efficient medical inspecting staffs at Halifax and St. John.

Dr. Bryce shows, in his last annual report, that, during the year 1903-1904, of 99,741 immigrants who landed at the ports of Quebec, Halifax and St. John 1,835 were treated at the detention hospitals, or 1 in every 54; 274 immigrants were deported, or 1 in 363.

That immigrants who might become burdens may slip through the inspectors' net is possible. The general rule is that immigrants suffering from curable diseases are treated, at their own expense, at the detention hospitals, and those in whom the physical condition or disease present is incurable, or cannot be cured, except after months of treatment, are deported. J. J. C.

---

### NO ADMITTANCE TO DISEASED IMMIGRANTS.

---

"You cannot get a small house for love or money in Toronto," is a current remark that is passing from lip to lip. One picks up the daily newspaper, and the announcement that "all the cells in the Central Prison are full, not one empty one," meets the eye. The long, hard winter has caused much illness, and the hospitals and various charitable institutions echo the cry, "Overcrowded!" As spring opens the immigrants come pouring in, presumably to fill up the great West, but as there are good, bad and indifferent usually in every round-up of human cattle, the pick of the stock, well fitted for life's duties, go on to their destination, while the maimed, halt and indigent ones prefer to loiter around the cities, a charge upon their Christian charity. Lately the alarming number of these immigrants suffering from disease and even deformity, who are arriving in Toronto, is exciting attention and dissatisfaction. The Medical Health Officer has been bringing the fact forcibly to the notice of the mayor and other interested citizens.

It is a crime at somebody's door that such diseased persons are allowed to land in this country at all. Dr. Sheard has found that in several cases young Englishmen suffering from tuberculosis are among the number, and they make a habit of seeking admission to the hospital immediately upon their arrival. The hospitals will not admit as free patients any persons who have not resided in the city at least a year, so these unfortunate immigrants are going about spreading disease as they go, a nuisance to the already overworked City Relief Officer, and a menace to the health of the community.

Something must be done to stop the sending out of such incapables, and for the problem now on the city's hands, that is, the getting rid of those already here, Dr. Sheard has wisely sug-

gested, we believe, that the cheapest way to meet the difficulty is to place at the disposal of the City Relief Officer a fund, upon which he can draw for sums sufficient to pay the passage back home again of all undesirable immigrants.

Surely this immigration question is one that the lay, as well as the medical, press of the Mother Land ought to take up and discuss fearlessly for the enlightenment of the general public. It is a shame to make the colony, from whom England expects so much, merely a dumping ground for the human mistakes with which her overcrowded cities are teeming, creatures neither good for king nor country. Canada may need immigrants, but let them at least be clean and free from disease, strong in wind and limb, "hewers of wood and drawers of water" The land is worthy of the best, not Utopia, perhaps, but it has milk and honey in it in plenty; but if the immigrant wants the fatness of the valleys, let him understand, ere he leaves his native shores, that he must raise the cows first ere he regales himself on a milkshake, and let the honey bee sting him often, for that's the cure Canada offers for his rheumatism.

W. A. Y.

---

### THE MEDICAL PRESS NOT LACKADAISICAL.

---

THIS is an independent journal. We proved it by publishing an article by one John Hunter, M.B., the only one, patent rights applied for, for use of M.P.P. after name—patent refused—entitled "Medical Men and the New Provinces," appearing on pages 150-1-2 of our March issue. The first part of the article is well written and properly devoted to the subject, but the latter part we deem an impertinence, in its reference to the Medical Council and its attack upon the medical press. Our Medical Council has the quietness of strength and the conservatism of good judgment. Almost unanimously physicians are in favor of Dr. Roddick's bill. John Hunter frets and fumes at the lackadaisical attitude of the Medical Council and press on inter-provincial legislation in the new provinces, whereas, in the same journal in which is printed Dr. Hunter's scolding, an editorial appears, strongly setting forth our views on the subject of Dr. Roddick's bill, which will include in its comprehensiveness, of

course, the new provinces. Rome was not built in a day, and all the fuss that one man can kick up on a subject cannot make it law. The medical journals do their share, we think, in setting forth sanely and strongly from time to time the claims the various questions at issue have upon the support of the profession throughout Canada. Perhaps the great West calls Dr. Hunter; it may need him; perhaps he needs the space, the elbow room, in which to air his views and edit a paper of his own. If so, why does he tarry? It might be that the parting with him, to the Medical Council, medical journalists, and at least some members of the profession in Toronto, would indeed be "such sweet sorrow."

W. A. Y.

---

#### EDITORIAL NOTES.

---

##### **The Antidotal Effect of Alcohol in Carbolic Acid Poisoning.**

—The employment of 95 per cent. alcohol to surfaces with which strong solutions of carbolic acid have come in contact, in order to overcome the caustic influence of the acid, has of late received much attention. A good many reports have appeared on this subject in the medical journals, but the explanation of the antidotal influence of alcohol to carbolic acid is not easy. Reports have also been made of cases in which, after poisonous doses of carbolic acid had been swallowed, the internal administration of alcohol mitigated the noxious effects of the carbolic acid. The combination, or mixture, of alcohol with carbolic acid also negates the effects of the poison. Thus at London, Ontario, a woman who wished to end her life, swallowed a quantity of carbolic acid mixed with gin; but the gin so lessened the effects of the carbolic acid that a fatal result did not ensue. Poisonous doses of carbolic acid powerfully depress the heart, stopping it in diastole. The arterial tension is lowered by lethal doses, from paralysis of the vaso-motor centre in the medulla (see Butler's "Text-Book of Materia Medica, Therapeutics and Pharmacology"). Now, the action of alcohol in causing the heart to beat strongly and rapidly, at the same time dilating the blood vessels of the peripheries, renders alcohol one of the most valuable of diffusible stimulants, and this property of alcohol may serve to explain, in part, at least, its antidotal effect in cases in which a poisonous amount of carbolic acid has been swallowed.

