VOL. IX. APRIL, 1933. No. 7

THE BULLETIN

of the

Vancouver Medical Association

The Osler Lecture

Meetings

PACIFIC NORTH-WEST MEDICAL ASSN.

Hotel Vancouver. July 4, 5, 6, 7, 1933.

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VANCOUVER, B. C.

THE VANCOUVER MEDICAL ASSOCIATION

BULLETIN

Published Monthly under the Auspices of the Vancouver Medical Association in the Interests of the Medical Profession.

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Vol. IX. APRIL, 1933. No. 7

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VANCOUVER HEALTH DEPARTMENT

STATISTICS, FEBRUARY, 1933.

Total Population (Estimated)		247,251
Japanese Population (Estimated)		8,429
Chinese Population (Estimated)		7,759
	Rate per 1000 of Population	
Total Deaths	184	9.7
Japanese Deaths	9	13.9
Chinese Deaths	6	10.1
Deaths—Residents only	173	9.1
Birth Registrations	294	11.6
Male 174		
Female 120		

INFANTILE MORTALITY—

Deaths under one year of age	17
Death Rate—per 1000 births	57.8
Stillbirths (not included in above)	4

CASES OF CONTAGIOUS DISEASES REPORTED IN CITY

	January, 1933		February, 1933		March 1st to 15th, 1933	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
Smallpox	0	0	0	0	0	0
Scarlet Fever	17	0	25	0	6	1
Diphtheria	2	0	2	0	0	0
Diphtheria Carrier	0	0	0	0	1	0
Chicken-pox	61	0	87	0	62	0
Measles	6	0	0	0	2	0
Mumps	37	0	29	0	29	0
Whooping-cough	52	0	25	0	9	0
Typhoid Fever	1	0	3	0	3	1
Paratyphoid	0	0	0	0	0	0
Tuberculosis	61	14	141	11	46	–
Poliomyelitis	0	0	0	0	0	0
Meningitis (Epidemic)	0	0	0	0	0	0
Erysipelas	3	0	4	1	1	1
Encephalitis Lethargica	0	0	0	0	0	0
Influenza	0	3	–	–	–	–

VANCOUVER MEDICAL ASSOCIATION

Founded 1898 Incorporated 1906

PROGRAMME FOR REMAINDER OF THE WINTER SESSION 1933

February 7th—General Meeting.
Ten-minute Talks:
Sterility—Dr. W. S. Turnbull.
Dysmenorrhoea—Dr. J. W. Arbuckle.
Vaginal Discharge—Dr. W. L. Boulter.
Menorrhagia—Dr. J. E. Harrison.
Menopause—Dr. J. P. Bilodeau.
February 14th—Special Meeting.
Dr. Paul Flothow of Seattle.
February 21st—Clinical Meeting.
March 7th—General Meeting; Osler Dinner.
Lecturer—Dr. I. Glen Campbell.
March 14th—Clinical Meeting:
April 4th—General Meeting:
Papers:
Surgical Emergencies—Dr. J. A. Gillespie.
Medical Emergencies—Dr. W. S. Baird.
April 18th—Clinical Meeting.
April 25th—Annual Meeting.

SAVING PEOPLE FROM BOVINE TUBERCULOSIS

Under the above headline, "Illinois Health Messenger" Vol. 4. No. 10, May 15th, 1932, comments as follows upon the value of tuberculin testing and pasteurization in preventing the spread of tuberculosis from cattle to mankind.

"Milk from tuberculous cattle causes at least 4,000 cases of tuberculosis annually among people in England and Wales where the population is about 40,000,000. About 2,000 deaths, mostly among children result, annually from tuberculosis of bovine origin. About 6% of all deaths of humans from tuberculosis are caused by the bovine type of bacillus. About 6.7% of the raw milk sold in the markets of England and Wales contains living tubercle bacilli. At least 40% of the cows in that country are infected with tuberculosis, though only a minority of these are infective.

These conclusions are drawn by a committee which has studied the milk problem with great care and reported its findings recently. The report is reviewed in the March 19, 1932 issue of "The Lancet," which says of the committee, 'that no more representative or competent body could possibly be collected in this country to study this matter.'

These data applied to Illinois suggest how much tuberculosis is being prevented in this State through tuberculin testing of herds and through the pasteurization of milk. More milk is consumed per capita in Illinois than in England. Some of the milk sold in England is pasteurized. The population of England and Wales is about eight times that of Illinois. Taking all of these factors into account it appears that the elimination of tuberculosis from the dairy herds of Illinois and the pasteurization of milk prevents in this State at least 1,000 new cases of tuberculosis and at least 500 deaths from this disease annually. This correlation is on the assumption that tuberculosis in the herds in Illinois would be equivalent to that in England. Other studies have indicated that fully 3,000 new cases in humans are prevented annually by the control of bovine tuberculosis. Even the lower estimates make the preventive work of inestimable value."

The menace to public health occasioned by tuberculosis in cattle was a prominent factor in bringing about the nation-wide effort to eradicate the disease from cattle, and this reason likewise was the chief reason for undertaking the pasteurization of milk. These combined measures, necessary to protect residents of cities and rural districts, have been so successful that we tend to forget the conditions that existed before they were put into effect. The situation that exists in England and Wales, referred to in the foregoing, reminds us again of the progress that has been made in the United States and Canada in protecting milk consumers from this disease.

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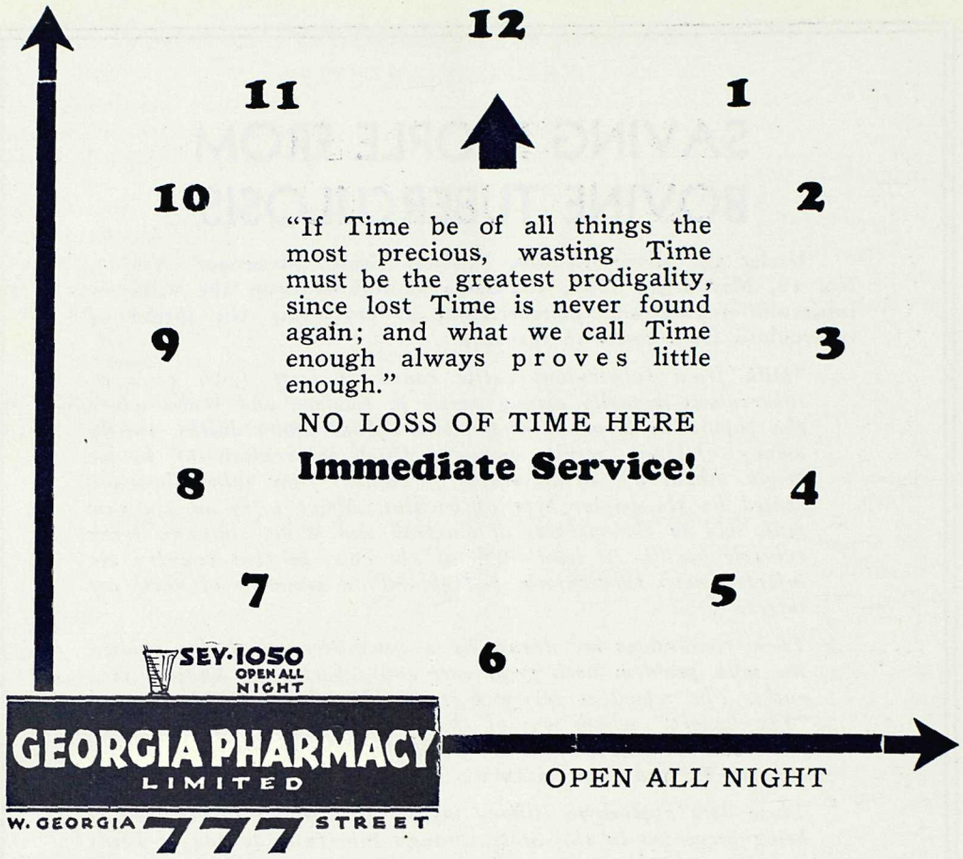

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EDITOR'S PAGE

These are interesting times, if they are rather difficult. To quote one of Kipling's characters, "we mayn't 'ave much money, but we do see life." Happiness has no history, we are told—whether this be so or not, history is certainly being made in these times of depression.