But the purely local action of alcohol in the presence of carbolic acid also deserves consideration. "Alcohol, locally applied, prevents the caustic action of even pure phenol" (Butler). At 60 deg. F., 100 parts of carbolic acid should be liquefied by the addition of 10 parts of water, and should form a clear liquid with 30 or 40 of water; but, being insoluble in water, carbolic acid exists in these solutions in such a concentrated form as to be injurious to living tissues. On the other hand, carbolic acid is very soluble in alcohol, and the introduction of alcohol into the stomach of an individual who has just swallowed a strong carbolic acid solution may cause the poison to be partially dissolved out of the tissues of the stomach, and subsequently held in a more dilute and less irritating form, until it is vomited.

#### **Beer-Yeast in the Treatment of Phlyctenular Ophthalmia.—**

Starting from the idea that beer-yeast exercises an efficacious therapeutic effect in staphylococcal affections, Dr. Genestous, of Bordeaux, tried it in phlyctenular ophthalmia, which is also produced by staphylococci. Dry beer-yeast, in doses of sixty grains a day for an adult and thirty grains for a child (given in two cachets, one at the beginning of each principal meal), was tried in twenty-five cases of phlyctenular ophthalmia. The ordinary local treatment, viz., atropine solution, ung. hydrarg. oxid. flav., etc., was continued. However, on each occasion when the internal use of beer-yeast was essayed, a notable improvement was immediately observed in the patient. In some cases the ocular affection, which had proved rebellious to local treatment alone, only yielded after beer-yeast had been administered internally.

#### **Hydrotherapy in the Treatment of Tetanus.—**Dr. Sadger (*Zentralb. für d. Gesam. Therapie*, November, 1904, p. 563) describes some extraordinary results which he obtained in a case of tetanus from the use of hydrotherapy. Hydrotherapy is an old remedy in such cases: Ambrose Pare cured soldiers of tetanus by causing them to be covered with hot manure, thereby producing excessive perspiration. Dr. Sadger placed his tetanic patient for three hours in a hot bath, until abundant perspiration had resulted; afterwards in a luke-warm bath, cold water being syringed over the nape of the patient's neck. Afterwards the patient was wrapped in a wet sheet. The hot bath was then resumed, and

the remaining treatment, in the order mentioned, was kept going incessantly for ninety-six hours. In twenty-four hours lock-jaw had disappeared; in forty hours the tetanic cramps had gone. As a matter of precaution this treatment was continued, and the patient was completely cured in ninety-six hours. There was no relapse.

**Myositis Caused by Gonococci.**—In the Johns Hopkins Hospital Bulletin, 1904, n. 165, p. 165, a very interesting report is given of the strange outcome in the case of a woman, thirty-two years of age, who for many years had been a sufferer from leucorrhœa. About two weeks before entering the hospital she noticed a swelling in the calf of the right leg, and also a second one in the sacro-lumbar region. Each of these swellings was as large as a hen's egg. On incision each swelling proved to be an intramuscular abscess. A bacteriological examination of the pus taken from these abscesses was made by Dr. L. Haskell, and revealed the presence of the gonococcus.

**Thermogenesis in Man after Baths and Douches at Different Temperatures.**—Experiments made by Ignatowski (*Arch. f. Hygiene*, t. li., p. 1., 1904) to show the influence of cold baths or douches, confirm the experiments of Lefevre. Thus an individual who, before entering the bath, showed, by the anemocalorimeter, less than two calories a minute, showed twenty-eight a minute after he had been immersed in a bath at 62 deg. F. for two and one-half minutes, and his rectal temperature rose 7-10 deg. F. But this enormous elevation lasted but a short time, and during the ensuing minutes, when the bath was endurable at 77 deg. F., thermogenesis was less excessive. After the cold bath there are two periods observable in the bather, a primary period, which varies according to the lowering of the temperature of the water in the bath and the reactive power of the bather, and which may last over two hours. During this period the losses indicated by the calorimeter indicate a diminution of radiation, and as the central temperature of the body is also lowered, there is a diminished production of heat, this diminution arising from the action of the temperature of the bath or douche. During the second period, which may be very long in duration, and the limits of which are not precisely marked, an increase of heat production is noted. After hot baths, on the contrary Ignatowski observed

an increase in the emission of caloric, represented principally by evaporation, which may be tripled in amount. Febrile persons treated with baths and douches behave generally like persons in health, the modifications being, however, more strongly marked in them than in healthy persons.

**The Japanese Art of Ju-Jitsu.**—So little is known in a practical way of the art of Ju-Jitsu (pronounced Jew-Jitss), that an exhibition of it in some of the cities of Canada would not fail to be of great interest. In an editorial in the *British Medical Journal*, February 4th, 1905, a description is given of an exhibition of Ju-Jitsu, given at Chelsea Barracks, London, on January 27th. The programme included demonstrations in the art of falling, of how to upset an opponent by disturbing his balance, of how to throw an opponent, and concluded by bouts between the Japanese teachers and some young soldiers trained in wrestling. It appears that the light-weight men trained in Ju-Jitsu got the better of men thrice their strength and weight, young English, Irish and Scotch soldiers of fine physique and plenty of pluck being disposed of one after the other by the Japanese featherweights. We also gather from the above-mentioned article that Ju-Jitsu is not wrestling pure and simple, though the literal meaning of the words is "muscle-breaking." It is rather the art of defeating brute strength by stratagem, "*arte non vi*," an art which enables light-weight men or women to protect themselves against a powerful antagonist, provided he does not know this form of the science of self-defence. To save one's strength, to defend one's self by sleight of body, while drawing from an opponent all his strength—this is the art of Ju-Jitsu. The main object of a student of Ju-Jitsu is by stratagem to render an antagonist helpless without using up his own strength. An effort is made to get an opponent into some position in which advantage can be taken of some simple fact in anatomy to paralyse resistance. The school-boy trick of suddenly twisting another boy's arm behind his back and thus disabling him may be compared to some of their sleights-of-hand. But they have elaborated a complete system, and work not only with their hands, but with their arms, their feet and their legs. They have also made a study of the balance of the body, and can take advantage of the momentary failure of poise in an