The present Session of the Legislature in Victoria, for instance, is full of interest. The item that probably attracted most attention from the majority of our readers was the fate of the perennial Chiropractor's Bill, which was more decisively beaten than usual. There are several points about this event that are worthy of note. The first is, that the Legislature defeated it without any urging or pressure from organized medicine. We shall probably never succeed in convincing the Vancouver Sun of this fact, but it is, nevertheless, a fact. True, the medical men in the House all voted against it and probably advised their colleagues against it, but this could have had relatively little to do with its defeat. On the other hand, there was no lobbying, no employment of a solictor at a daily sum that makes one gasp and regret the error one made in entering one of the poorly paid professions, no hours spent in Committee meetings, in hurried midnight trips, in interviewing men whose minds are made up, in a great many cases, not on the equity or justice of the case, but on the question of votes and political expediency. This last is by no means true of the majority of the members, whom we believe to be honest men, doing their best as they see it, but it would apply to some with whom we have had the most difficulty, and who in many cases are men of high position, and should and do know better. There are some, of course, who honestly believe in the justice of the chiropractors' case, and with them we can have no quarrel, though we differ from them. We feel that the B. C. Medical Council is to be congratulated on its wisdom and courage in the stand it took this year, of leaving it to the Legislature to decide. We have long felt that this would be the wisest course to pursue. It did not seem credible that the Legislature would take the responsibility of admitting to practice men who wish to enter on the terms offered by these cults, and we rejoice that our faith was well founded. We think of what happened in Pennsylvania some years ago, when the Chiropractors attempted to obtain recognition, and brought a tremendous lobby to bear, while the State Medical Association remained silent, and sent not a single delegate to the House. When the Bill came up in Committee, there were consternation and surprise at the fact that no medical men were there to oppose it, and the Chairman of the Committee sent in a hurry call to the office of the Medical Council, asking why, and whether they were sending anyone. "By no means," was the answer "legislation is your business, and we do not intend to interfere, but if we can give you any facts or advice, we are at your service." The Bill was snowed under with such speed that it never left Committee. The Legislature did not dare assume such a responsibility.

Another item of interest in connection with this Bill was the list of names of those who voted for and against it. We recommend to all our readers a careful survey of these names, and ask whether in view of this list, our strictures above can be said to be unjustified. Truly, the politician's mind works in mysterious ways.

The Budget, too, promises to create a very difficult and, one might

say, dangerous situation, especially with regard to hospitals. It is nice to think, of course, that the Game Warden's office will still be as active as ever, or more so, since his appropriation will be increased—and delightful to reflect that trout and Doukhobour children are receiving such paternal care from the government—but we cannot feel, somehow that this will console the B. C. Hospitals' Association. Of course, we should avoid much illness if we went out and hunted, or did some fishing every week-end, but it hardly seems adequate at that.

* * *

The forthcoming meeting of the Pacific North-West Medical Association in June, offers a programme to medical men of the greatest value and interest. The list of speakers, and the topics chosen by them, must appeal to all of us. We understand that by registering in advance a saving of $2.50 may be made on the fee of $15, so that $12.50 will obtain a ticket of registration.

* * *

MEETINGS

The general meeting of the Vancouver Medical Association for March was held on the 7th of the month in the Oval Room of the Hotel Vancouver on the occasion of the Osler Dinner and Lecture. Dr. Murray Blair, President, occupied the chair and one hundred members were present.

Following the formal dinner the meeting was called to order at 8:15 p.m. On motion duly carried the reading of minutes of the last general meeting was waived.

In introducing the speaker of the evening the Chairman reminded the members that the occasion was the 35th anniversary of the Association and the 13th of the Osler Lectureship. Many of the senior past presidents were guests of honour of the Association as well as a number of men who had previously been honoured by the Association as Osler Lecturers.

Dr. Glen Campbell delivered a very excellent and interesting address on various conditions affecting the eye, emphasizing in particular those of general interest,, and chosen mostly from records accruing during his thirty-four years of practice in ophthalmology. Dr. Campbell's address appears in this issue of the Bulletin.

* * *

On March 17th a special meeting was held to hear Dr. Norman M. Keith, Head of the Section of Medicine at the Mayo Clinic, and a brother of Dr. W. D. Keith, of Vancouver, give an address on "Clinical Studies of Different Types of Hypertension." The meeting was held in the Auditorium of the Medical Dental Bldg.

Dr. Keith's lecture was abundantly illustrated by lantern slides of case records, microphotographs and photographs of the optic fundus illustrating various phases of the condition. The paper was discussed by Drs. B. D. Gillies, E. H. Saunders, G. F. Strong, W. D. Keith and others. The large attendance of eight-one was a tribute to the popularity of the speaker and the importance of the subject which is one of great and increasing interest to practitioners in every specialty. Dr. Blair tendered the thanks of the Association to Dr. Keith. The meeting adjourned at 10 p.m.

The meeting of the Clinical Section for March was held on the 21st instant in the auditorium of the Vancouver General Hospital at 10th and Willow Streets. Dr. Colin Graham discussed "Contract Lenses." Dr. W. D. Patton demonstrated an apparatus for the treatment of lumbago. Dr. Lennie showed a case of tumour of the groin. Dr. desBrisay discussed chest complications associated with oesophageal stricture. Dr. W. L. C. Middleton presented cases of transurethral prostatic resection, and Dr. C. F. Covernton discussed a case of septicaemia and pyaemia. At the close of the meeting refreshments were served.

* * *

THE OSLER LECTURE—1933

By GLEN CAMPBELL, M. D.

"THE EYE"

I must first tell you how much I appreciate the great honour you have done me in inviting me to be the speaker of this evening. This, I believe is the greatest honour in the gift of the Vancouver Medical Association. I have seen this Association grow during the past thirty-four years from a mere handful of men in 1899, to its present size of about 250 members in 1933. The medical profession of Vancouver has been very kind to me in many ways, all of which I appreciate very much indeed.

Concerning the remarks of last year's President on the occasion of the Osler lecture, I must make brief mention. Last year Dr. Prowd reminded us that this year's lecture was number 13. It is not at all remarkable that this old superstition or psychic complex remains with some of us. It is useless to rail against it, or to pass it off as a joke, because are we not creatures of our background as well as our environment? I believe Dr. Prowd's fears were well-founded. While it is quite true that the speaker of the evening is number 13, it is equally true that his audience is also number 13, and the unlucky phase of the occasion, I believe, belongs entirely to you. Our object tonight, I take it, is not so much to hear the speaker of the evening, but rather to give expression to our memory of a great man—the Great Physician, the Master, who taught the Humanity of Medicine and who practiced it supremely. While Sir William Osler has gone from us, the memory of his monumental work still lives, and a library in any medical man's home is incomplete without some of the many contributions that Canada's greatest medical man has made to literature.

Many years ago the thought occurred to me that perhaps one day I might require to review my cases, so I started to make a cross index of some of them, not all, but those shewing some points of interest. I am very glad I continued that system. Recently I reviewed some of these cards, and I will endeavour to give you a cross-section of some of this work, form one worker's point of view, knowing all the while that I am addressing a mixed audience.

I will try to make my view-point as general as possible, The task is not an easy one, I think you will admit. Unlike Dr. Kemp, I have no swan-song to sing tonight. Swan-songs come to few of us. That requires a special chromosomal complex together with a particular enviroment.

Delivered before The Vancouver Medical Association, March 7, 1933.

In this chosen country in which it has pleased Providence to plant us, a country where lumber and mining form much of its activities, it has been my lot to encounter a goodly number of eye accidents of various kinds. I will endeavour then to place before you my reaction to some of these external environments.

At the outset, I must state that after many years of experience in treating industrial injuries of the eye, I firmly believe that a preliminary examination and a careful record of that examination should be made of the eyes of all workers on entering industry. That to me seems to be essential and would I think, prove of inestimable value to the worker, his employer, the Workmen's Compensation Board, the doctor, and last but not least, to the contributors to the fund that takes care of men receiving injuries in the various industries. The Sate demands this of Railway and Steamship Lines, why should not other industries do likewise? From the remarks that I have to make, you will probably realise that this belief is well-founded.

When we consider the eyes from any point of view, we must think of them in terms of physics, physiology, and psychology.

If you will kindly bear with me for a few moments, I would like to make mention of some fundamentals, some things that are not new to any of you. I believe you will agree with me, when I state that the eye is one of the most beautiful, useful and important parts of the body, and not only of the human body. In regard to beauty, did you ever observe the expression in the eyes of a cocker spaniel, one of the greatest friends of all children? Did you ever observe a hawk dive like lightning from a tremendous height and seize a fish? The visual acuity of a hawk must be marvellous. The visual acuity of some birds is one hundred times as great as that of man. Nearly all birds have their eyes on the side of the head. They have no binocular vision, but they do have stereoscopic vision in each eye, because they have two maculae in each eye. Birds' eyes are often telescopic and microscopic. It is said that birds see the infra-red radiations, and do not see blue or violet. (Shastid A. J. of Phys. Optics V7/167.)

Nature has been very kind to us in many ways. Observe the great protection she has given to the eyes, the wonderful bony framework surrounding them, and the covering that the lids afford in protecting these delicate end organs of the optic nerves. Though 6/6 is normal macular vision according to the Snellen notation this does not express in numerical form the functional value of vision, it does not measure the usefulness of an eye. It is scientifically accurate, but an error might arise if this is interpreted as being the equivalent fractional expression of the physiological function of vision. A reading of 6/12 or 0.5 vision cannot mean that the man has lost 50% of useful vision. Many authors have possible solutions of evaluating this function, viz., John Green, Nicati and Wurdemann, Hansel, Holt, Snell and Sterling.

The problem was studied from different points of view, clinical, experimental and mathematical. A Committee appointed by the A. M. A. brought down a report in 1925. This report from Snell and Scott Sterling states: "From experimental observations and from consideration of physical and psycho-physical laws, the following mathematical deductions have been drawn. The visual efficiency of an eye diminishes in

a constant ratio for successive equal increases in the visual angle. In other words, as the visual angle increases in an arithmetical ratio, the visual efficiency decreases in a geometrical ratio." Several equations are used to establish this elaborate calculation.

Industrially we make use of findings which represent the visual efficiency for industrial purposes, and a convenient table has been prepared by Snell and Scott Sterling showing the relations between visual acuity and visual efficiency with per cent loss of vision. e.g., According to this table an eye with 6/12 macular vision by the Snellen notation, having a visual angle of 2′ represents 83.6% visual efficiency of the worker with 16.4% loss of vision. (Archives of Oph. Vol. 54, P. 461—1925.)

Macular vision of 6/60 or 1/10 according to the Snellen notation is industrial blindness, as considered by most statutes.

(V—6/60 has a visual angle of 10′, and 20% visual efficiency, and 80% loss of vision.)

The usefulness of a pair of normal eyes to the worker needs no comment. In a normal pair of eyes with normal fusion sense, we have normal binocular vision. The brain blends into one steroscopic picture the image presented by each separately.

The change from simple fusion, the so-called first grade of fusion, or simultaneous perception, to the 3rd grade fusion or the sense of perspective or stereoscopic vision is accompanied by more or less effort according to your own particular muscle balance or imbalance, hence the fatigue one feels when driving a car in a crowded thoroughfare, a common experience.

Theologians have been telling us for a long time that we have been keeping our eyes too much towards the earth, and not looking up to heaven. Now Colonel Elliott, a distinguished ophthalmologist of London, in addressing the British Institute of Hygiene, is reported to have stated that one of the many things that are the matter with us is that we look up, literally, a great deal too much, and down, literally, a great deal too little. "The headache you experience sometimes when you go to the movies," said Col. Elliott, "you may suppose, in your lay innocence, to be the mere physical, collateral and sympathetic accompaniment to a spiritual pain in the neck; not so, or at least probably not so." "Much more likely," says Col. Elliott, "it is because you have been defying a law millions of years old, looking up, when it is more natural to look down—the depressor muscles of the eyes have become much stronger than the elevators." Col. Elliott's deductions are probably true, but when we consider the incentive to concentrate for longer periods at a movie picture than when we see live actors on the stage, since if we looked away we might miss something important, we realize that it is the prolonged concentrated effort which produces fatigue, hence yawning is a noticeable feature of a movie audience on exit.

The eyes and the ears are the chief academic portals. Other sense-organs are of much importance, and of course they play an important part in life's economy. e. g., the sense of touch, taste and smell. But the eye is the chief academic portal. Some one has calculated that it accounts for as much as 83% of our reception of outside stimuli; undoubtedly we are much influenced by what we see. "He hath a lean and

hungry look—such men are dangerous." (You remember the quotation.) The attitude of children to their environment is largely affected by what they see. Mature minds do not see or read the tragedies of the front page of the newspapers youth looking over your shoulder sees and reads nothing else.

Vision in detail is limited to the macula, and the rest of the retina is used for locating things, and gives us our fields of vision. We have a field for form, colours, and a light sense.

In regard to the light sense, we make use of the two terms, photopic vision, or daylight vision—vision under full light when all possible colours are recognized. This is a function of the cones. Scotopic vision or vision under dim light when the colours are not recognized—this is a function of the rods.

There are instruments used for the measurement of the light sense and the detection of possible error in the sensitivity of the light perceiving apparatus.

Xerophthalmia is a condition in which there is an absence of fat-soluble vitamin A in the diet, and night-blindness is seen in advanced cases. In this there is probably a disturbance in the nutrition of the rods. A diet rich in milk, butter, and green vegetables brings about a rapid improvement. This condition is seldom seen today.

Spasmus Nutans is a condition we see in rickety children living in badly-lit roms very early in life. There is rolling movement of the head and nystagmus. These movements cease during sleep, and the condition is one of the few in which nystagmus disappears spontaneously. It is said to be due to a disturbance in the nutrition of the cones.

We may have a loss of central vision, or a loss of peripheral vision, or both, or disturbances of the pathways from the retina to the optic centres in the brain. These disturbances may occur from injury, disease, pressure or toxaemias. The eye responds to the smallest physical force in the world, namely light waves, the visible radiation of light has a wave-length varying from about 6,200 A. U. on the red end of the spectrum, to about 3.900 A. U. on the violet end of the spectrum. That portion below this is the ultra-violet, and is invisible, and some physicists divide this ultra-violet into three. There is, first the intra-vital ultra-violet which extends from 3,900 to 3,200 A. U. (these rays pass through ordinary glass) and next the vital, from 3,200 to 2,900 A. U., which does not pass through ordinary glass. The latter is fairly abundant around noon in the summer. It burns and tans. Lastly the extra-vital ultra-violet which exteds from 2,900 to 2,000 A. U. The ultra-violet rays are useful and necessary for the normal growth of babies, and in helping to maintain the calcium level in the blood. but the eyes must be protected from them and I will speak more of this later. The infra-red rays above the visible radiations of light are longer, and these are the radiant heat, 15,000 A. U., the Hertzian or wireless and these are 120,000,000,000,000 A. U.

Duke-Elder says "the direct light of the sun contains an insufficient quantity of ultra-violet light to produce much reaction, but becomes so if reinforced by a glare of high intensity reflected from a surface of great intensity as the sea or snowfield, when a solar photophthalmia develops, and the results may be permanent opacity of the cornea in the form of a horizontal band. (It is indigenous among the Eskimo.")

Electric welders seldom get into trouble because the eyes are well protected with very dark glasses, but workers in the vicinity often get what they call a "flash" in the eye, and no symptoms are noticed for several hours. Then they complain of a burning, smarting sensation, photophobia, and intense pain. Examination reveals an acute congestion of the conjunctiva, and small subconjunctival haemorrhages. The distress, I take it, is due to the irritation of the corneal nerve endings after injury to the epithelium. Welders should protect their machines with portable screens as a protective measure for the workers in close proximity to them.