opponent to lift him from the ground and literally throw him over their head. This is, of course, not altogether free from danger to limb, and even to life, so that the art of falling and the art of throwing are two of the most important things to be learned. The student of Ju-Jitsu is also a hygienist. He eats hardly any meat, and lives chiefly upon rice, fish, vegetables and fruit, while he drinks much water, on an average a gallon of water in twenty-four hours. Regular bathing is also one of the first principles of his physical training, in order that external impurities may be constantly removed. He goes out early in the morning and breathes in long draughts of fresh air. As the windows of Japanese houses consist of thin, porous, oiled paper, through which the air penetrates, arranged to slide back, and as these windows are open night and day, the ventilation is perfect. This system of physical training is begun at an early age, and is continued pretty well all through life, so that the student of Ju-Jitsu attains an extraordinary perfection of physique. As a consequence, long illnesses and bodily weakness are considered to belong to old age, and those wanting in strength are looked upon as freaks.

#### **Eberth's Bacillus in the Urine of Typhoid Fever Patients**

—Dr. Albert Mahaut, in a thesis published at Lyons, 1904, gives the results of his observations on the urine of typhoid fever patients. He found Eberth's bacillus in the urine of these patients during convalescence, as well as the febrile period of the disease in 38.5 per cent. of the cases. The presence or absence of the Eberth bacillus does not seem to bear any relation to the gravity of the disease, to the albuminuria or the rose-colored spots. This bacilluria is explained by the presence of the Eberth bacillus in the blood of the general circulation, and the ease with which the bacillus vegetates in the bladder of the patient, as the author's experiments go to show. The Eberth bacillus appears in the patient's urine on the ninth day, and it may be discovered fifteen days after the commencement of the apyretic period. Internal antiseptics do not cause it to disappear. Lotions of permanganate of potassium have given good results in this author's experience. He thinks that it is necessary to disinfect the urine of a typhoid fever patient, and also the water of his bath.

J. J. O.



## PERSONALS.

DR. E. HERBERT ADAMS and Dr. ARTHUR W. MAYBERRY have returned to Toronto after a mid-winter visit to Jamaica, where they were investigating for themselves the climatic and sanitary and other advantages of the West Indies as a winter health resort.

OUR mutual friends, the Thomas Pharmacal Company, of New York, have moved from 50 West Broadway to the new Filly Building at 203 Fulton St. This firm has, during their ten years of business life, become favorably known to the medical profession of America through their splendid preparation Eulexine, which is specially advertised for the treatment of diabetes. This firm purposes to add one or two new therapeutic specialties to their list during the coming year. We commend their preparations to our readers.

Dr. J. MACDONALD, JR., has severed his connection as manager and managing editor of the *International Journal of Surgery*, with which he has been associated for the past fourteen years. This move was made for the purpose of enabling him to publish an independent, practical, surgical journal under absolute professional control and along such lines as will best serve the interests of the general practitioner. He has purchased all rights in the *American Journal of Surgery and Gynecology*, and with the April number this journal, thoroughly modernized and largely increased in circulation, will be issued from New York as the *American Journal of Surgery*. In this undertaking, Dr. MacDonald will have the contributory co-operation and support of such well-known surgeons and teachers as: Robt. T. Morris, Prof. of Surgery, N. Y. Post-Graduate School; Howard Lillenthal, Visiting Surgeon, Mt. Sinai Hospital, N.Y.; J. P. Tuttle, Prof. Rectal Diseases, N. Y. Polyclinic; Jas. T. McKernan, Prof. Nose and Throat, N. Y. Post-Graduate School; Sam'l G. Gant, Prof. Rectal Diseases, N. Y. Post-Graduate School; Augustin H. Goelet, Prof. Gynecology, N. Y. Clinical School of Medicine; C. Wendell Phillips, Prof. Diseases of the Ear, N. Y. Post-Graduate School; Ferdinand C. Valentine, New York, who, with others, will assist him in making a practical surgical journal, which, in point of interest and usefulness will represent all that years of experience, backed by ample capital, can produce. We wish Dr. MacDonald every possible success, and feel, from our personal acquaintance with him and knowledge of his indomitable energy, that he will assuredly win out in his new venture.

## News of the Month.

### A MEASLES HOSPITAL IN THE NEAR FUTURE POSSIBLE.

A HOSPITAL for the treatment of patients suffering from measles will in all probability be erected in the immediate future in the vicinity of the Isolation Hospital.

The question of hospital treatment for that class of patients was discussed recently at a conference in the Mayor's office, which was attended by his Worship the Mayor; Dr. Sheard, Medical Health Officer; Mr. J. W. Flavelle, Chairman of the General Hospital Board of Trustees; Dr. O'Reilly, Medical Superintendent, and others.

The question of hospital accommodation generally was discussed, particular attention being given to what should be done for the hospital treatment of patients suffering from measles, the General Hospital authorities having some time ago passed a resolution shutting out that class of patients. It was finally thought advisable to erect a building for that special purpose. The question will be further discussed at another meeting.