The heat rays, on the other hand, Duke-Elder says, "produce hyperaemia, congestion, stasis, and minute haemorrhages. With more severe exposures, a complete burn and paralytic dilatation of the pupil, atrophy of the stroma of the iris and degeneration. The heat rays produce a thermic lesion. The ultra violet rays produce an abiotic lesion, depending upon the intensity and duration of the radiation." The heat effect is said to end at the lower limit of the 7700 A. U., and the abiotic at the upper limit of the 3,000 A. U. The lens may also be damaged through the action of the infra red or ultra violet, and this is seen in iron workers and glass workers as an etiology of cataract, which is said to be produced chiefly by the infra red. The retina may become damaged by both—thermal lesions are of common occurrence, and are seen typically in eclipse blindness. The eyes must be protected by dark glasses. (Crookes No. 3 is said to cut off rays below 3,650 A. U.

Treatment of eye conditions with the ultra-violet light treatment for corneal ulcers seems to be very promising. All the infra-red energy should be filtered out when treating the eye with ultra-violet light. The available evidence indicates that the improvement noted is due to the production of hyperaemia with its consequent improvement in nutrition, not much beyond this has been definitely proven.

I have quoted several authors at great length because, as Parsons (Trans. of the Ophthalmological Society of the U. K., v. 46, p. 6) says, "we are working with potent weapons, and it behoves us to be well acquainted with their possibilities, lest they turn in our hands. Such a warning is needed today when light therapy has been added to the medical armamentarium, and is applied to our own cases. It is often applied empirically by people who are ignorant of the physical, physiological and pathological properties of light; apparently it requires a few accidents to drive home such warnings."

Eyes that are injured through direct action may reveal one of many conditions, e. g., enophthalmos, proptosis, contraction of the visual fields, traumatic mydriasis, commotio retinae, choroidal and retinal tears, detached retina, subluxation of the lens, cataract, lymph stasis of the cornea, irregularity of the corneal curve, and disturbed refraction.

In speaking of refraction, I believe that in early life, and up to the time the body has attained full growth, changes occur, e. g., a change from normal to hyer-metropia or from hyer-metropia to myopia, or a myopia progressing, is dependent upon natural growth influenced by heredity and also by internal conditions (possible endocrine disturbances, focal infection, etc.) and an external environement represented by a faulty mode of life, bad habits, etc.

In regard to progressive myopia in children, a few years ago I examined many cases of myopia for their calcium content in blood serum, acting on the suggestion of a worker in South Africa, (Dr. D. J. Wood, B. J. of Oph. XI, p. 224) who found that in many cases of progressive myopia, there was a low calcium level in the blood. He suggested that the patient be given calcium or calcium with parathyroid in order to raise the calcium level in the blood and by so doing one might prevent the progress of the myopia. My experiments with this were not at all conclusive. Only 11% of my cases were found with a low calcium level, about one half of these cases examined were from the sea level, and the other half from the interior of B. C. In those who had less than 10 m. g. of calcium per 100 cc. of blood serum, I administered calcium, and in some cases calcium with parathyroid, but the cases which were suitable for experiment failed to report or discontinued their treatment, and altogether it was a very unsatisfactory procedure. In private practice. I believe, experiments of that kind are not very encouraging. One might be more successful in hospital practice. I wish to take this opportunity of thanking Dr. Hill and the Vancouver General Hospital for allowing me to carry on this series of experiments at no cost to the patients.

Types of Foreign Bodies:

Of all the foreign bodies, steel and iron are the most frequently found. We have found glass, wood, tin, stone, copper, brass, bullets, fish-hooks, ovipositor of the sting of honey bee, and devil's club, and an eye-lash or hair is sometimes found lying in the punctum. About ½ of 1% of the cases of injury to the eye shew subsequent injuries to the other eye in the experience of most workers in this field.

In spite of this comparatively low figure, an industry takes upon itself a grave responsibility that employs in a very hazardous undertaking, a person with but one eye, and especially so if that one eye is defective; the worker is more liable to receive an injury, having lost his stereoscopic vision, and the industry is taxed very heavily should he subsequently receive a serious injury to his one and only eye.

Now the question of blood examination suggests itself at this point. For many years I have had a W. B. C., and differential blood count made in many of these cases in which one has to decide whether an injured eye is or is not in the prodromal stages of a sympathetic ophthalmia. As to the value of the large monocyte count, authorities seem to differ. A differential blood count that gives a decrease in the polymorph count, with an increase in the lymphocytes, would indicate that a chronic inflammation was taking place in some part of the body, but a decrease in the polymorph count, and not much change in the lymphocytes with an increase in the large monocytes, is seen in protozoal diseases, e. g., malaria, syphilis, and possibly in sympathetic ophthalmia.

In a given case with a negative Wassermann, and if one can exclude the above conditions, one has a picture that one must look upon with grave suspicion and which requires careful watching. In most cases, however, we must rely for a final analysis upon the clinical picture presented.

As to the use of uveal pigment in diagnosis and treatment of sympathetic ophthalmia, there seem to be a great difference of opinion, of that I have had no experience at all.

Many years ago I undertook to tabulate my cases of foreign bodies within the eye-ball, those found in the anterior chamber, iris, lens, and

Meeting of Pacific North-West Medical Association

July 4th, 5th, 6th, 7th, Hotel Vancouver, Vancouver, B. C.

President—Dr. B. D. Gillies

GUEST SPEAKERS

Dr. A. T. Bazin, Professor of Surgery, McGill University, Montreal.
Dr. C. H. Best, Professor of Physiology, University of Toronto.
Dr. Wm. Boyd, Professor of Pathology, University of Manitoba.
Dr. J. G. Fitzgerald, Dean of the Faculty of Medicine, and Director of the School of Hygiene and Connaught Laboratories, University of Toronto.
Dr. A. H. Gordon, Professor of Medicine, McGill University, Montreal.
Dr. A. T. Mathers, Associate Professor of Medicine, University of Manitoba, Winnipeg.
Dr. S. A. Kinnier Wilson, 14 Harley St., London, England.
Dr. D. E. S. Wishart, Junior Demonstrator of Oto-laryngology, University of Toronto.

Tuesday, July 4th—
8:00- 9:00 a.m.—Registration.
9:00- 9:40 a.m.—Dr. A. T. Mathers, "Medico Legal Problems."
9:45-10:25 a.m.—Dr. Wm. Boyd, "Tumours of the Neck."
10:30-11:10 a.m.—Dr. A. H. Gordon, "Migraine."
2:00 p.m.—Surgical Clinic, Dr. A. T. Bazin.
8:00- 8:40 p.m.—Dr. D. E. S. Wishart, "Vertigo."
8:45- 9:25 p.m.—Dr. Kinnier Wilson,
9:30-10:10 p.m.—Dr. J. G. Fitzgerald, "Some aspects of the Problem of Meningococcic Meningitis."
10:15-10:55 p.m.—Dr. C. H. Best, "Recent Work on Carbohydrate Metabolism."

Wednesday, July 5th—
8:30- 9:10 a.m.—Dr. A. T. Bazin, "Acute Osteomyelitis."
9:15- 9:55 a.m.—Dr. A. T. Mathers, "Psychoneuroses."
10:00-10:40 a.m.—Dr. C. H. Best, "Recent Work on Fat Metabolism."
10:00-11:00 a.m.—Dr. D. E. S. Wishart, "Mastoiditis in Children."
10:45-11:25 a.m.—Dr. Wm. Boyd, "Why Does a Patient Recover from Infection?"
2:00 p.m.—Medical Clinic, Dr. A. H. Gordon.
8:00- 8:40 p.m.—Dr. A. T. Bazin, "Tumours of the Colon and Rectum."
8:00- 9:25 p.m.—Dr. J. G. Fitzgerald, "Acute Respiratory Infection; a Problem in Preventive Medicine."
9:30-10:10 p.m.—Dr. Kinnier Wilson,
10:15-10:55—Dr. A. H. Gordon, "The Diagnosis of Disease with Coincident Enlargment of the Liver and Spleen."

Thursday, July 6th—
8:30 -9:10 a.m.—Dr. C. H. Best, "Liver Function Tests from the Physiological Point of View."
9:15- 9:55 a.m.—Dr. A. H. Gordon,
9:00-10:00 a.m.—Dr. D. E. S. Wishart, "Sinusitis in Children."
10:00-10:40 a.m.—Dr. Kinnier Wilson,
10:45-11:25 a.m.—Dr. A. T. Mathers, "Sleep and its Disorders."
2:00 p.m.—Golf Tournament, Shaughnessy Golf Course.
7:30 p.m.—DINNER.

Friday, July 7th—
9:00- 9:40 a.m.—Dr. J. G. Fitzgerald, "The Nature of Antigens."
9:45-10:25 a.m.—Dr. Wm. Boyd, "The Pathology of the Breast regarded as Disordered Physiology."
10:30-11:10 a.m.—Dr. A. T. Bazin, "Lesions of the Breast."
2:00 p.m.—Neurological Clinic, Dr. Kinnier Wilson.

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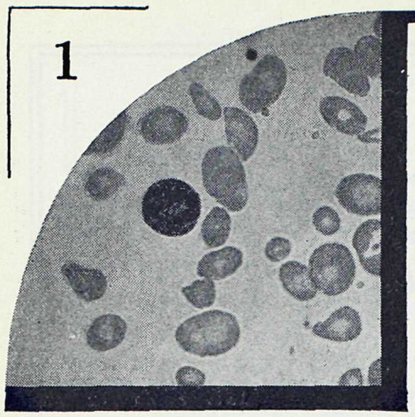
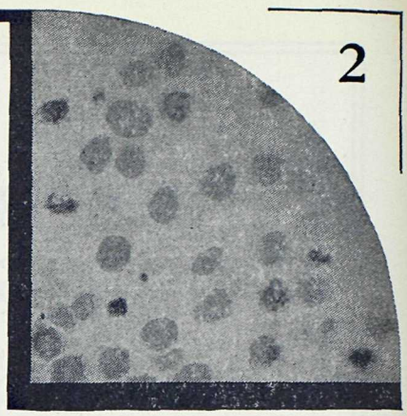


At left—Pernicious Anemia pretreatment level. R. B. C. 820,000 per cu. mm.; Hb. 17%. Started Ventriculin 40 Gm. daily.

At right—Fourth day of treatment. Reticulocytes 54%; R. B. C. 1,120,000 per cu. mm.; Hb. 24%.



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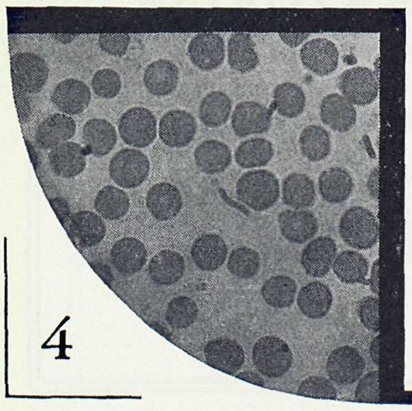

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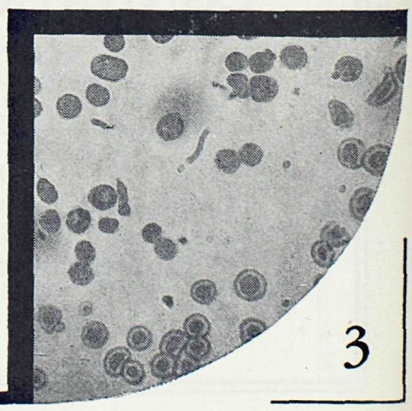
At right — Seventeenth day of treatment. R.B.C. 2,440,000 per cu. mm.; Hb. 56%.

At left—Sixty-sixth day of treatment. R.B.C. 4,610,000 per cu. mm.; Hb. 84%.



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vitreous body, and also those found outside the eye-ball, but I soon gave it up because no statistics of any value could be obtained, as the patients soon disappeared and itwas only rarely that we saw them months or even years later. The ultimate result, therefore, in most of these cases could not be determined. In regard to non-magnetic foreign bodies in the vitreous chamber, a successful extraction is possible in selected cases by use of transilluminator, ophthalmoscope, patient in dark room, and pupil widely dilated. With a fine pair of forceps in a scleral opening the foreign body may sometimes be removed. Speaking generally in regard to magnetic foreign bodies, one must insist that an early diagnosis of the exact position. of the foreign body by X-ray examination is imperative, because, should the foreign body lodge in a vascular region it would become encapsulated in a strong fibrous capsule in a very few days, making extraction extremely difficult—if not impossible. I recall a case in which the foreign body was lying imbedded in the retina in a capsule where after changing the position of the magnet from one side of the eye to the other pulling in one direction for a moment or two, then in the opposite direction, six or eight times, cutting off the current during the changing process, eventually the foreign body became dislodged, and we were able to make an easy extraction through a scleral opening. I saw this man about a year later, and he had still maintained his useful vision. The history of these cases is quite suggestive, e. g., a man hits a steel wedge with a steel hammer, and he is conscious of something hitting the eye. Little or no pain is complained of, but a search should be made for a possible entrance wound, and an X-ray examination is necessary if the foreign body cannot be seen with the ophthalmoscope. I prefer to make a dimple in the scleral opening with a point of the magnet, a moment before the current is turned on. When the foreign body lies in the vitreous, with no injury to the lens or iris, the scleral route is the one preferred.

If the cornea, lens or iris are injured, then the anterior route is the one usually selected. Magnetic foreign bodies in the anterior chamber, iris or lens, come out readily through a corneal incision, using the same dimpling process there after the cornea has been incised.

The lens tolerates a foreign body very well. I recall the case of a man 27 years of age who struck a steel bar with a steel hammer 10 months previously, and was conscious that something struck his eye. His vision was 6/21. The X-ray examination made in another town gave negative findings; however with the naked eye I could plainly see the foreign body as a black dot lying immediately behind the pupil border of the iris. There was a small scar in the corner immediately in front of the foreign body, and transillumination confirmed the naked eye appearance. I incised the cornea in the region of the scar and the giant magnet did an easy extraction of the piece of steel measuring I mm. x 0.75 mm. Therew as a fan-shaped opacity in the anterior capsule of the lens remaining, and his vision improved from 6/21 to 6/9. I saw this man three years later, and his vision was 6/9 as before.

Each case is a law unto itself, and after considerable practice one proceeds instinctively to select the method that past experience dictates at the moment of operation.

Detached Retina: There is some controversy regarding the etiology of these cases. Gonin holds that a rent in the retina is present in practically all the cases, and must be closed in order to get good results, and his published statistics after doing his cautery operations, seem to be very good indeed. In London, I am told, the Guist operation seems to be the most popular operation today. Spontaneous re-attachment occurs but very seldom indeed. I recall a case of a man 46 years of age whose right eye was struck with a piece of coal in breaking it with a hammer, and the right upper half of the retina was detached. The right vision improved from 2/60 to 6/9 , and the fields were normal in four months time. He had no operation. These cases are exceedingly rare, and they often relapse after some weeks. 53% of my cases were due to tauma, 22% to myopia, and 25% belonged to the so-called spontaneous cases.

Aphakia:

Aphakia is a condition in which there is no lens present. The lens may have been destroyed from an injury of some kind. After a successful management of the cataract, the vision of the aphakic eye may be improved with glasses, and often can be made equal to that of the other eye, but it would be impossible for the man to use the glasses because there would be too great a difference in the refraction of the two eyes. The benefits obtained by the operation in this type of case would be to enlarge the visual field, and at the same time give him an eye that could be made useful with glasses, should he be so unfortunate as to lose the other eye.