### NEW WING OF THE WOODSTOCK HOSPITAL.

THE new wing of Woodstock Hospital was opened on February 14th, with appropriate ceremonies. There was a large attendance, the medical profession of the district being well represented. Mr. George C. Eden, President of the Hospital Trust, presided, and the building was formally declared open by Mr. J. W. Flavelle, of Toronto, who spoke in high terms of praise of the generosity and enterprise of the citizens of Woodstock and Oxford. Dr. O'Reilly, Superintendent of the Toronto General Hospital, also offered his congratulations, and expressed the hope that before long the institution of which he was the head might have as good an operating room as that which Woodstock Hospital had now to offer. It could have no better. Other congratulatory speeches were delivered by Mayor Scarff, ex-Mayor White and County Councillor Virtue.

The new wing, which doubles the capacity of the hospital,

has been erected at a cost of \$16,000, to which the city, county and township councils, as well as individual citizens, have contributed. The surgical ward has been fitted up by Mr. John D. Patterson, of Woodstock, and is as complete as that in any hospital on the continent. A ward has been furnished by Miss S. S. Patterson, in memory of her brother, the late Alfred Patterson, and another by Mr. John Whicher, of Caledonia, to be known as the Lilian Whicher ward, after his daughter.

During the afternoon it was announced that Mr. Chester D. Massey, of Toronto, had subscribed \$1,000 to the building fund.

The members of the Ladies' Auxiliary to the hospital, who have been very active in connection with the enterprise, served refreshments at the close of the proceedings. The hospital has been in existence since 1895, and since that time its usefulness to the city and district has become each year more generally recognized. Under its present efficient superintendent, Miss Francis Sharpe, its work has been brought to a high state of efficiency.

---

#### ITEMS OF INTEREST.

---

**The "Grand Prix" Awarded E. Merck, Darmstadt.**—It will interest our readers to know that E. Merck, of Darmstadt, Germany, has won, not only the Grand Prix, but, in addition, a gold medal at St. Louis Exhibition, 1904.

**Cape Town International Industrial Exhibition.**—A Grand Prix (highest award) has been conferred upon Burroughs Wellcome & Co. for the pharmaceutical and other fine products exhibited by them at the Cape Town International Exhibition.

**The Denver Chemical Co.'s New Booklet.**—We have just received an exceedingly neat booklet from the Denver Chemical Mfg. Co., of New York City, the manufacturers of Antiphlogistine, which goes into the details of this preparation and its varied uses. It is a credit to the printer's craft, and worth sending for.

**The Proposed Dinner to Professor Osler.**—It has been thought wise, for the present, at least, to postpone indefinitely the dinner proposed in honor of Dr. Wm. Osler ere he sails for England. Dr. Osler finds that he will only be able to spend about a day in Toronto, and that, as far as he can now see, it will be a Sunday. The banquet, therefore, has been called off, though the committee hope that at some future date the Toronto profession may be enabled to do honor to so worthy a *confrere*.

**Gold Medal at the Cape Town International Exposition, 1904-5.**—The well-known firm of C. J. Hewlett & Son, 35 to 42 Charlotte St., London, E.C., have had the honor of having awarded them a gold medal for their standardized tinctures, drugs and pharmaceutical preparations at the Cape Town International Exhibition, 1904-5.

**New York Polyclinic Medical School and Hospital.**—The President of the Faculty of the New York Polyclinic Medical School and Hospital, on Tuesday, December 20th, gave a reception to the members of the teaching staff, the board of trustees, and many of their friends, to celebrate the event of the liquidation of a second mortgage of about \$40,000, which was accomplished by the personal donations of the members of the staff. This action was applauded by a member of the board of trustees in a material way by a personal donation of \$20,000. It is hoped that this generous contribution will be productive of other donations, and that the new building fund will soon be of substantial size.

**Venereal Diseases.**—Geo. M. Kober, Washington, D.C. (*Journal A. M. A.*, March 11th), points out the terrible prevalence of venereal diseases among the general population. He quotes statistics showing that in large cities from 12 to 15 per cent. of the population are afflicted with syphilis, and a still larger proportion with gonorrhoea. While he does not think that public regulation of the evil is advisable in this country, he maintains that the state should enforce laws against solicitation and seduction, and that health boards should recommend the enactment of sanitary regulation of all occupations by which extragenital syphilis may be conveyed, and special examinations should be made of wet nurses, etc. He believes that these measures would be of great educational value and suggests that a general educational campaign be instituted against these disorders.

**A Typographical Error in our March Issue.**—By an unfortunate omission of one letter from a paragraph appearing on page 189 of our March number (an issue for which we have had a specially large demand), attention was called to page xxxi in place of lxxxii, where appeared a letter from Dr. Murray McFarlane, of Toronto, addressed to The Lactoglobulin Co., of Montreal, and which explains itself. In order that no further misunderstanding may occur, we reprint here a copy of the communication in question: "THE LACTOGLOBULIN Co.—*Gentlemen,*—It is with great pleasure that I give unsolicited testimony to the merits of Lactoglobulin as a food product for invalids. In several cases it has given such satisfaction that I feel it should be accorded an extended trial by all physicians. In cases of tubercular laryngitis,

where the pain upon swallowing food is so intense, it is readily taken, owing to its bland and mucilaginous character. It has in my hands made good the claims set forth as to keeping up the weight and strength when taken according to directions. This is the first time that I have ever written regarding any manufactured product, but I feel that the merits of Lactoglobulin deserve it. Yours truly, MURRAY MCFARLANE."