Another object in having an operation is for cosmetic purposes, and also it makes it more possible for the man to secure employment. What is very liable to occur in any case is that being unable to use his glass for the aphakic eye, he would learn to suppress what vision he had in the aphakic eye, and a divergence of this eye often takes place. One cannot leave this subject without discussing the industrial impairment of a man with but one eye. In a normal pair of eyes one has a field of vision of about 165° horizontal, downwards 70°, upwards 45°, a man with but one eye has lost about 30° of his normal fields (close one eye and try it for yourself.) This in itself is not a great loss for many occupations. A man with one eye has lost his stereoscopic vision. This is a very serious impairment for many occupations. In the case of a young man, while of course he never regains stereoscopic vision, there is the possibility of his overcoming this loss to some extent. In the case of the old man, that possibility is not so great. In the case of a man with one eye, there is a loss of orientation. By re-education, he can establish orientation. Occasionally it becomes permanent, and hence he may injure himself or a fellow worker. (See Lancet July 10, 1926, B. J. of Oph. Vol. 12, p. 57.) Percy Dunn here reports the case of a man—a planter's labourer who went to work after the loss of an eye and with the first stroke of a hammer, hit a man on the head. This man became a pensioner for life. The argument raised in court was that the workman returned to work too soon after the removal of the eye. About four weeks I believe, is necessary for a man to become accustomed to his changed conditions and he should be warned concerning the possible dangers attendant upon losing his stereoscopic vision. All of the above deals with a previously normal pair of eyes, hence there will arise variations to the above. Such cases must be treated on their merits.

Hysteria and Malingering: The history of hysteria dates from the earliest years of medicine. Malingering has a similarly long history. These conditions are two of the most interesting conditions to be found in our daily routine with patients. They are seen by all doctors and surgeons in the various specialties, and the literature is voluminous. Ophthalmologists are often called upon to differentiate between these two conditions in relation to trauma. "He who knows hysteria knows medicine." said Osler, an exaggeration, but still applicable. It is usually an unilateral error that is complained of. The questions for us to decide are:

(1) Is the blindness or partial blindness real or not?
(2) In either case, what is the extent of vision, if any?
(3) Is the disturbance, if any, traumatic in origin, if not, to what is it due?
(4) The prognosis.

All of the above must be decided, It is quite true that in the case of a foreigner, our task is tedious. We must first gain the confidence of the patient: a very careful history of the alleged accident, previous eye history, glasses, etc., history of squint in self or family, ability to drive a nail or use an axe, past and family history must be obtained. History of any nervous diseases in self or family. There are certain characteristic types of case that confront us, the case of pure hysteria, the case of the pure malingerer, the borderland case, the case of a definite injury with beleigerent intent, or exaggeration of his condition. These are the types of cases we see. Quite often in taking history, one may become suspicious. It is well not to hurry—a quiet chat, showing a great interest in his trouble—and anxiety to help. In a case of pure hysteria, the man will become quite interested—will give you all the assistance possible, is consistent and willing to help, but is not at all alarmed or anxious at the apparent seriousness of the condition. He will exhibit no effort to deceive, answers all questions promptly—the one with hysteria deceives himself—but in the case of the malingerer, he tries his best to deceive the examiner, but himself is not deceived. He hesitates, lends no aid, is inconsistent—rebellious at times, suspicious, fearful of his condition, and sorry for himself generally. These characteristics are quite in evidence in most of the cases. To examine these cases we first take the admitted vision in each eye. The acuity and range of vision, the muscle balance, just what he admits he sees, the pupil signs, the reactions to light stimulation and accommodation in each side, and the consensual reactions are all noted. It should not be forgotten that the light reflex may be present with a lesion high up in the optic pathway above the fibres of the reflex arc to the centre for pupillary movements. It may be present in bi-lateral lesions of the occipital cortex. The exact position of this centre in the group of nuclei in the third nerve nucleus has not definitely been decided. Some place it in the Edinger-Westphal cell. The fields of vision are quite important. In hysteria we quite often find a reversal of the colour fields, a field spiral in shape is sometimes observed, and concentric contraction of all fields, but these are not always present.

An inspection of the anterior structure of the eye is made, and the fundi examined very carefully, An X-ray plate is taken if the history demands it, and a Wassermann blood examination, A miosis is sometimes observed, and here we have to differentiate between hysteria and irrita-

tive lesions of the brain and cord miotics locally applied, or morphine used internally which could account for the miosis. Sometimes we have to confine the patient in the hospital under guard to make certain that no miotics are used, or morphine taken.

We make use of prisms, the lead pencil and reading card, the amblyoscope, the red and black colour card, the perimeter, a very close attention to the characteristics as outlined above, a little patience, and common sense. When one receives the confidence of the patient, half the battle is won.

Conditions that seem to create this train of symptoms that cause the condition we call hysteria. These are all taken from my records:

(1) A previous accident near or remote in time.
(2) The fact of being out of a job and sorry for himself.
(3) Subjected to too much glare at his work.
(4) Some minor injury and a nervous background.
(5) Recently married and anxious about himself.
(6) Minor injury, and early presbyopia.
(7) Foci of infection and other causes of ill health.

A case of pure hysteria alone, and of short duration, is not difficult to recognize and treat. The case of pure malingering of short duration is not difficult to recognize if the patient is not a foreigner. A case with some definite anatomical lesion of long duration in the case of a foreigner requires great patience, care and attention to every detail. On the other hand, if a man claims that the injured eye was quite as good as the better one before the alleged accident, and this occurred but a few days previously, and the examination reveals a gross anatomical lesion, all of which was impossible to have occurred but a few days previously then the diagnosis simmers down to one of pure hysteria plus previous accident, or to one of pure malingering, and to differentiate between these two is not at all difficult.

That a man is as old as his arteries, is an oft repeated phrase. "Longevity is a vascular question," said Osler in his reference to the Arterio-Sclerotic. We must admit that physics and chemistry have made tremendous strides and the progress has been very great, but there are many things yet to be explained in regard to the disordered function of the parts concerned in the nutrition of the eye. We may ask the question, is the disturbed nutrition of the eye due to a generalized vascular lesion? And is that vascular lesion dependent upon some remote cause, as a blood borne condition, or is it a capillary disfunction due to a local lesion, or a disturbed equilibrium of the sympathetic and parasympathetic systems? The vegetative system has been receiving very much attention of late years. The physiologists have been working hard since Royle and his co-workers reported their findings.

Gastric ulcer, I am told, is one of the most common maladies of this anxious period in which we are living. Is it not true that it is found in those who are over-worked, or living under great emotional stress? It was Harvey Cushing who, in Toronto on one occasion, stated that disturbances in the diencephalon, the seat of the primitive emotions, or the main spring of primitive existence (Cushing), which governs most of the automatic actions of the body, were the probable cause of gastric ulcer.

What, we may ask, takes place when glaucoma is so often associated with anxiety and worries of various kinds (a psychic trauma.)? It is a fairly common experience to find a glaucoma developing after a sudden emotional shock of some kind. Are we not only treating symptoms by creating filtration of the aqueous fluid by one of several of the operations in vogue today? In some cases of detached retina, cases not due to neoplasm, of course, but cases that occur after trauma of one kind or other, or the large group of so-called spontaneous cases, are we not here treating only symptoms when we do a Gonin or a Guist operation, or some other modification of one of these operations? Are we not here again dealing with a local capillary disfunction for similar reasons? Why, we may ask, should a particular group of capillaries be selected in a given case? The discovery of the Rouget cells in the walls of the capillaries might throw some light on the behaviour of the capillaries when influenced by a disturbed equilibrium of the sympathetic and parasympathetic system.

Dr. Fulton, Prof of Physiology at Yale, (New England Journal of Medicine July 14/32.) summarizes the findings of several workers on the hypothalamus. These recent findings have to do with the control exerted by the central nervous system upon the metabolic and vegatative processes of the body. It is an excellent piece of work, and brings to the clinician the findings of several workers in that field. Dr. Fulton states, "The conclusions are that in the posterior hypothalamic nuclei are situated the chief centres of the sympathetic nervous system. The activity of all organs innervated by the autonomic nervous system are to some extent under the control of the hypothalamic area."