**Some of the Recent Works of Bailliere, Tindall & Cox, London, Eng.**—Rose & Carless' "Manual of Surgery." (University Series.) Fifth edition, with new illustrations, etc. Price 21s. net. "The best Surgery for students."—*Lancet*. MacNaughton-Jones' "Diseases of Women." Ninth edition in the press. "The best text-book on the subject published in recent years."—*Brit. Med. Jour.* Dawson Turner's "Medical Electricity, Rontgen Rays and Finsen Light and Radium Treatment." Fourth edition. 10s. 6d. net. Profusely illustrated. "Written by an author who is thoroughly in touch with his subject."—*Lancet*. Stewart's "Manual of Physiology." (University Series.) Fourth edition, with 5 colored plates and 365 illustrations. Price, 15s. net. "An ideal manual."—*Brit. Med. Journal*. "Surgical Diseases of the Stomach." By Prof. Mayo Robson and B. G. A. Moynihan, F.R.C.S. Profusely illustrated. New edition in the press. Price, 15s. net. Lindsay on "Diseases of the Lungs and Heart." New work. Price, 9s. net. Difficulties of diagnosis have received special attention. The book is thoroughly practical and the clinical standpoint adopted. Prof. Poltzer's "Text-Book of Diseases of the Ear." Fourth edition. Authorized translation, with original illustrations. Royal octavo. Price 25s. net. "The most valuable book of reference on aural surgery."—*The Lancet*. Monro's "Manual of Medicine" (University Series.) Just out. Pp. 922, 38 illustrations. Price, 15s. net. "Will make room for itself by its own intrinsic merits."—*Med. Press*. Mummery's "After-Treatment of Operations." Just out. 230 pages, illustrated. Price, 5s. net. Mayo Robson's "Disease of the Gall-Bladder and Bile Ducts." Third edition in the press. Just out. Price, 15s. net. Brouardel and Benham's "Death and Sudden Death." Just out. Second edition, 350 pages. Price 10s. 6d. net. "Aids to Chemistry," one vol., cloth 4s. 6d. "Aids to Physiology," one vol., cloth 3s. 6d. "Aids to Surgery," one vol., cloth, 4s. 6d. "Aids to Sanitary Science," one vol., 4s. 6d. "Aids to Forensic Medicine," one vol., 2s. 6d. "Aids to Obstetrics," one vol., cloth, 2s. 6d. "Aids to Gynecology," one vol., 2s. 6d. "Aids to Practical Dispensing," cloth, 2s. 6d. "Aids to Materia Medica," three parts, 2s. each. "Aids to Medicine," two vol., cloth, 4s. 6d. each. "Aids to Mathematics of Hygiene," one vol., 2s. 6d. "Aids to Ophthalmic Medicine and Surgery," cloth, 2s.

- 6d. "Aids to Dental Anatomy and Physiology," cloth, 2s. 6d.  
"Aids to Diseases of Children," cloth, 3s. 6d.

**The Cause and Prevention of Appendicitis.**—Under this heading there appears in the *Nineteenth Century* for January an article which professes to have solved the problem of the etiology of appendicitis. The author of this communication strongly denounces the use of "Hungarian waters, aperient salts, and liver pills." He then remarks: "It is natural to ask what have aperient waters and salts to do with appendicitis? To that a very true answer is that the action of saline purgatives is to cause a flow of water through the intestinal canal. This passes off quickly, but alas! it leaves the solid portions to accumulate in the cecum at the right side, near the appendix, where the small intestine ends and the large one commences. The solid portions left in the colon become more and more putrid, cause obstruction, and infect the appendix." The meaning of the above sentences is somewhat ambiguous, but we conclude that it is intended to convey the idea that those individuals who habitually take laxatives to insure an action of the bowels are liable to fecal collections in the cecum, which produce inflammation of the mucous membrane of the bowel and so cause appendicitis. We venture to express an emphatic opinion that there is no basis for this statement, either on pathological or clinic grounds. Any practitioner who has had experience in the post-mortem room knows that the contents of the small intestine are liquid, and it is not until the colon is reached that the fecal matters become solid. It is most unusual to find solid fecal accumulations in the cecum; yet this condition is distinctly implied in the remarks which we have quoted above. Further, in post-mortem examinations of those who have died from appendicitis, although small concretions may be found in the appendix, no large mass is found in the colon, as would be the case if the etiology which we are considering were the correct one. Such a causation of appendicitis is also contradicted by clinical experience. The age at which appendicitis usually occurs ("System of Medicine," by Prof. Clifford Allbutt, Vol. iii., p. 896) is from ten to twenty years, which is not the period of life at which such purgatives are generally habitually taken. Again, constipation is more frequent among women than among men and the former are more addicted to the habitual use of purgatives, yet appendicitis is nearly four times as common in men as it is in women. It is certainly desirable to overcome constipation by natural means, notably by diet, if possible. But there are numerous cases in which artificial stimulus to the intestines is absolutely necessary, and in such circumstances "aperient waters and salts" are most valuable remedies.—*Lancet*, London, Feb. 11th, 1905.

## Correspondence.

*The Editor cannot hold himself responsible for any views expressed in this Department.*

### THE THERAPY OF ANTI-STREPTOCOCCIC SERUM.

---

*To the Editor of THE CANADIAN JOURNAL OF MEDICINE AND SURGERY :*

DEAR SIR,—We are mailing you, under separate cover, a brochure styled "A Contribution to the Therapy of Anti-streptococcic Serum," in which is included everything that is known at the present regarding its usefulness in surgery and medicine.

It is unfortunate that this serum, together with anti-pneumococcic serum, were introduced as specific treatments, and the medical profession were led to believe that they were as specific in their action as diphtheria antitoxin has proven to be in diphtheria. Experience with these serums has proven that this is not to be expected.

The profession are using these serums more generally and with a better appreciation of how to employ them, viz., dosage and early administration, with more satisfactory results. Preventive medicine is slowly but surely becoming recognized as hygienic conditions improve and the value of these serums as a prophylactic agent become known.

Medical treatment for pneumonia has not proven a success, as is evidenced by the ever-increasing number of cases and the largely increased mortality. Still, no one thinks of not using medical treatment in this disease. Anti-pneumococcic serum, while not a specific, when used early in attacks of pneumonia yields better results than any medical treatment. Its employment does not interfere with other remedies, and the treatment itself is perfectly harmless.

We are satisfied when the medical profession realize these facts the serum treatment will be more generously employed, since every physician is called upon to resort to every known method of treatment in saving of human life, and particularly in a disease where medicine has proven itself so unequal to its treatment.

We shall be glad to have you carefully read the brochure sent you, realizing that it is to the medical journals largely that the medical profession look for their advanced teaching in the practice of medicine. You will also note the valuable three-color prints showing the different types of diphtheria, which illustration we believe will be of service to the practitioner in impress-

ing upon him the importance of thorough examination of the nose and throat in all cases, or suspected cases, of diphtheria.

Very truly yours,

H. K. MULFORD COMPANY,  
Milton Campbell, *Pres.*

---

[We have read with pleasure the brochure above referred to and feel that we cannot do better than advise each and all of our readers to send for a copy for themselves.]

---

**Ophthalmia Neonatorum.**—E. Jackson, Denver (*Journal A. M. A.*, March 11th), holds that rigid cleanliness, while it will greatly diminish the number of cases of blindness from this cause, will not always prevent it, and that the Crede method, while efficient, sometimes causes irritation. He sees some hope in the use of some of the less irritant silver salts than the nitrate, but believes that we need more experience in their use before we can give them the same confidence. Even in case of actual purulent disease, careful treatment will usually prevent blindness. He thinks that social conditions favoring or opposing the spread of gonorrhoea are more important than legislative measures aimed directly at purulent conjunctivitis, and that gonorrhoea is a malignant, contagious disease, and should be publicly recognized and dealt with as such in all its clinical manifestations.

**Myxedema and Diabetes Mellitus.**—A. A. Strasser, Arlington, N.J. (*Journal A. M. A.*, March 11th), reports the case of a child, eight years old, in whom the characteristic symptoms of myxedema appeared after weaning. The thyroid treatment was instituted with marked improvement in the symptoms, but diabetes intervened and it was discontinued, not because it was considered responsible for the intervening condition, but to eliminate it as a possible factor. The case was very carefully studied as to its metabolism; the child improved greatly in its mental symptoms as the diabetes progressed, but finally died in coma and convulsions. The author discusses the case with special reference to the effect of the diabetes on the myxedema, and considers the case as absolutely unique. Diabetes mellitus itself is not so rare in children as was formerly thought, but its occurrence in myxedema with the apparent marked effect on the latter condition here observed has not been reported heretofore. In a supplementary note he refers to two somewhat similar cases reported by Dr. Alfred Gordon in *American Medicine*, Feb. 6th, 1904, but he does not agree with the optimistic Gordon's views as to the prognosis in such cases.



# Obituary

## DR. THOMAS H. MANLEY'S DEATH.

THE news of the recent death of Dr. Thomas H. Manley, of New York City, came as a sudden and most painful shock to his many friends in Canada.

Only a few months ago the doctor visited Lowell, and at that time was the picture of health, but on New Year's Day he contracted a severe type of typhoid pneumonia, which was more than his strong physique could withstand, and finally, after a hard struggle for life, he succumbed to the inevitable and passed away on January 13th. Everything that could be done by means of medical skill was tried to save this man's life. On hearing of his serious condition, the most eminent and learned members of the medical profession of the United States rushed to his bedside and exhausted all known skill to combat the terrible diseases. In this they were successful as far as the pneumonia was concerned, but there were kidney and other complications, which his enfeebled system could not resist, and finally, after a most heroic struggle, he yielded most cheerfully to the will of his Creator.

Thomas H. Manley, A.M., M.D., was born in the town of Tewksbury, fifty-four years ago. He received his early education in the district school of his native town, and at the public schools of New York City. Owing to his father's death, which occurred when young Manley was a mere boy, he was obliged to go to work at an early age, to assist the other members of the family. Being of an active and ambitious nature, he devoted his evenings and every spare moment to the perusal of his books, and in due course of time he entered the office of the late Dr. Plunkett, of this city, to begin the study of medicine. Afterwards he entered the University of the City of New York, and in 1875 he graduated with high honors. Immediately following his graduation, he received a hospital appointment in that city, and after a most successful term of service in the large hospitals of the metropolis he located in Lawrence, Mass., where he soon built up a large and lucrative practice. But anxious for a larger surgical field, he returned to New York after a few years and began the practice of surgery as a specialty.

There he began the foundation of the work that has since

made him famous. He was appointed visiting surgeon to the Harlem Hospital and in the various city hospitals on Blackwell's Island. For years he studied and labored incessantly at his chosen profession, until finally he became master of the science and art of surgery. Not content with the knowledge of his vernacular tongue he took up the study of French and German, and soon became familiar with the choicest gems of foreign medical literature.

His ability was soon recognized by his professional brethren, and gradually he was admitted to membership in the foremost and most eminent medical associations in the land.



He was a member of the New York County Medical Society, of the New York State Medical Association, of the American Medical Association, of the American Surgical and Gynecological Society, of the International Association of Railway Surgeons, of the Medico-Legal Society, and of the New York Academy of Medicine. At the various meetings of these great medical organizations he was ever prominent with original articles and always took a leading part in the discussions on the principal topics of the medical world. He contributed largely to the eminent medical journals of the country and held the position of editor of the Department of Surgical Pathology of *THE CANADIAN JOURNAL*

OF MEDICINE AND SURGERY, and, at the time of his death, was recognized as one of the best known surgical writers of America.