"The parasympathetic outflow differs from the sympathetic in that its various component nerves discharge, as a rule, individually; that is, the diffuse generalized outburst of the sympathetic during extreme emotion is not commonly seen in the parasympathetic division: but there are some branches under special circumstances that do discharge in unison."

Fulton again says that the afferent regulation of the hypothalamic nuclei is still obscure. It is suggested that chemical changes in the blood stimulate these centres directly. This to me is a most interesting and instructive communication. When one does a sympathectomy, one is only treating symptoms.

In our clinical cases we find in one instance a definite anatomical peripheral lesion—and perhaps in the same case, a definite central lesion, according to the newer physiology, producing symptoms in the periphery in another part of the body without any anatomical lesions there. Question, where and what is the primary dominating factor creating the one or the other or both?—that is the question. That is the unanswered question at the moment, as I interpret it.

To illustrate: A case of Raynaud's Disease with eye symptoms— a young girl of eighteen years developed a gangrene—the tip of her middle finger of the right hand. Three weeks later, eye symptoms developed. A very wide mydriasis and loss of accommodation each side. With her correction she has 6/4 vision J. nil, each side, no muscle imbalance, fundi normal and no retraction of the upper eye-lids. Nearly three weeks later, a beginning bluish discolouration appeared around the nail of the same finger on the other hand gradually becoming more marked from

day to day. This case presented then a symmetrical, peripheral, anatomical lesion of the middle fingers of the two hands. In regard to the eye symptoms, she has a lesion of the Edinger-Westphal nucleus (a destructive lesion of the para sympathetic). The sympathetic function being unopposed by reason of the destruction of the para sympathetic in this nucleus, poducing an ophthalmoplegia internia each side. What, we may ask, is the dominating factor creating all of the above?

Heredity, no doubt, plays a conspicuous part in many of the conditions we encounter. As to the internal environment we must consider possible endocrine imbalances, focal infection, etc.

Conditions of the eye occurring during birth, such as retinal haemorrhages, etc., are seen during so-called normal labour as well as those during difficult and prolonged labour. Why should these so-called birth injuries occur? We do know that a child may be born with a delayed development of certain parts, as for example; the delayed development at the nasal end of the lachrymal duct producing a condition of epiphora as seen in babies. Again, the colour of the iris at birth does not represent the final colour appearing some weeks later, and again, the tears do not appear for several days after birth. No doubt there are many other parts of the eye that have not reached full development at the time of birth, and that could be subject to changes of environment soon after birth. I would not be surprised if some of the conditions we see later in life, and which are designated as congenital disabilities of the eyes, are due to conditions during birth, or shortly after. Of these so-called birth injuries to the eyes I have had little or no experience. I believe that gross lesions of the eyes are rare today, as birth injuries. I ask the question, is prenatal care, or the incidence of rickets, or the more frequently performed Caesarean section today responsible for the rarity? I do not believe that the question of Caesarean section enters the picture because retinal haemorrhages are seen in these cases also. But the pre-natal care, and a better environment created seem to me to be the dominating factors.

The ophthalmologist has the great advantage through the use of the ophthalmoscope, of being able to observe many changes occurring in the retinal circulation. For example, in cases of retinal venous thrombosis, we can watch the process going on with the ophthalmoscope, blood extravasations actually disappearing, the picture becoming clearer, the disc outline that was once hidden with blood coming into view again, and the entire picture taking on a new life, while new vessels are seen to form. While the thrombosed vessels are said to become canaliculized sometimes, I could never satisfy myself that I actually saw that taking place.

The funds that I am thinking of at the moment, and that I saw recently, is the case of a young girl of 24 years who had failing vision in the left eye for one month. She had diphtheria at 10 years, and a heart condition following it—the usual diseases of childhood—influenza in 1929. She had malaria in China when quite young, and had taken quinine since then at intervals during attacks of ordinary "head colds."

She was examined very carefully indeed in Vancouver by one of our internists, and nothing could be discovered except a low R. B. C. count of 3,040,000, B. P. 126/74, Hgb 77%, W. B. C. 10,000. She had a venous thrombosis of her left superior and lower temporal retinal veins. Her doctor prescribed iron, and in seven months time, the fundus grad-

usually presented a normal picture, and with correction of a low grade myopia, had 6/4 vision.

Exactly why glaucoma occurs in some of these cases is not quite clear. When it does occur it is usually when the central retinal vein is thrombosed. Some believe it is due to the increased protein content of the aqueous due to the haemorrhages, and then when it does occur, the procedures instituted for its relief are usually of no avail.

Many of our cases are still wrapped up in mystery, but nature is gradually unfolding some of her secrets in response to the efforts of the research workers, and what greater satisfaction can a clinician experience than having his conception of a clinical picture explained and verified by scientific findings of one or more of these workers.

Just to mention one in passing, and we could mention thousands, but this one has a very practical bearing. We clinicians have recognized for many years the ill-effects that a celluloid shield has in the progress of some of our conjunctival and corneal lesions. We put on dark glasses and use atropine not only to dilate the pupil, but to lessen the lachrymal secretion. We use argyrol, etc., to lessen the volume of secretions from the conjunctive, and our cases improved. This is a definite clinical finding, and now we have the scientific explanation of this through the presence in the tears in a very highly concentrated form of an enzyme, called lysozyme, nature's protective mechanism. The two names associated with this are Fleming in 1922, and Ridley in 1928. When the secretions were in great excess, the concentration of lysozyme was materially lessened, and the eye in consequence did not receive proper protection, hence improvement was not noticed until the reduction in the volume of the secretion was obtained. We might recite one example after another showing the great progress being made not only in ophthalmogy, but in all branches of medicine. Personally I would like to see more papers on physiology at our general meetings.

In this turbulent, chaotic world in which we find ourselves at the moment, I think we can honestly say that medicine has fallen least of all of life's structures. What other of life's structures has retained the traditions that medicine has? While I maintain we have fallen least of all, we have fallen nevertheless. By our attitude to the neurasthenic, for example, have we not largely justified the existence in our midst of the various cults through our desires to become surgeons or specialists in one of the various fields, and neglect the nervous patient—the family doctor has become almost extinct. Specialism is a natural product of the period we are passing through. At its best it has a tendency for one to become self-centred, producing a cramped condition of the mind where one is liable to lose one's proper sense of perspective. The doctrine of relativity does not enter the picture. There is no doubt about it, we lose our powers of coordination, our powers to correlate the progress made, and that holds good for specialists in all walks of life, not only in medicine.

Several years ago Osler observed this tendency, and to quote from his writings concerning this observation ("The Old Humanities and the New Science"—B.M. J., July 5, 1919.) "The extraordinary development of modern science may be her undoing—specialism, now a necessity, has fragmented the specialties themselves in a way that makes the outlook hazardous. The workers lose all sense of proportion in a maze of minutiae.

From over specialization scientific men are in a more parlous state than are the Humanists from neglect of classical tradition. The salvation of science lies in a recognition of a new philosophy—the *scientia scientiorum*—of which Plato speaks. Now when all these studies reach the point of intercommunion and connection with one another, and come to be considered in their mutual affinities, then I think, and not till then, will the pursuit of them have a value. Upon this synthetic process I hesitate to dwell. I have never succeeded in mastering philosophy—cheerfulness was always breaking in."

Osler made these remarks about fifteen years ago. Let us take heed to the life and the teachings of the great master we venerate today, and not be discouraged.

Each moment newer knowledge brings
New items, adds to items things.
A world of rays, of thoughts and arts,
The whole far greater than its parts.

Wm. Pallister,
(from "The Poems of Science.")

Since Osler's time many changes have taken place. Some effort has been made to correlate the findings of the research workers for the clinician in terms the clinician can understand. In my own department of ophthalmology, there is one man that stands prominently above all others —I refer to W. S. Duke-Elder in his "Recent Advances in ophthalmology" now in its second edition. This book brings to the Clinician the research work which has been done within the past few years in ophthalmology, and its associated sciences. It points out the trend of modern thought, and gives some indication of what should be accepted as reliable, and what should be regarded with reserve, and it covers a very wide field, and is a very valuable book for us. You have "Recent Advances" in other subjects also.