Of late he acquired much prominence as a teacher, he being Professor of Surgery in the New York Clinical School of Medicine and clinical instructor of the Metropolitan and Harlem Hospitals. He was the author of an excellent book on hernia, and had almost completed a grand volume on surgery when his untimely death took him from our midst.

The New York daily press and the medical press of this broad land have been a unit in sounding the praises of Dr. Manley.

He was a thoroughly good Christian man—a man of strong personal character, of very forcible convictions, and charitable to a fault. His early demise has been a great loss not only to the people of New York, but to the community in general.

The career of Dr. Manley is a grand model for all our young men to imitate. Beginning life as he did, a poor boy, fatherless at an early age, and struggling hard in the battle of life to help his poor mother and family, and finally reaching the very pinnacle of fame—all prove what can be accomplished by honesty, sobriety, zeal and a persevering application to duty.

Dr. Manley leaves a widow and four daughters, all of whom are well known in their native city.

# The Physician's Library.

## BOOK REVIEWS.

*Saunders' Medical Hand-Atlases.—Atlas and Epitome of Operative Ophthalmology.* By DR. O. HAAB, of Zurich. Edited, with additions, by GEORGE E. DE SCHWEINITZ, M.D., Professor of Ophthalmology in the University of Pennsylvania. With 30 colored lithographic plates, 154 text-cuts, and 377 pages of text. Philadelphia, New York, London: W. B. Saunders & Co. 1905. Cloth, \$3.50 net. Canadian agents: J. A. Carveth & Co., Limited, 434 Yonge St., Toronto

Prof. Haab's "Atlas and Epitome of Operative Ophthalmology" is no exception to the comment we have now made several times in reviewing this really splendid system of atlases, viz., that we don't know of any series of books published in recent years which give such a wealth of information in such limited space. Prof. Haab's series are thorough and complete, one of their best points being that they are written in such a manner as to be of as much benefit to the ordinary practitioner as to the specialist, a point not always considered by authors of books devoted to some special subject.

*The Medical Examination for Life Insurance and Its Associated Clinical Methods.* With chapters on the insurance of sub-standard lives and accident insurance. By CHAS. LYMAN GREENE, M.D., St. Paul, Professor of the Theory and Practice of Medicine in the University of Minnesota, etc. Second edition, revised and enlarged, with 99 illustrations. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. 1905.

Five years have elapsed since Dr. C. L. Greene gave to the profession the benefit of his work on medical examinations and life insurance. To-day he comes back again with practically another book, so thoroughly has he revised almost every chapter. A medical examiner for a large life insurance company occupies a most responsible position, as upon his opinion as to each and every applicant's physical condition hangs the safety of what altogether amounts to millions of dollars invested. How important, therefore, is it that a trusted officer such as he should have at his elbow the very best works of reference dealing with

life insurance examination. After carefully looking over the author's book in its second edition, we feel that we can honestly recommend it as a reliable exposition of the subject, and one that ought to be found in the medical examination room of every life insurance company. It sells at \$4.00, and is worth that and more.

*Bacteriology and Surgical Technic for Nurses.* By EMILY M. A. STONEY, Superintendent of the Training School for Nurses, St. Anthony's Hospital, Rock Island, Ill. Second edition, thoroughly revised and much enlarged by FREDERIC R. GRIFFITH, M.D., Surgeon, Fellow of the New York Academy of Medicine. 12mo volume of 278 pages, fully illustrated. Philadelphia, New York, London: W. B. Saunders & Co. 1905. Cloth, \$1.50 net. Canadian agents: J. A. Carveth & Co., Limited, 434 Yonge St., Toronto.

There have not been many books written for nurses, in fact, there is almost a dearth of such literature. Nursing has come to be an exceedingly important department in the treatment of a case, so that this book will be especially welcomed. It consists of two parts, the first containing five chapters devoted to bacteriology and antiseptics, and the second, seventeen chapters given over to surgical technic in its many different phases. The purchase of the book by every nurse will be money well invested.

*Gynecology: Medical and Surgical.* Outlines for Students and Practitioners. By HENRY J. GARRIGUES, A.M., M.D., Gynecologist to St. Mark's Hospital, New York City; Consulting Obstetric Surgeon to the New York Maternity Hospital; formerly Professor of Gynecology and Obstetrics in the School for Clinical Medicine, and Professor of Obstetrics in the Post-Graduate School and Hospital. With 343 illustrations. Philadelphia and London: J. B. Lippincott Co. 1905.

We have come across few works on gynecology which seem to us as suitable for use, especially by medical students, as the one under review. There is no dearth of books dealing with this important subject, but of course the majority are written for practitioners and do not deal with the essentials of gynecology from both the medical and surgical aspect. Dr. Garrigues' book, on the other hand, starts at the foundation with the correct methods of examination of the pelvis and abdomen, then takes up treatment in general, and follows up with diseases of the various parts of the female genital tract, e.g., vulva, perineum, vagina, uterus, oviducts, ovaries, urethra, bladder, ureters, and finishes with diseases of the rectum and anus. Any operations

described are, of course, minor in character, and the book is worth purchasing, if for use by those who want a well-written outline of gynecology as a whole.

*The Medical Review.* 66 Finsbury Pavement, London, E.C.  
Subscription, £1, post free, to any part of the world.