Medicine is more than keeping pace with the times, and I repeat Medicine has fallen least of all of liife's structure during this chaotic period in which we are living. The older I become the more I realize that the closer we are able to dove-tail the science of medicine with the art, the more do we enjoy the great and glorious privileges we possess in practising medicine.

I cannot refrain from making brief mention of the "Spirit of the Times" as I interpret it. It will take too long to consider the underlying causes that led up to the condition we find ourselves in today. It occurred long before James Watt and his tea-kettle came into the picture, and what a romance that was. The beginning of a new power—steam. Power—Specialism—Money the God—Selfishness—Progress—all products of the period. We lost our powers of coordination, our powers to correlate the progress made. We are all responsible for it—no one group can be blamed. It is the natural outcome of a monistic philosophy of life, and what a price we are paying now for our so-called progress. It is well recognized, however, that we are well on now in the transition period. In speaking of the community as a whole, and in spite of the fact that selfishness is still rampant in our midst, there is undoubtedly a gradual change now taking place—a greater desire to help the other fellow. Keeping up with the Jones, is not so much in evidence now as formerly, I am sure you have all noticed. This increasing knowledge of humanity

will have a distinct bearing, and influence us in determining the character of the changes in our social fabric for the future. The work of T. H. Morgan on the mechanism of heredity in the chromosmes of the cell nucleus, will have a far reaching effect on our future behaviour. Eugenics will receive greater attention in the future as our populations increase. These are ideals you may not believe we are capable or willing to consider seriously at the moment, but the law of necessity in time will express itself. The biological Golden Rule that teaches that thou shalt do unto the unborn as well as the born what you would wish the born as well as the unborn to do unto you—will have greater significance as time wears on.

What is our future? Our future is subject to the vagaries of social evolution, and exactly what form that will take, no one can predict. I believe, and there is no doubt of it, that we could prevent many of the tragedies occurring today.

The disease has become too acute. There are too many tragedies. We cannot cure a 20th century disease by methods of the 19th century. As there is such a close analogy of the human body in disease with that of the body politic as we find it today, the laws by which we govern the sick body can be applied to the body politic before confidence can possibly be restored. Is it not fitting that organized medicine should lend a hand? It is just as ludicrous to believe that the human sick body could be properly cared for by a group of consultants made up of a doctor of our school, a chiropractor, a Christian Scientist, and a member of another cult as it is for the body politic to be properly cared for by a butcher, a baker, and a candle-stick maker. That is just what is actually taking place today. We will have to give expression to a strong nationalism before we can hope to secure a strong internationalism. In other words, we will have to clean our own house before we can expect other countries even to barter with us, and they, of course, will have

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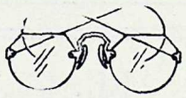

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to do likewise. But how can that be done, except by consenting to be governed by a small, strong group—nationally inclined, fulfilling the laws of biology. That to me seems to be the only possible *approach* to this problem. And it is not such a difficult problem as it seems to be on the surface. It is but a question of using our intelligence. And by accomplishing our first effort at an approach to the subject as mentioned above, we would establish confidence, the great restorer of shattered nerves and hope. We used to think more in terms of power and money, which were interchangeable terms. We will have to think more in terms of values, of human values, in the future.

At the moment the older generation is not in a proper frame of mind to initiate any change, to be less charitable, I might say they are too much involved and too selfish to consent to any radical change at the moment, but I am sufficiently optimistic to believe that youth (25 years to 45 years) will give expression to their interpretation of the "Spirit of the Times," through constituted authority, that will justify the compulsory education that has been forced upon them. Remember gentlemen, the biologists have not yet had their fling.

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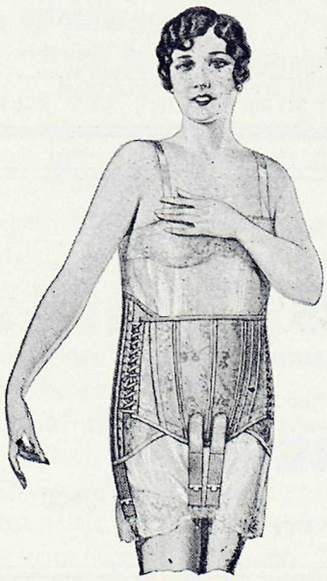

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To the Editor:—Please advise me whether administration of irradiated ergosterol to pregnant women could cause a premature calcification of the fetal head, resulting in dystocia, with possibly damage later to the child.

M.D., Waco, Texas.

J.A.M.A., Dec. 19, 1931, p. 1914

ANSWER.—There is no danger to mother or child from therapeutic doses of viosterol (irradiated ergosterol) given during pregnancy. In fact, such medication probably would be of advantage, owing to the excessive drain of calcium and phosphorus that takes place during this period. This medication is especially indicated in cases in which the intake of calcium compounds has been insufficient.

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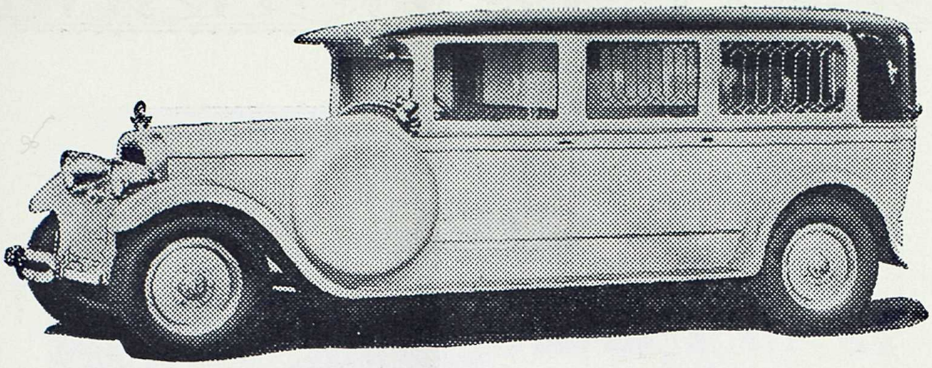

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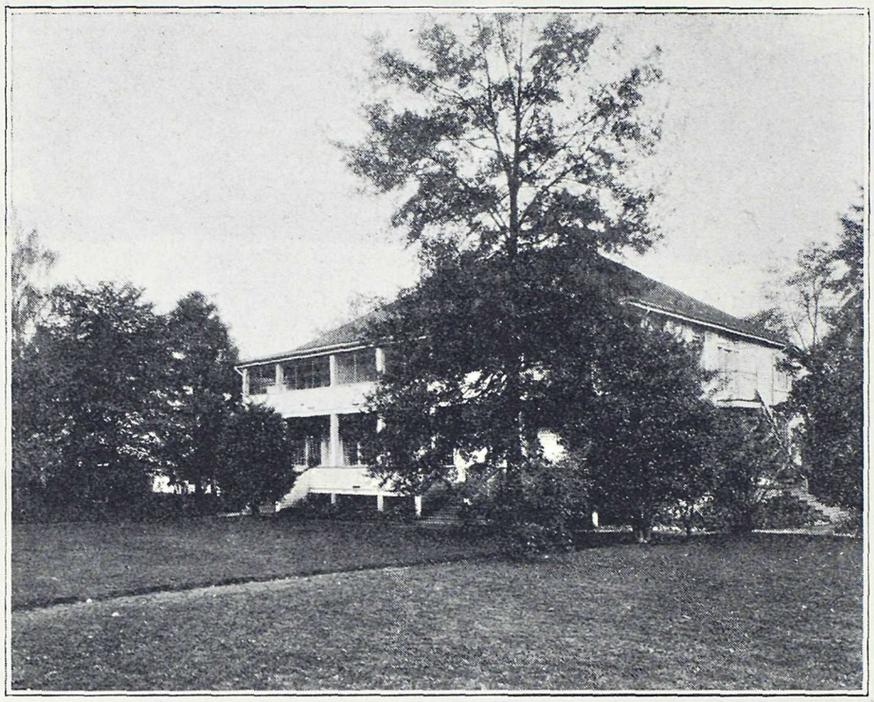

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