The rapid advance of modern medicine is accompanied by a vast and constantly increasing periodical literature. But the majority of the articles consist largely of common-place remarks, useless verbiage, old doctrine—stated far better in text-books—and crude and doubtful opinions. Much space also is devoted to topics so specialized that they have but little interest or value for the general practitioner. On the other hand, matters of great interest—exceptional and instructive cases, successful treatment by methods not generally known, and valuable observations on unrecognized aspects of disease, which would often solve the difficulties in the daily work of the practitioner—are scattered through the medical journals of the world and lost to the bulk of the profession.

Most journals, it is true, give, as secondary to their original matter, a few pages of brief abstracts of papers which are supposed to be the most important in their contemporaries. But the result is unsatisfactory. Such abstracts generally have an obvious and fundamental fault. Definite progress is not sufficiently distinguished from the indefinite, crude, and unproved opinions of individuals with which medical literature is so much encumbered. Or, again, too much knowledge is taken for granted, and subjects of interest only to the specialists are selected. A constantly changing kaleidoscope of so-called "views" and "conclusions," devoid of both interest and utility, is presented to the practitioner. Further, want of discrimination in the selection of articles is associated with an equal want of discrimination in their summarizing. When, perchance, a valuable article is selected space is wasted on common-place remarks and bibliographical matter which do not in the least enlighten the reader, whilst the essential points are not fully and clearly set forth in due relation. Thus much of the utility and interest of the original is lost. As a result the ordinary epitome is worthless to the practitioner and is not taken seriously; often it is not even read.

Hence the need of a concise yet comprehensive review of the facts in medical literature that are really important. It is quite possible by the careful use of words and the suppression of all unessential matter to compress an article written with any definite object—and such alone is valuable—into a comparatively brief report, and yet to give a complete, readable, and satisfactory account of the subject, so that nothing of importance is lost, and,

often, in lucidity much is gained. In this manner, and in a clearer and more concise form than has hitherto been attempted, we endeavor to summarize all that is really important to the practitioner in the medical periodicals of the world, giving him proved facts and definite teaching, which bear upon his daily work, instead of vague, contradictory and ephemeral theories of no practical value.

In systematically recording new or not generally recognized important facts, and not mere opinions, the *Medical Review* differs from all other journals, epitomes and year books. In another respect, also, we have made a new departure in medical journalism. Our articles are not presented merely as isolated contributions; they are collated with one another, so that, as far as possible, medical progress is presented as an organized whole.

The large number of clinical illustrations published in the *Review*, about 300 annually, is a special feature. So also is the indexing. Each month a subject index of the contents is given, which is not merely a means of reference to the text, but a statement of all the important facts therein, *i.e.*, it is analytical. With each annual volume is issued an index which supersedes the monthly indexes and is constructed according to a homogeneous system. This greatly facilitates the use of the volume as a permanent work of reference and as an indispensable supplement to the text-books.

*First Report of the Wellcome Research Laboratories at the Gordon Memorial College, Khartoum.* By ANDREW BALFOUR, M.D., B.Sc., M.R.C.P. (Edin.) and D.P.H. (Camb.), Fellow of the Royal Institute of Public Health, Member of the Epidermological Society, Medical Officer of Health, Khartoum, and Sanitary Adviser to the Sudan Civil Medical Department. Department of Education, Sudan Government, Khartoum. 1904.

It was a noble act on the part of Mr. Henry S. Wellcome to equip the research laboratories at Gordon College, Khartoum, and present the same to the Sudan Government. The intentions of the donor were: (1) To promote technical education; (2) to promote the study, bacteriologically and physiologically, of tropical disorders; (3) to aid experimental investigation in poisoning cases; (4) to carry out chemical and bacteriological tests in connection with water, food stuffs, and health and sanitary matters.

This volume comprises a detailed report, from February 1st, 1903, to February 1st, 1904, of the work carried on in the laboratories, showing what measure of success has been met with. The laboratories at present consist of a suite of five rooms, *i.e.*, a

kitchen for the preparation of culture media and general rough work, separate bacteriological and chemical rooms, a chamber specially prepared as a photographic dark room and cold storage room, and a museum room. The report is full of interest, and it is to be hoped that a similar volume will be issued annually.

*The Private Stable.* Its Establishment, Management and Appointments. By JAS. A. GARLAND. Octavo, cloth, \$5.00 net. A new and enlarged edition of this invaluable book for all who have to do with horses. With over fifty full-page illustrations from photographs and additional cuts in the text. Little, Brown & Co., publishers, 254 Washington St., Boston, Mass.

To any and every lover of the horse, we say, unhesitatingly, purchase a copy of "The Private Stable." If you are anxious to know how a stable should be kept, what constitutes good taste as to fashion, etc., what your stable should cost you, the points of a horse, what kind of livery you should purchase for your servants, every detail as to correct harness, how to properly feed your stock, what constitutes conditioning, mousing and biting a horse, hints on driving, and every possible minutia as to various traps "turned out" for the show ring, you will have to procure Mr. J. A. Garland's book. We don't think that we have ever come across so thorough a book and one so highly satisfactory to a horseman who desires to know what is right and what is wrong, as the one under review. It is worth just \$10.00 in place of \$5.00.

W. A. Y.

*The Canadian Nurse.*—We have received with pleasure the initial number of *The Canadian Nurse*, a quarterly journal for the Canadian nurses. Dr. Helen MacMurchy is the editor, and the business manager is Miss Christie. A half-tone of Miss Snively, the preceptress and friend of every graduate of the Training School for Nurses of the Toronto General Hospital, adorns the fly-leaf of the new magazine, a fitting tribute to her untiring zeal in the work in which she so delights. We wish Dr. Helen MacMurchy and her associates every encouragement, and we prophesy success for their bright and newsy little journal.

W. A. Y.